

Healthy Housing

A Handbook for Portland Property Owners



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This handbook contains ideas for creating healthier living environments for residents of multifamily rental housing properties. A project of the City of Portland's Bureau of Planning and Sustainability, it was produced with input from East Portland residents and property owners, and with funding from the Kaiser Permanente Community Fund at the Northwest Health Foundation.

Project Partners

Bureau of Planning and Sustainability, Center for Intercultural Organizing, Community Alliance of Tenants, Housing Development Center, Oregon Public Health Institute.

August 2013

To view this online and for more information, please visit:
<http://www.healthyhousingpdx.com/report/index.html>



Introduction

This web-based handbook provides ideas for creating healthier living environments for residents of multifamily rental housing properties. Its intended users include property developers, owners, managers and even residents. The handbook covers six health-related topics identified as primary issues of concern by East Portland residents. But its contents are relevant to all Portlanders, and even to those living outside the city.

The connection between housing and health

Where we live determines much about the quality of our health. A growing body of research suggests that people with healthy living environments have fewer chronic health conditions and diseases and enjoy a longer life expectancy. Conditions that contribute to a healthy living environment include good access to nutritious food, safe outdoor recreation space, a reliable and robust public transportation system and opportunities for safe and pleasant walking and biking. Whether these conditions are present depends in great part on the location and quality of one's housing. [Read more on housing and health >>](#)

Project background

In 2012, the City of Portland's Bureau of Planning and Sustainability convened a team of community organizers, health policy professionals and technical consultants. The team's objective was to learn from the day-to-day experiences of multifamily renters, including youth, about the impact of their housing on their health. The project team worked closely with East Portland residents, who shared stories and offered suggestions for how their homes could be made healthier and safer. These ideas and concerns were then brought to a group of developers, property owners and apartment managers. This volunteer group offered a variety of solutions, ranging from affordable quick fixes to longer-term property investments. "Healthy Housing: A Handbook for Portland Property Owners" is the result of this collaborative effort.

The team thanks the Kaiser Permanente Community Fund at the Northwest Health Foundation for supporting this project. [Read more on project background >>](#)

Why East Portland?

The City's inquiry focused on East Portland because of its concentration of multifamily rental properties, diverse resident base, increasing population pressure and unique development history.

Portland's most ethnically and culturally diverse neighborhoods are found in East Portland. Due to the influx of newly arrived Portlanders and residents moving from other parts of the city, demographers predict that over the next 25 years East Portland's population will grow faster than in any other part of the city.

Compared to the rest of the city, East Portland has...

- A deficiency in parkland, with poor pedestrian access to existing parks

Where exactly is East Portland?

For the purposes of this project, East Portland is the area east of 82nd Avenue, west of 162nd Avenue, south of Columbia Boulevard, and north of Clatsop Street.

- Few supermarkets, farmers' markets and culturally specific food centers
- Poor connectivity of sidewalks and crosswalks for pedestrians and cyclists
- A lack of cultural and social amenities, such as libraries, community centers and performance venues
- The highest percentage of land zoned for multifamily dwelling units

Because East Portland's residents do not have convenient access to healthy amenities, renters must rely on their apartment communities to support a healthy lifestyle. [Read more on East Portland >>](#)

Project partners



Acknowledgements

We thank the many advisors and volunteers who were involved in this project. We are especially grateful to the residents who shared their experiences. [Read more about project participants >>](#)

Questions?

For more information about this handbook, contact Emily Schelling at Housing Development Center, emily@housingdevelopmentcenter.org, 503-335-3668.

Who lives in East Portland?

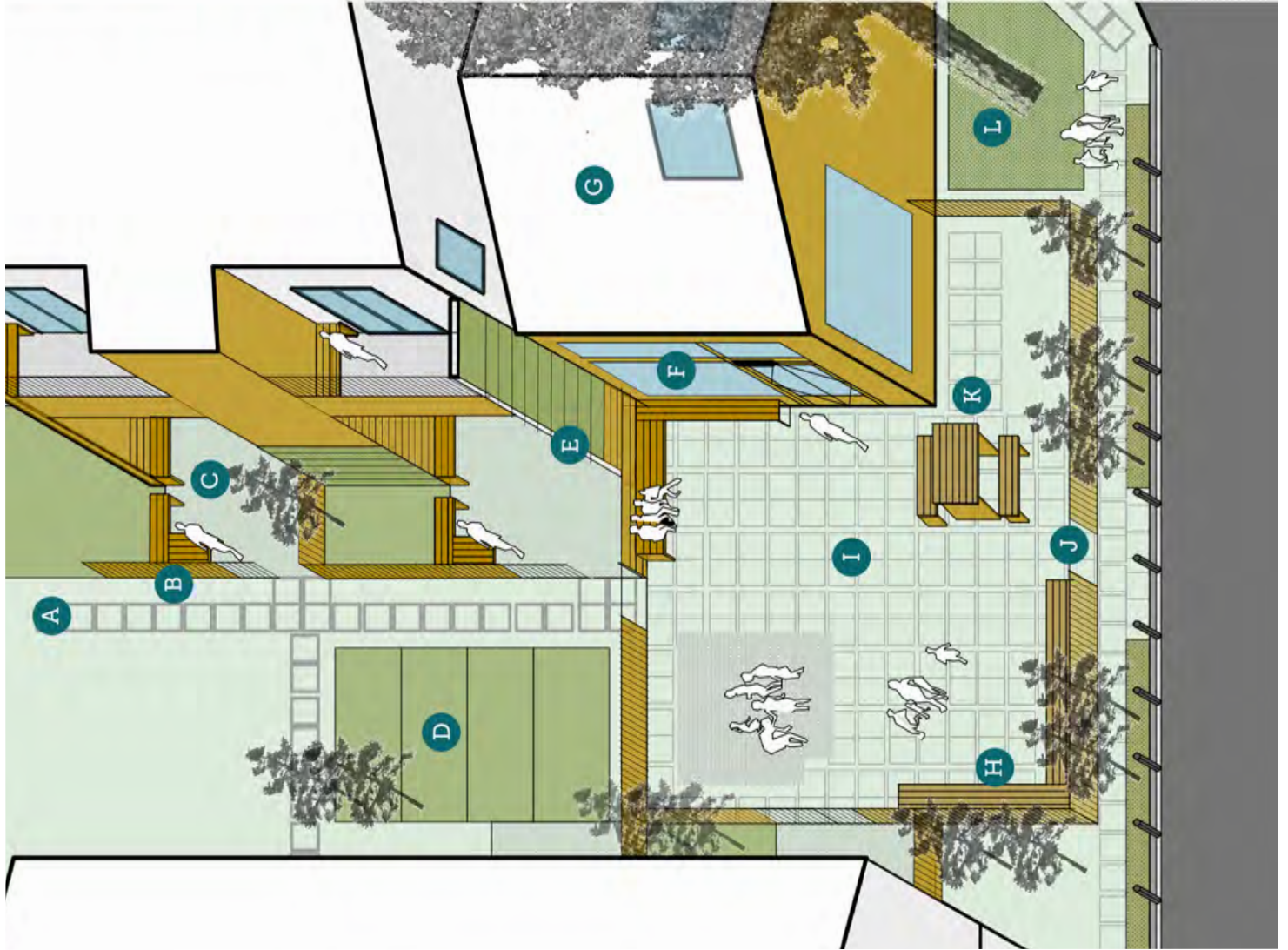
- One-fourth of Portland's population
- Lower-income households – East Portland residents earn 40% less per capita than other Portland residents
- The city's greatest concentration and largest population of immigrant and refugee residents

Explore health-related amenities in East Portland

This detailed map shows locations of farmers' markets, bike lanes, grocery stores, health care facilities and other amenities in East Portland. To give a complete picture of this community's environmental-health strengths and challenges, it even includes fast-food restaurants. .

Healthy Housing Solutions

- A** Pedestrian paths create linkages throughout the site, not just from the parking lot to units.
- B** Fencing and benches create privacy and provide a transition between public and private areas.
- C** Pervious pavers help with natural stormwater filtration.
- D** Existing unused grass areas are transformed into private garden plots and/or community garden plots.
- E** Slatted wood fences and vegetative living walls screen outdoor spaces to allow some visibility and light.
- F** Operable windows and skylights provide daylight to the community room and visibility to the common open space.
- G** The community room is a large flexible space for cooking, doing laundry, holding meetings or hanging out.
- H** A variety of benches are scattered throughout the apartment site.
- I** Common open space adjacent to apartment buildings allows parents, older siblings, and other community members to watch over youngsters while attending to other activities.
- J** The common open space is located along the pedestrian path and close to the driveway.
- K** The common open space is fenced and separated from auto traffic to provide a safe and manageable play area. Bollards, trees and bioswales separate pedestrians and automobiles.
- L** Large canopy trees and vegetation provide shade, habitat and air filtration. Bioswales capture roof stormwater and surface runoff from impervious surfaces.





Open Space

Whether it's a structured play area, a community garden or a simple green lawn, on-site open space improves residents' quality of life. On-site open space gives kids room to run and play—and to establish healthy physical activity patterns that last a lifetime. Open space gives adults, including busy working parents and seniors, a convenient place to recreate outdoors. It keeps children and older youth from playing in inappropriate areas, where they risk injuring themselves and damaging property. Open space brings residents together, contributing to a shared sense of community and pride of place.

Green Gap

East Portland has 29% fewer public parks per capita than other parts of the city. And many residents lack direct and safe pedestrian access to the parks that do exist.

Open Space Benefits

Resident Health and Wellbeing

Open space keeps kids safe. Without access to safe outdoor play areas, children may play in the street or in your building's parking lot, including between parked cars, where they risk injury and prolonged exposure to exhaust fumes. They may also gravitate to unsafe, unsanitary Dumpsters.

Open space keeps people active. The tremendous health benefits of outdoor play and exercise are well documented. Children, youth and adults lose these benefits when their recreation area is limited to the spaces in front of their computer and television screens.

Open space relieves apartment overcrowding. When larger families squeeze into small dwellings, they fully utilize indoor space for living, sleeping and eating. Usable, covered outdoor space gives large families room to breathe.

Property Performance and Condition

Open space helps property owners attract and retain tenants. Especially in East Portland, where parks and recreation facilities are scarce, apartments without usable outdoor areas may have difficulty maintaining high occupancy levels and minimizing turnover.

Open space prevents property damage. Dented car doors and overturned garbage bins may result when kids use parking lots and utility areas as substitute playgrounds.

Open space enhances on-site security and decreases unit wear-and-tear. When families spend time outdoors, more eyes are on your property. Likewise, indoor spaces get a break from use; and kids who run around outdoors may have less pent-up energy for indoor roughhousing that could damage your property.

Open Space Solutions

Management and Maintenance

Take advantage of existing areas on site by making them more usable.

- Fence in street-side lawns and landscaping to keep children safe from traffic.
- Turn muddy, uneven or unlandscaped areas into attractive play spaces through simple regrading and grass seeding; or cover these areas with wood chips or other soft surfaces.
- Add a basketball hoop to an out-of-the-way corner of your parking lot. (Make sure there is enough space around the court to prevent balls from hitting cars and building walls.)
- Consider dedicating a couple of parking spots to safe outdoor activity during limited hours of the day.
- Install picnic tables and benches in an unused open area to give residents a place to sit and socialize in the fresh air and sun.
- If your property contains an appropriately sloped, south-facing open space, designate it as a vegetable garden and, if desired, add raised beds.



Grass seeding or wood chips can make this area an inviting play space.

Make outdoor areas more inviting by keeping them tidy and safe.

- Prune, mow and trim landscaping.
- Address deferred maintenance, such as cracks and spalling in pavement.
- Pick up trash around the site and sweep the parking lot.
- Remove graffiti as soon as it is reported or observed.

Power Play

Children who have access to parks, greenspaces and playgrounds have a lower risk of becoming overweight and obese.

Bring a playground to your property

Portland Parks & Recreation's Summer Playgrounds Program offers games, crafts and sports at parks throughout Portland, free of charge. Portland Parks also runs the Mobile Recreation Program, which brings supervised activities to apartment complexes in Southeast Portland. Interested property owners may contact Jeff Milkes at jeff.milkes@portlandoregon.gov.

Resident Communication and Education

Establish rules of conduct for common outdoor spaces. Post an attractive sign asking residents to act safely, respect property and pick up after themselves.

Teach kids to use open space responsibly. Provide a written notice asking residents to remind their children of the following rules:

- Be safe when playing on site. Always be watchful for cars and people you don't know.
- Stay within view of your parent or a responsible adult, or let someone know where you're going.
- Respect each other.
- Don't damage the property or landscaping.
- Pick up after yourself.
- Follow quiet-time hours.
- Don't play by Dumpsters.



Posted rules helps kids use play areas responsibly.

Learn what youth want

We asked young residents at several East Portland apartment complexes to describe their ideal outdoor open space. Visit the [Youth Design Workshop](#) page to find out what they said.

Get the word out to non-English-speaking residents

Provide translations of notices and signs in residents' own languages. Consider using pictures and icons to communicate across multiple languages. Or ask bilingual residents, including youth, to verbally pass along the information to others in their language community.

Design and Construction

Creatively repurpose unneeded parking spaces. Many properties in East Portland have more parking spaces than are required by code and needed by residents.

- Repaint part of the parking lot for use as a basketball or foursquare/handball court; kids can use the area for jumping rope and dancing, too.
- Dig up parking spots and transform the space into a garden, lawn and/or seating area. Ideally, do this in a centrally located area so parents can watch kids from their units.

Design open spaces that accommodate a variety of age ranges and needs. Creative design can encourage multiple uses for limited spaces.

- Install simple, all-purpose surfaces. A play area covered in [pervious pavement](#) can be used for playing foursquare, jumping rope and doing bike tricks. A grassy area used for lounging and picnicking can easily be converted to a volleyball or badminton court.
- Locate seating near play areas, so that children may be supervised by older children or adults.
- Provide sheltered areas and hard surfaces where kids can play outdoors even on rainy winter days.

Consider installing a play structure. In the long run, a simple, well-constructed play structure is not very expensive to purchase, maintain and insure. Even a small one can make a big difference for families with kids.

- Cover a portion of the play structure so residents can use it year-round.



Placing seating near play structures makes it easier for parents to supervise children.

Offset the cost of improving your property

The City of Portland's **Multiple-Unit Limited Tax Exemption** (MULTE) is a 10-year property tax exemption that lets owners of multifamily housing properties reduce the cost of adding units and making structural improvements. Affordability restrictions and other evaluation criteria apply in this competitive program, which is administered by the Portland Housing Bureau.

Get assistance digging up unneeded parking spaces

Depave is a Portland nonprofit that helps people remove unnecessary pavement to create community greenspaces and mitigate stormwater runoff.

Consider installing pervious pavement

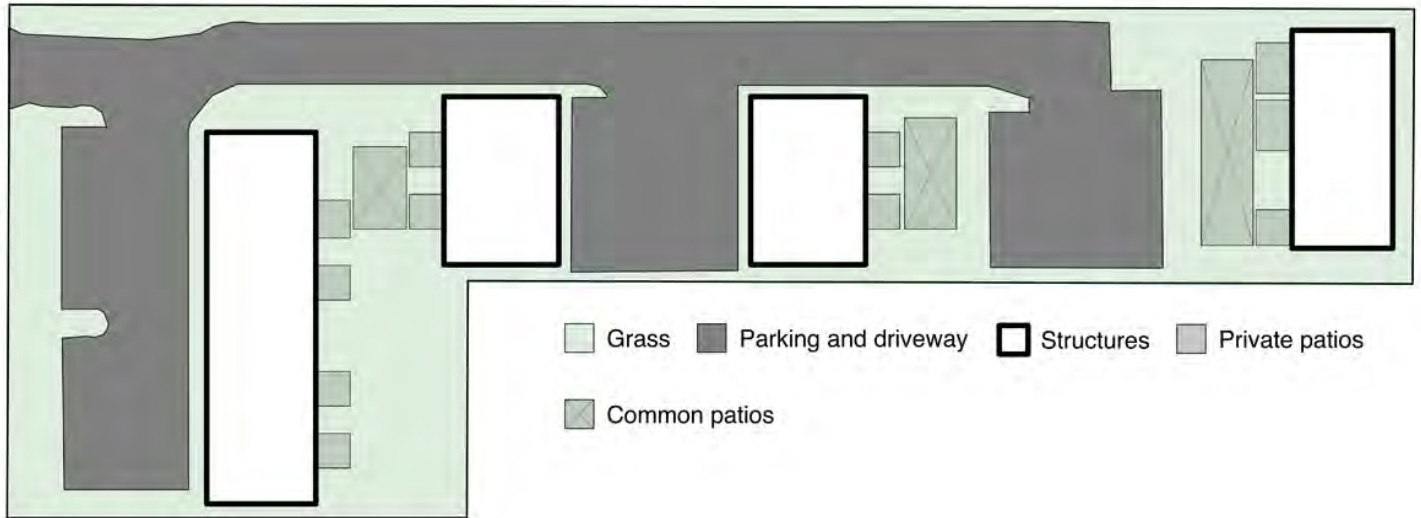
Pervious pavement has air spaces that allow stormwater to pass through the paving material and infiltrate to the ground. It can make muddy areas more usable without compounding drainage problems. And pervious pavement requires less frequent repair since it resists cracking and buckling.

Rethink This Property

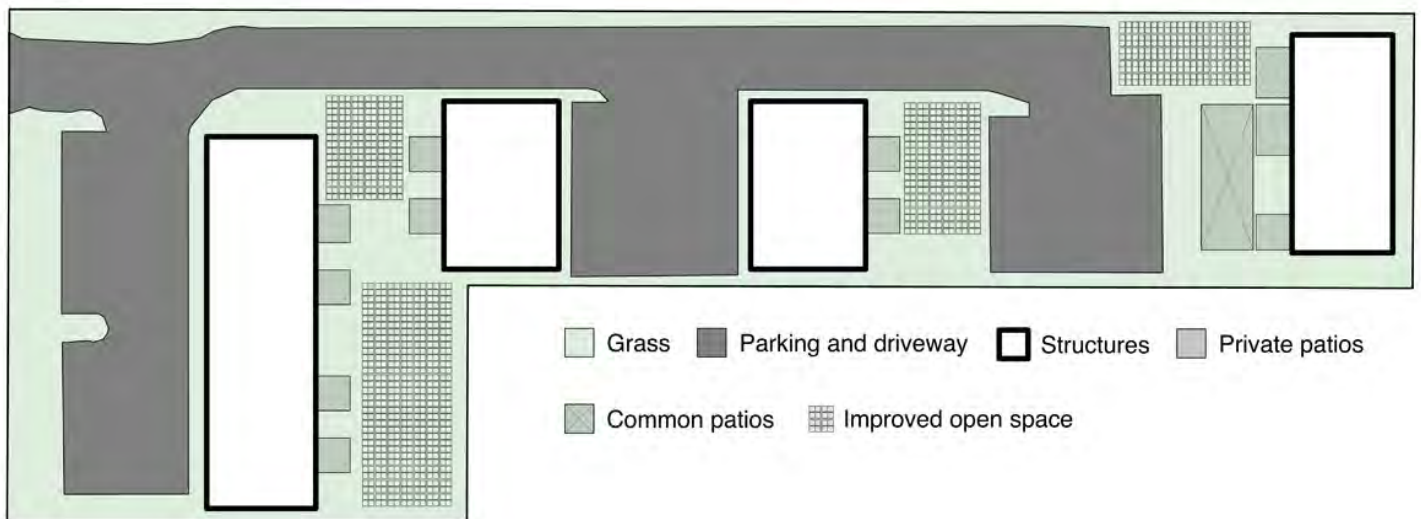
Creating Open Space

We asked a team of architects to recommend health-related design solutions for real East Portland apartment complexes. These drawings show some simple ideas for adding and improving open space on a typical site.

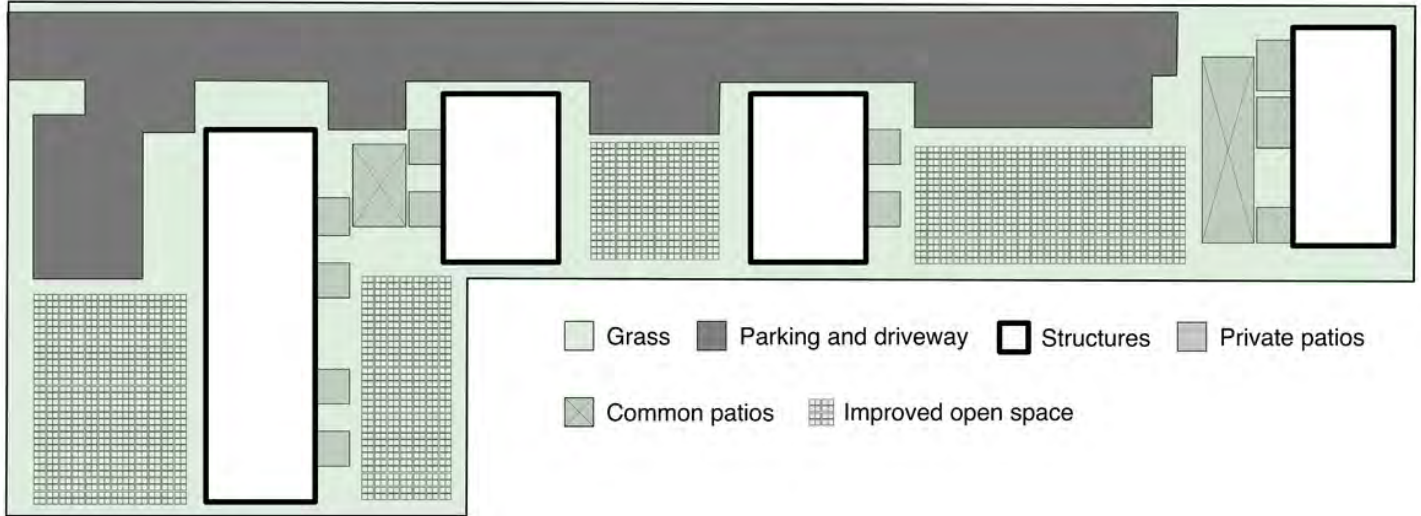
Existing site. Vehicles are prioritized in this existing site layout; most of the outdoor site area is dedicated to parking.



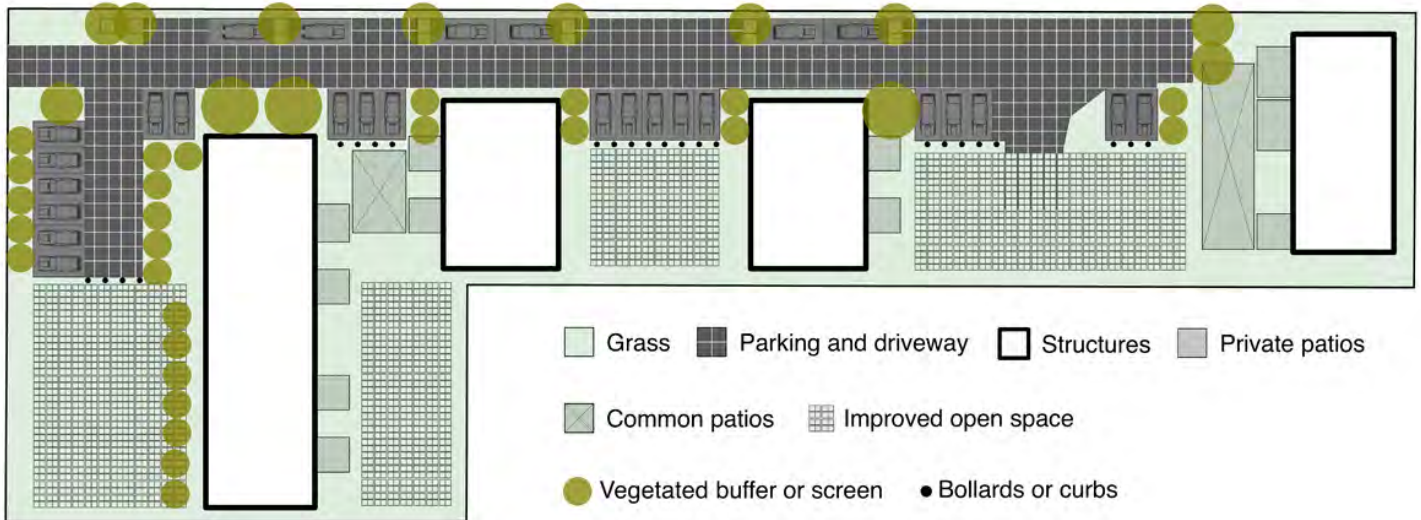
Transform uninviting outdoor areas into usable lawn and play areas. Reseed existing grassy areas, and define play areas with landscaping and/or fencing.



Convert portions of your parking lot to open space. If your property has more than the minimum required number of parking spaces, convert some spots to a play area for residents.



Create a buffer between the parking lot and the rest of the site, and transform the driveway into a “shared court”. Install landscaping between the parking lot and apartment units to protect residents from car fumes. Indicate that the driveway is a shared area for pedestrians, bicyclists and drivers by replacing asphalt or concrete with pavers.



Images by Constructive Form Architecture & Design



Food Security

Food security is having good access to affordable, healthy food; it is living free from hunger and fear of hunger. Sadly, many Portlanders don't know where their next meal will come from. Lack of economic resources is the main cause of food insecurity, but environment also plays a role. In East Portland, people's homes are often far from markets that sell fresh produce and culturally relevant foods. And for some families, lack of kitchen storage and preparation space makes it difficult to prepare meals at home, which increases their reliance on unhealthy convenience foods.

Hunger At Home

Nearly 1 in 4 children in Multnomah County is hungry.

Food Security Benefits

Resident Health and Wellbeing

Food security gives kids a better platform for success.

Inadequate nutrition significantly impairs children's health, cognitive development and academic performance.

Food security dramatically improves people's overall health and wellbeing. Access to healthy food helps prevent physical ailments as well as stress, depression and anxiety.

Food security increases families' economic stability. Proper nutrition contributes to better performance and higher productivity at work. Proximity to healthy food sources, such as produce markets and community gardens, reduces time and money spent on transportation.

Property Performance and Condition

Food security reduces pest risks. When apartments lack sufficient food storage and preparation space, residents may leave food out to spoil and attract pests.

Food security decreases garbage volume. Reducing residents' reliance on processed convenience foods will result in fewer discarded boxes and wrappers.

Food security can reduce unit turnover. Residents save money when they have access to affordable sources of healthy food, such as on-site vegetable gardens. For residents living from paycheck to paycheck, those extra dollars can be the difference between making and missing a rent payment.

Food Security Solutions

Management and Maintenance

Allow and provide support for on-site gardens. By enabling residents to grow their own food on available space, you'll encourage tenant retention, increase the marketability of your property and positively impact residents' health.

- Locate gardens in areas with good solar access. Plants need plenty of sunlight.
- Locate gardens away from high-traffic areas, such as sidewalks and busy roads.
- Provide a nearby water source.
- Allow planter boxes on unit balconies, in entryways and in shared open spaces.
- Provide safe and secure storage for gardening tools.
- If possible, designate a responsible resident to monitor and maintain the garden, and provide a small rent rebate in return.
- Consider installing raised beds. In addition to having a tidy appearance, raised beds make gardening easier for residents with disabilities.
- Check for lead contamination in the soil, particularly if your property is home to many children.

Create a gardening agreement between you and your residents. A gardening agreement outlines each party's responsibilities related to the garden. For example:

- The property owner is responsible for designating specific areas for gardening and for providing water.
- Residents are responsible for actively maintaining the garden by growing plants, weeding, watering, harvesting and cleaning up at the end of the season.

Check and maintain kitchen appliances during annual inspections. When refrigerators, ranges and ovens work, residents are better able to prepare healthy, affordable meals at home.

If you have a community room, allow residents to organize food-buying clubs. Members of these clubs save money by buying bulk food directly from food suppliers.

Access free and low-cost help to build gardens

Growing Gardens is a nonprofit group that builds organic gardens in the backyards of low-income households.

Independence Gardens is a consulting group that helps people build and care for edible gardens in Portland.

Garden City

Portland has 47 volunteer-assisted community gardens, including 7 in East Portland. Visit **Portland Parks & Recreation** for locations and other information.



On-site gardens provide nutritious food and help stretch residents' budgets.

Resident Communication and Education

Tell your residents where they can get food boxes, meals and other free nutrition services. Many people who qualify for these programs don't know they're eligible. See [Resources](#). Also, encourage residents to call 211 for information about a variety of services, including these important ones:

- Supplemental Nutrition Assistance Program (SNAP), formerly known as food stamps, is a government assistance program that helps low-income households pay for food.
- Women, Infants and Children (WIC) is a federal program that provides a variety of nutrition-related services to women and children under five years of age.

Remind residents to notify you if kitchen appliances are malfunctioning.

If you allow gardening on site, give residents written suggestions and guidelines for use of the garden. For example:

- Consider growing your own food. Gardening will yield healthy food and help you stretch your food budget.
- Combine resources and share labor with your neighbors to maximize the productivity of your garden.
- Respect others' labor: Only harvest food that you grow.
- Use creative containers, such as old kitchen pots, to grow food. Group the containers together so your plants will be easy to maintain and harvest.
- If you plant a garden, be sure to maintain it. Regular weeding and watering will produce more food and prevent your patch from becoming an eyesore to neighbors.
- Gardening can help reduce stress and beautify your community!

If establishing a garden isn't feasible on your property, direct residents to the nearest community garden or food-buying club.

Make the most of your garden space

Visit [Square Foot Gardening](#) to learn tips for growing food in small spaces.

Get the word out to non-English-speaking residents

Provide translations of notices and signs in residents' own languages. Consider using pictures and icons to communicate across multiple languages. Or ask bilingual residents, including youth, to verbally pass along the information to others in their language community.

Design and Construction

Repurpose unneeded parking spaces as gardening plots. Many properties in East Portland have more parking spaces than are required by code and needed by residents. Creative use of this space can make your property healthier for current and future residents.

- Dig up parking spots or simply place planting containers directly atop paved areas.
- Select spots with good solar access and a nearby water source.
- Call the City of Portland's [Brownfield Program](#) if you need help determining the feasibility and/or safety of developing your site for gardening.

Ensure residents have plenty of food storage and preparation space.

- Design kitchens so that they have sufficient shelf space, and make sure shelves have high vertical clearance.
- Make it easier for residents to cook at home by providing adequate counter space next to the refrigerator, sink and stove.
- If possible, lay out kitchens so they have a work triangle of 12 to 26 linear feet of open floor space between the centers of the refrigerator, stove and sink. Each leg of the triangle should be between four and nine feet.
- If there is extra space in living rooms, hallways or elsewhere, add storage shelves or cupboards. Extra storage space doesn't have to be in the kitchen.



Containers help keep on-site gardens tidy.

Get assistance digging up unneeded parking space

Depave is a Portland nonprofit that helps people remove unnecessary pavement to create community greenspaces and mitigate stormwater runoff.

Qualify for a storage-area density bonus

The City of Portland offers housing developers a 5% density bonus—i.e., permission to build 5% more housing units than allowed by code on a particular site—in exchange for supplying residents with sufficient storage space. Consider this option if you're adding

more units to your site. Sufficient storage space for kitchens is defined as follows:

Drawer space: 20 square feet

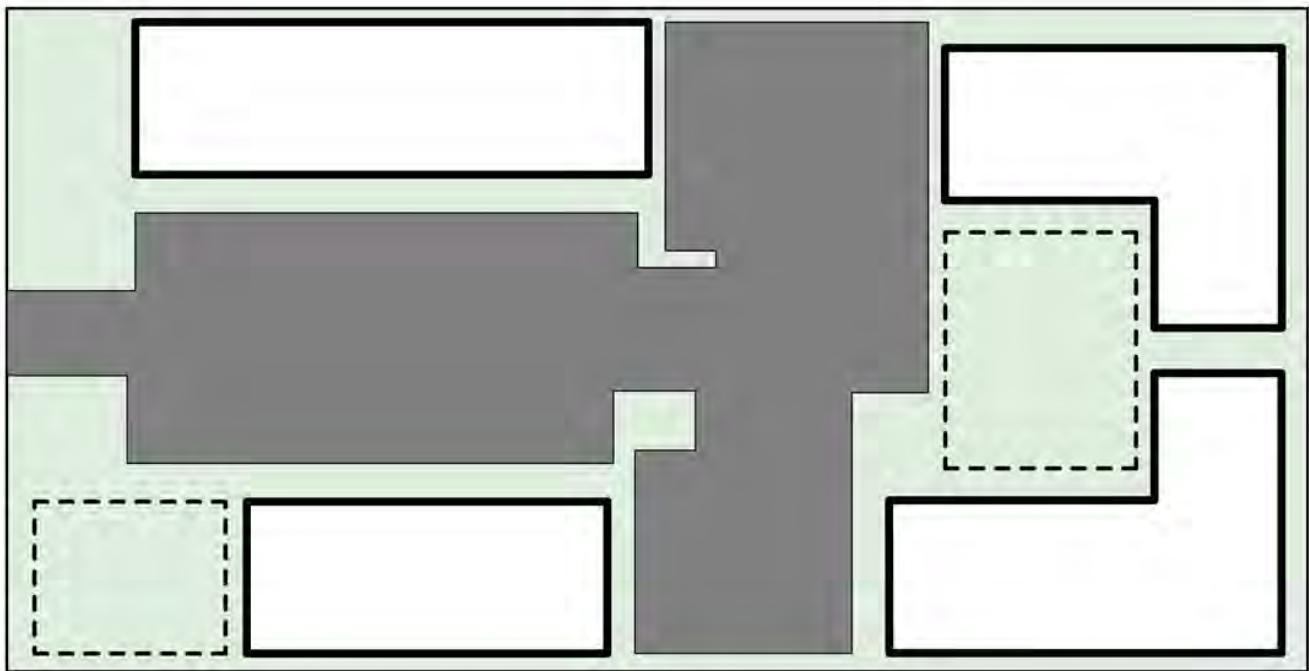
Shelf space: 50 square feet, with at least 12 inches of vertical clearance

Rethink This Property

Making Space for Gardens

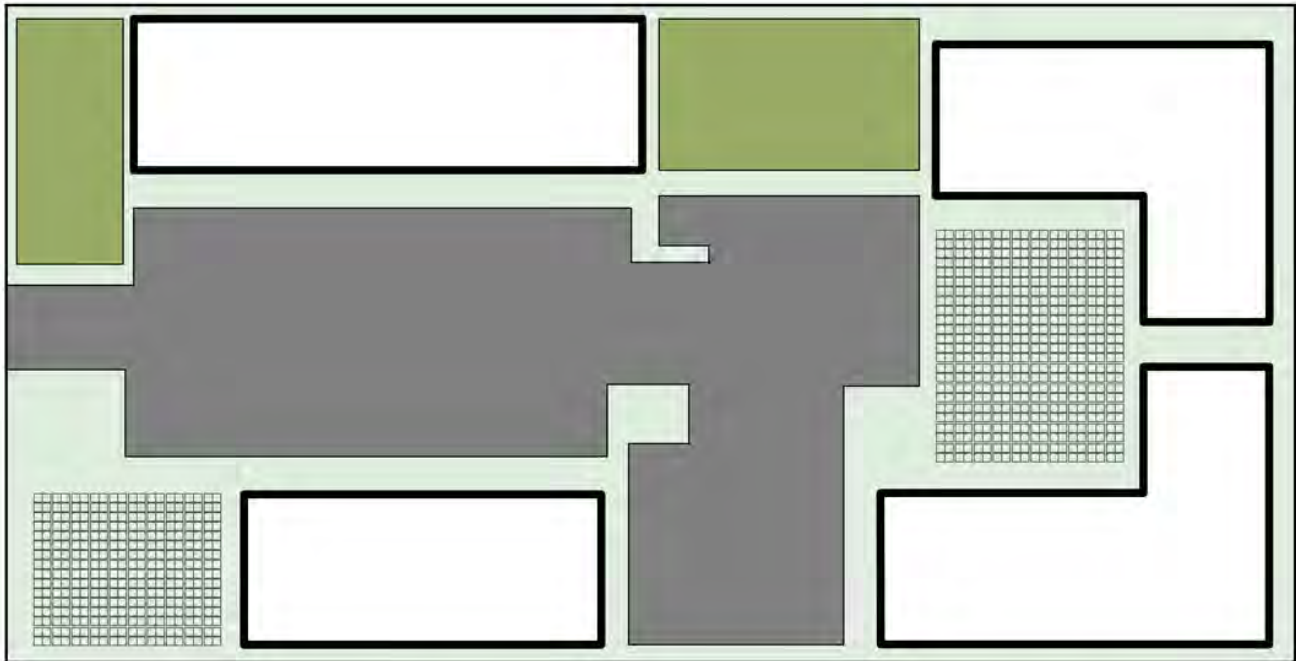
We asked a team of architects to recommend health-related design solutions for real East Portland apartment complexes. These drawings show some simple ideas for creating space to grow food.

Existing site layout. This site has lots of potential space for garden plots.



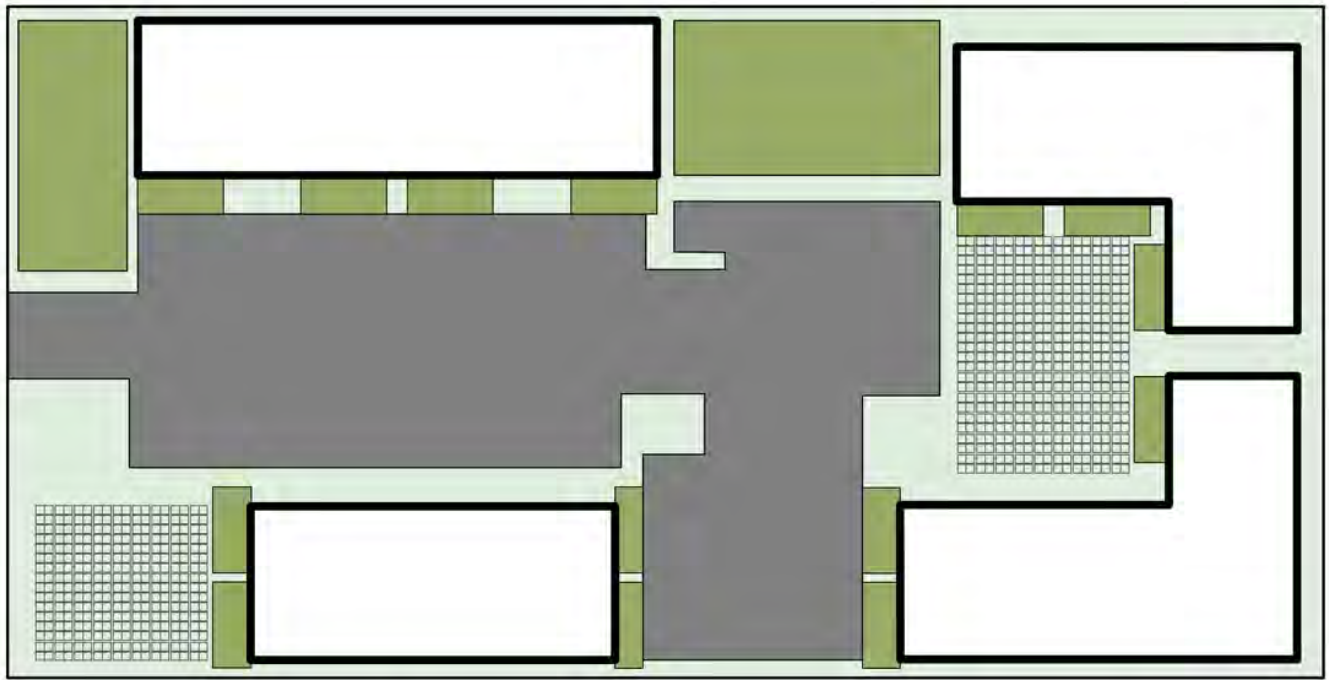
- Grass
- Parking and driveway
- Structures
- Outdoor area (unimproved)

Add community-wide gardens. Work with your residents to convert existing unused space to garden beds. Consider removing existing pavement for additional garden space.



- Grass
- Parking and driveway
- Structures
- Improved open space
- Community garden plots

Provide space for small private gardens. In addition to, or in lieu of, community-wide gardens, allow residents to create private gardening plots in the the outdoor areas adjacent their unit.



-
- Grass
 - Parking and driveway
 - Structures
 - Improved open space
 - Community garden and private garden plots

Images by Constructive Form Architecture & Design



Safety and Security

For individuals and whole communities, a sense of safety and security is a cornerstone of health. The benefits of establishing a safe and secure living environment go beyond protecting residents from direct threats such as injury and crime. When residents feel safe and secure, they're more likely to spend time outdoors, interact with their neighbors and explore their surroundings. As a result, entire communities benefit.

Crime Count
26% of the city's property crimes in 2012 occurred in East Portland.

Perception plays a key role in establishing safe and secure property conditions. Properties that appear unsecure or neglected have a tendency to attract illicit activities and wrongdoers. But well-maintained properties, which advertise a zero-tolerance policy toward crime, draw responsible actors and activities. Multifamily property owners and managers can influence residents' sense of safety and security with some simple actions and practices.

Safety and Security Benefits

Resident Health and Wellbeing

A safe and secure property protects residents from crime and accidental injury. By taking actions to deter crime and correct safety hazards on site, apartment owners can shield residents from accidental injury and other threats to person and property.

A safe and secure property encourages healthy outdoor activity. Residents who feel safe where they live are more likely to spend time outdoors, exercising and socializing with neighbors.

A safe and secure property reduces stress on families. Real or perceived security threats can create tensions at home, especially when parents are afraid to leave their children alone for even a few minutes.

Property Performance and Condition

A safe and secure property invites responsible tenants who care about the place they live. Residents who feel safe and comfortable in their surroundings are more likely to form ties with their neighbors, put down roots in their neighborhoods and contribute to the upkeep of their homes.

A safe and secure property discourages criminal activity. Persons involved in illegal activity may intentionally apply for residence at apartment buildings that appear unsecured or unmaintained. Likewise, a property with signs of neglect may attract unlawful activity that is unrelated to your residents.

A safe and secure property saves costs. Unit turnover may increase when residents perceive a lack of safety or security. Moreover, if your property has too many police service calls and is deemed a Chronic Nuisance Property by the City of Portland, steep civil penalties will apply.

Safety and Security Solutions

Management and Maintenance

Communicate that your property is well guarded by maintaining an orderly site.

- Pick up litter and debris daily.
- Remove graffiti immediately.
- Post and enforce a policy that unauthorized vehicles will be towed.

Rid your property of injury hazards.

- Keep stairs safe by installing slip-resistant finishes on treads, and color or textural contrasts at nosings.
- Prevent slips and falls by repairing cracks in pavement and correcting grading that causes water to pool on the ground.

Make repairs and improvements to discourage and prevent unwanted intrusions.

- Make sure door and window locks on all units are in good working order.
- Replace broken windows as soon as they're observed.
- Properly maintain fencing so it effectively directs pedestrian traffic and keeps out unwanted activity.

Install and maintain sufficient outdoor lighting to prevent injuries and discourage intruders. Follow these tips:

- Create an evenly lit outdoor environment that efficiently disperses light toward the ground, not into the atmosphere.
- Provide soft, even light. Avoid high-power bulbs, as many people's eyes can't adjust quickly from spot-lit areas to relative darkness.
- Install timers or photo-sensitive switches to turn lights on automatically before dusk. Make sure to seasonally adjust timer settings.
- Illuminate exterior doors, alcoves and other recessed areas of buildings and fences that could potentially conceal illicit behavior.

Maintain clear sight lines to minimize opportunities for concealed behavior. Good visibility is your best weapon against illicit activity.

- Remove fencing that creates difficult-to-observe areas.
- Trim or remove landscaping that obstructs sight lines. Be especially careful to maintain clear views of outdoor play areas, areas adjacent to windows and doors, and areas along walkways.
- Install a window, eye viewer or door scope in the front door of each apartment unit.

[More Safety and Security resources.](#)

Proven Results

Property owners and managers who participated in the City of Portland's **Landlord Training Program** reported an increased sense of personal safety for both tenants and neighbors.



Cracks in sidewalks present trip hazards and project the wrong image.

Take a free landlord training class

Learn how to prevent illegal activity, curb property destruction and address maintenance problems from the Bureau of Development Service's [landlord training program](#).

Partner with police to enhance site safety

The City of Portland's **Enhanced Safety Properties** (ESP) program is a partnership among property owners, tenants, police and neighborhood crime prevention staff that aims to keep residential rental properties safe and livable. ESP can help you by...

- Providing landlord trainings on criminal activity prevention.
- Recommending lighting, locks and landscaping modifications to improve security.
- Preparing police reports of any police service calls to the neighborhood. (This can be extremely helpful in the event you

need to establish evidence that one of your own residents is involved in illegal activity.)

- Encouraging positive relationships between police and residents, property owners and property managers.

Contact a **crime prevention coordinator** at ONI to learn more.

Resident Communication and Education

Encourage a sense of community among residents. When neighbors know each other, they are able to more readily identify suspicious people and activity.

- Organize a property-wide yard sale.
- Hold a summer barbeque.
- Tell residents how to get involved with their [local neighborhood association](#).

Provide a written notice reminding residents to follow general safety precautions. For example:

- Always secure access to your unit. Lock the doors and windows when you're not at home.
- If you witness illegal activity, report it to property management or call the police.
- Don't leave your valuables in plain view.
- Be aware of your surroundings.
- Always monitor children. Keep a watchful eye when they're outside playing.

[More Safety and Security resources.](#)

Help your residents create a safer property

This **Apartment Safety** tip sheet, created by the City of Portland's Office of Neighborhood Involvement, advises residents on how to improve the safety of their homes.

Get the word out to non-English-speaking residents

Provide translations of notices and signs in residents' own languages. Consider using pictures and icons to communicate across multiple languages. Or ask bilingual residents, including youth, to verbally pass along the information to others in their language community.

Design and Construction

Create common areas that invite resident interaction. Properties are safer when residents have opportunities to see and know each other.

- Provide exterior seating and picnic tables.
- Add a community room or outdoor area where people can comfortably gather.
- Situate entryways and hallways around a common area.

Signal to outsiders that private outdoor areas, such as unit patios, are off-limits. Intruders are more likely to steer clear of areas clearly marked as someone else's property.

- Use see-through fencing or shrubbery to define the boundaries of patios, yards and other outdoor areas that belong to individual units. Different paving material or a change in elevation (e.g., a sunken or raised patio) can also mark the transition between common and private outdoor space.
- Make it easy for residents to see and be seen from their yards and patios. Incorporate stoops, terraces or other built-in seating into these areas.

Provide delineated pedestrian/bike pathways to keep residents safe from traffic and encourage outdoor activity.

- Incorporate changes in pavement texture to create clear distinctions between public sidewalks, driveways and pedestrian pathways.
- Use pathways to provide separation between parking areas and units. (This will have the added benefit of cutting down on car pollution entering people’s homes.)
- Minimize concealed or isolated routes.

If designing a new rental housing project or adding more units, plan your buildings and site to allow for clear sight lines. Maximizing visibility fosters positive social interaction and deters crime.

- Place windows so they look out on parking lots, entryways and sidewalks.
- Provide seating areas where people can gather and survey their environment.
- If possible, orient laundry rooms and community areas next to play areas, so parents can easily supervise children.

Avoid designing entrapment areas (dead ends) where surveillance opportunity is limited.

[More Safety and Security resources.](#)



This area has poor surveillance opportunities.



An established perimeter with a good sight line helps keep this property secure.

Learn how to design a crime-resistant property

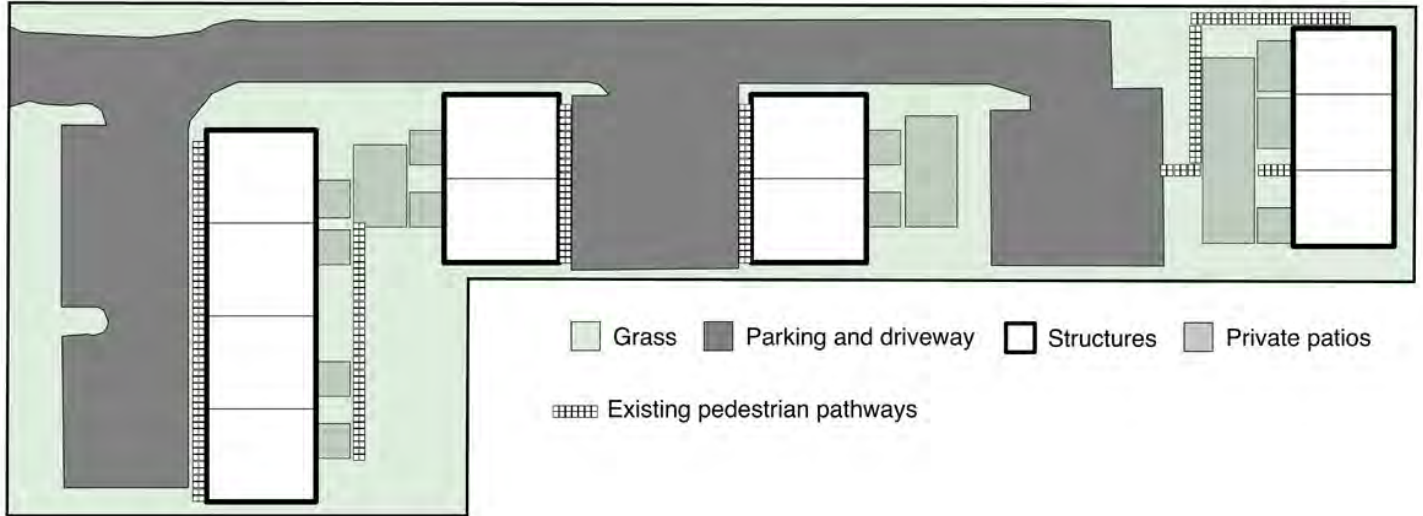
Crime Prevention Through Environmental Design (CPTED) is a site-design method formulated to deter crime and enhance quality of life for property occupants. The City of Portland’s Office of Neighborhood Involvement (ONI) offers a **[summary of CPTED principles and examples of good practices](#)**.

Rethink This Property

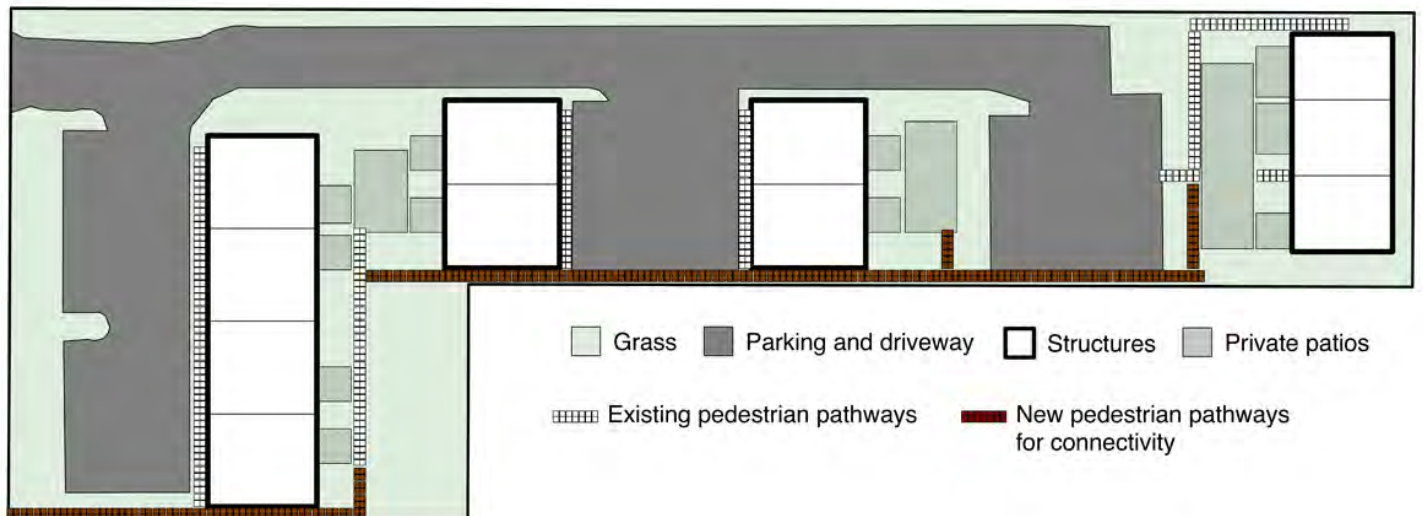
Enhancing Safety & Security

We asked a team of architects to recommend health-related design solutions for real East Portland apartment complexes. These drawings show some simple ideas for making a property safer and more secure.

Existing site layout. The fragmented layout of this site makes it a challenge to keep an eye on neighbors and visitors.



Add pathways for better pedestrian circulation. Paved walkways provide pedestrian and bike access throughout your site, which will help your residents spot criminal activity.



Add benches and picnic tables. Outdoor seating allows parents to better observe their kids. It also encourages residents to spend time outside their apartments and notice when strangers enter the property.



Images by Constructive Form Architecture & Design



Relieving Overcrowding

Overcrowding is a product of economic necessity: when households can't afford adequately sized apartments, they crowd into too-small ones. In a typical overcrowded household, eight or more people might share a two-bedroom apartment, sleeping three to a bedroom and camping out on living room couches and floors. Overcrowding is a major health challenge because it impacts so many aspects of life, from getting enough sleep to having enough room to store food. It affects many low-income households in East Portland—especially immigrant, refugee and large, multigenerational families.

Living Large

Apartments suited to large families are hard to find in the Portland-metro area.

70%

Portion of rental units with **2 or fewer bedrooms**

6%

Portion of rental units with **4 or more bedrooms**

Relieving Overcrowding Benefits

Resident Health and Wellbeing

Relieving overcrowding helps prevent the spread of illness.

Wherever people share food and handle the same objects, sickness and germs pass easily from one person to another. More people living in close quarters means more opportunities to transmit illness.

Relieving overcrowding facilitates good household hygiene.

It's difficult to keep up with basic housekeeping when spaces are fully occupied and in constant use.

Relieving overcrowding supports healthy sleep.

Higher levels of noise and activity, and less space for sleeping, can cause serious sleep challenges for members of overcrowded households, especially children.

Relieving overcrowding prevents depression, anxiety and domestic conflict.

Lack of privacy and insufficient deep sleep can negatively impact mental health and aggravate the normal interpersonal tensions that families face.

Relieving overcrowding helps kids do better in school.

When there is no quiet space for children and youth to do homework, learning opportunities and school performance may suffer, with lasting consequences.

Property Performance and Condition

Relieving overcrowding decreases unit wear-and-tear. With less use, appliances, hardware and finishes hold up longer.

Relieving overcrowding helps keep mold and moisture under control. When more people occupy a space, excess moisture is generated from showering, cooking and breathing. Also, mattresses on floors may block vents, impeding air circulation.

Relieving overcrowding reduces the risk of pest infestation. In overcrowded units, pests can be difficult to control, because of insufficient food storage space, inadequate garbage storage and the extra challenge of keeping the unit clean.

Relieving overcrowding prevents conflict with neighbors. Neighbors may be annoyed by the increased noise and cooking odors produced by overcrowded households.

Relieving Overcrowding Solutions

Management and Maintenance

Relieve overcrowding by making unit porches and patios more usable. Residents are more likely to use outdoor living space if it feels comfortable and private. An inexpensive visual border can turn an existing porch or patio into an inviting “outdoor living room.”

- Plant small trees or shrubs to separate/screen unit porches from common outdoor areas.
- Instead of plants, use another material to create a semitransparent visual barrier. Try simple slatted wood fencing or vinyl picket fencing.

Give residents extra elbow room by making on-site common areas more usable.

- Install picnic tables and benches in a central outdoor location.
- Create a covered outdoor area so that residents can use the space year-round.
- Screen shared outdoor vestibules with a semitransparent material to create a sense of enclosure and privacy. These areas can become pleasant gathering spaces for residents.

Build and maintain positive relationships with refugee resettlement agencies. If you have residents referred to your property by resettlement agencies, take time to talk with agency staff to understand the pressures and challenges facing refugee households.

Occupancy Algebra

To determine an apartment unit's maximum occupancy limit, use this standard rule of thumb:

2 people per bedroom, plus 1 additional person per dwelling unit

Example:

Standard occupancy limit for a 2-bedroom unit = $(2 \times 2) + 1 = 5$ people



Create outdoor living space by installing a trellis and bench.

Understand the housing pressures facing East Portland's refugee residents.

Fleeing intolerable conditions in their home countries, refugee families are faced with the challenge of building new lives in America—typically with critical, but limited, help from the U.S. government. Many such families live in apartments in East Portland.

For up to eight months, refugee families are eligible for assistance from refugee resettlement agencies, acting through the U.S. Department of State. These agencies can assist with rent payments, living expenses and medical and employment services. By the end of the eight-month period, recipients are expected to achieve self-sufficiency—that is, to become proficient in English, learn to navigate the American economy and financial systems, and secure needed employment.

During those eight months, rent assistance provided to refugee households is often insufficient to meet their needs. The government's per-household rent allowance covers the cost of a two-bedroom apartment, whereas many refugee families are very large and multigenerational.

Once the assistance period ends, families that haven't achieved financial stability are left with few housing options. Many double up with other refugee families. When multiple families share housing out of economic necessity, already crowded situations become worse.

Resident Communication and Education

Encourage your residents to use outdoor areas for adjunct living space. Let residents know that they're welcome and encouraged to use outdoor spaces.

Provide residents with written rules of conduct to prevent overcrowded households from becoming a nuisance to neighbors.

Include the following reminders:

- Be mindful of your neighbors' need for space and quiet when having gatherings or playing outside.
- Respect quiet hours by not making loud noises or playing music/watching television at a high volume.
- Ask your guests to park in spots that are far away from the building so as to keep nearby spots available for building residents.

Get the word out to non-English-speaking residents

Provide translations of notices and signs in residents' own languages. Consider using pictures and icons to communicate across multiple languages. Or ask bilingual residents, including youth, to verbally pass along the information to others in their language community.

Get a density bonus for providing large dwelling units

The City of Portland provides qualified developers with financial rewards, in the form of density bonuses, in exchange for providing large dwelling units. Consider this option if you're adding more units to your site. See the **Multi-Dwelling Residential Zones** section (33.120.265 C.3) of the City of Portland Zoning Code.

Design and Construction

Use open plans and movable partitions to create flexible living spaces.

- If you're building a new housing structure, design units that have fewer, larger rooms. Open-plan spaces can be arranged in multiple ways to accommodate differently sized households.
- In larger rooms, install accordion-like room dividers that open and close; this will enable residents to adapt the space for different uses and times of day. Make sure the partitions don't restrict egress or natural light when they're closed.
- In smaller rooms, provide movable partitions or folding room dividers, which residents can use to divide space quickly and flexibly.

When designing new units or remodeling existing ones, find creative ways to maximize food preparation and storage space.

- Utilize overhead wall space for food and kitchen equipment storage. Install shelving high up on hallway walls.
- Consider building galley-style kitchens, in which the stove, sink, refrigerator and counters are efficiently arranged in a row or in two opposing rows. Galley kitchens maximize use of limited space.

If economically feasible, convert one dwelling unit, or part of a unit, into a community room. A community room will give overcrowded residents a place to gather and play games, have celebrations, watch movies or just hang out.

- Make sure the unit can be easily accessed and observed by residents. Choose a centrally located unit, or one that is located near public areas such as the street, driveway or common outdoor space.
- Include a mini-kitchen and half-bathroom to provide a more accommodating environment.

To accommodate larger households, consider combining two dwelling units.

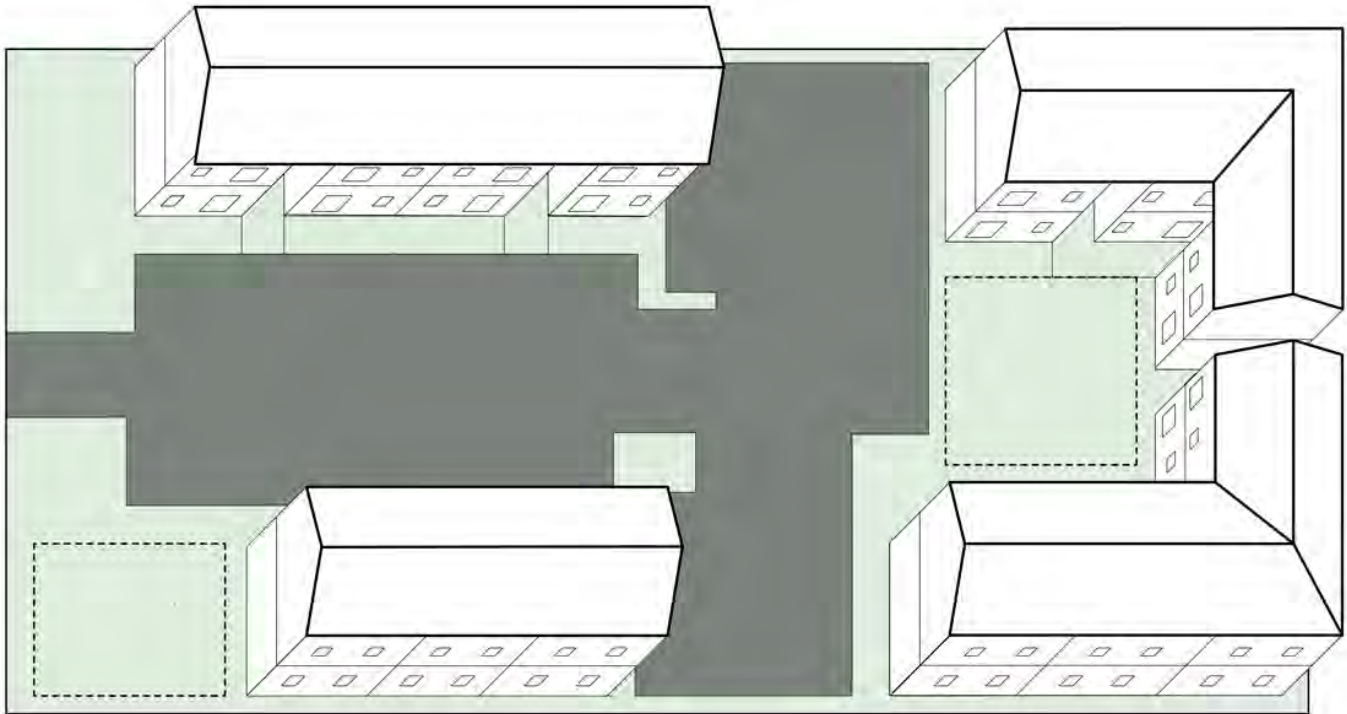
- Add a door in a party wall to combine adjacent units.

Rethink This Property

Relieving Overcrowding

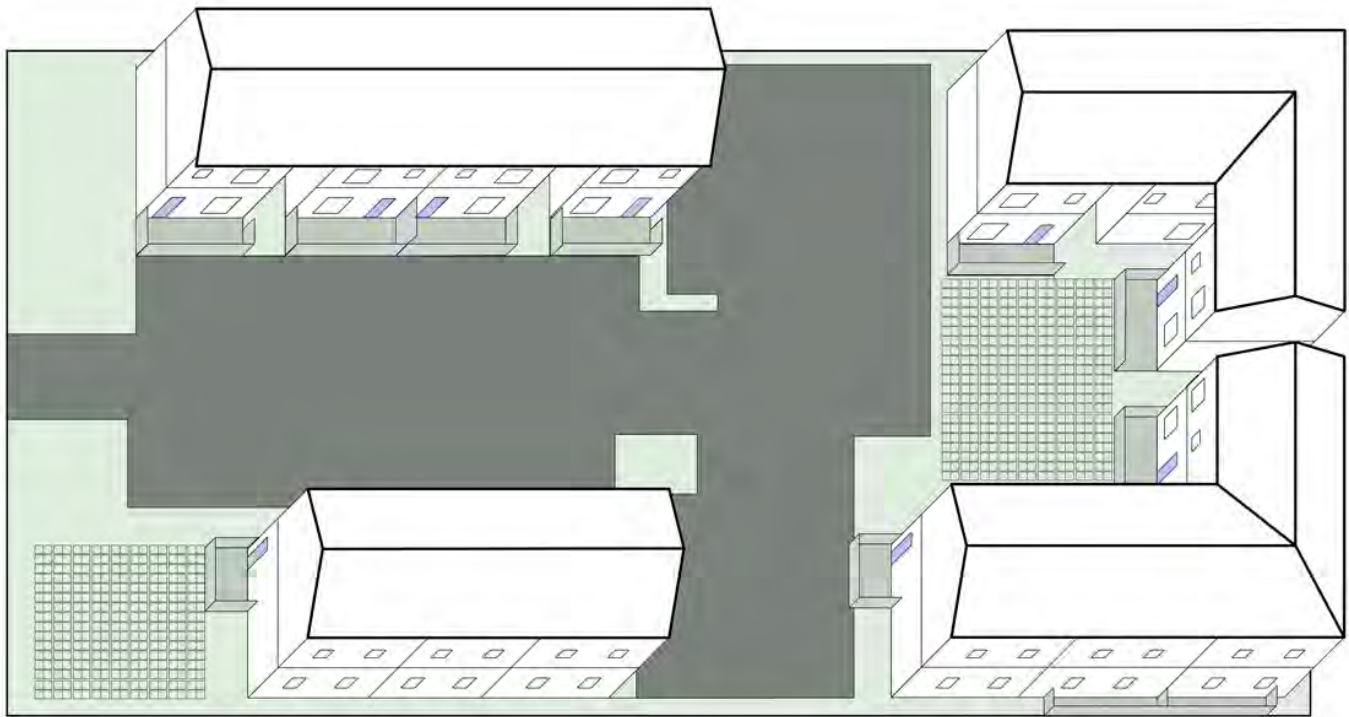
We asked a team of architects to recommend health-related design solutions for real East Portland apartment complexes. These drawings show some simple ideas for turning outdoor areas into usable living space.

Existing site layout. This site layout offers an opportunity to expand residents' living space between the parking area and units.



- Grass
- Parking and driveway
- Structures
- Outdoor area (unimproved)
- Existing windows

Extend apartment space by enclosing existing outdoor space. Enclose the outdoor space directly adjacent to residents' units with see-through screening, slatted fencing or vegetation. Add some pavers and replace an existing window with a door to provide direct access to the newly defined private patio.



- Grass
 - Parking and driveway
 - Structures
 - Improved open space
 - Existing windows
 - New private patios
 - New screening
 - New doors at existing window openings
-



Mold and Moisture Control

Mold spores are naturally present in the air, and under normal conditions, they don't cause harm to people or buildings. But when mold spores come in contact with excess moisture, and begin to grow on walls and other surfaces of a building, they can cause serious respiratory health problems for occupants. They can also do costly structural damage to the building. The best path to preventing mold at your property is to control moisture infiltration, assure good air circulation and educate residents about how to do their part.

Most Moist

Properties with aluminum windows and baseboard heating are most prone to mold and moisture problems.

Mold and Moisture Control Benefits

Resident Health and Wellbeing

Controlling mold and moisture protects residents from serious respiratory illnesses and other health problems. Molds can trigger asthma attacks and allergic reactions such as sneezing, runny nose, red eyes and skin rash. To a lesser extreme, mold may irritate the eyes, nose, throat, lungs and skin.

Controlling mold and moisture helps keep kids in school and adults at work. Allergies, asthma, chronic coughing and sneezing caused by mold exposure may impair residents' ability to carry out necessary responsibilities.

Controlling mold and moisture prevents damage and destruction of residents' personal property. Mold and mildew can ruin furniture and other belongings.

Property Performance and Condition

Controlling mold and moisture protects building structures and finishes from damage. Mold and moisture can cause extensive damage to walls, carpets, drywall, ceilings and subfloors.

Controlling mold and moisture prevents costly remediation and repair bills. Some molds are very dangerous and require the help of expensive professional remediation services to be properly contained. Also, contaminated building materials might need to be replaced.

Controlling mold and moisture reduces unit turnover. Chronic mold and moisture problems may drive some residents to move out, which increases vacancy loss and operating costs.

Mold and Moisture Solutions

Management and Maintenance

Properly ventilate each apartment unit.

- Make sure that bathrooms and kitchen stoves have operable ventilation fans that exhaust to the outside. Choose quiet fans (with low sound ratings); tenants are less inclined to use fans that are excessively noisy.
- Consider installing humidistat controls that automatically turn on bathroom fans when moisture levels rise and shut them off when levels subside.
- Make sure windows can open for ventilation, especially in kitchens, bathrooms and rooms with identified mold problems.

Protect your building envelope from moisture infiltration. Your building envelope is your only line of defense against precipitation and wind-driven rain.

- Clean your gutters annually. It's best to do this in the fall, after trees shed their leaves. Take this opportunity to inspect your gutters for damage and make sure they drain away from your building's crawlspace or basement.
- Ensure the ground slopes away from all buildings on your property. Shoot for a downward slope of 5% for the first 10 feet. Check to see if pooling near your building foundation occurs after a heavy rain.
- Direct downspouts away from your building's foundation and make sure gutters are completely connected to them.
- Install a 6-millimeter plastic vapor barrier on the floor of crawlspaces to reduce the amount of moisture evaporating from the ground and migrating inside your building.
- Check your building's crawlspace or basement for signs of water collection. Use your nose as well as your eyes to detect moisture: a dry, dusty smell is good; a damp, musty smell may indicate excessive moisture levels.

Be diligent about routine maintenance. Small steps can prevent big problems.

- Regularly inspect your building's plumbing fixtures and roof for water leaks. Fix leaks immediately and take care to completely dry the surrounding area.
- If units have air conditioners or dehumidifiers, empty the drip pans and make sure the drain lines are flowing properly.
- Make sure heaters in units work properly. As long as air is circulating adequately, keeping indoor temperatures at around 68° will help inhibit mold growth.
- Insulate cold-water pipes if you see condensation collecting on them.

Act aggressively if you suspect mold is present.

- Don't delay in addressing mold issues. The longer mold grows, the more damage it does.
- If you observe mold, consider consulting a specialist to positively identify and remediate it.
- If you can smell mold but can't see the source, consult a specialist to help investigate. The mold could be hiding behind drywall, above ceiling tiles or under carpets. Uncovering hidden mold may disturb and release mold spores.
- Do not run your building's forced-air heating system if you think it may be contaminated with mold; doing this could spread mold spores throughout the building.

Mold Mantra

*Moisture control is the key to mold control.
Moisture control is the key to mold control.
Moisture control is the key to mold control...*



This roof has no gutter, so the downspout is clearly not serving its purpose.



Mold consultants can contain and treat this spreading mold problem.

Check your fan's draw power

Put a piece of toilet paper next to a running fan. If it doesn't stick to the fan, the fan is likely not reducing moisture in the air.

Access easy-to-follow mold prevention tips from the EPA

The Environmental Protection Agency's handy guide, **Mold, Moisture, and Your Home**, gives advice for residents and property managers on routine maintenance and indoor humidity control.

Resident Communication and Education

Advise residents to keep their apartments ventilated and dry. Provide a written notice with the following reminders:

1) Keep your apartment ventilated:

- Always run your bathroom vent fan when showering or bathing, and let it run for 15 additional minutes to vent away excess moisture. (Open your bathroom window if fans are not provided.)
- Run the fan above your stove, or open your kitchen windows, while cooking and for 15 minutes after you're done.
- Crack or fully open your windows and/or doors for a half-hour every morning and evening. Remember to also open window curtains and blinds.
- Move furniture, mattresses, boxes and other belongings at least three inches away from walls. Make especially sure to move items away from exterior walls, where condensation is most likely to form.
- Leave closet doors open and refrain from overfilling them.
- Avoid clutter.
- Consider purchasing a dehumidifier if mold or excess humidity persists.

2) Keep your apartment dry:

- Immediately report all plumbing leaks and moisture problems to your property manager.
- Clean up water leaks, spills and condensation right away to prevent mold from growing.
- Cover pots and pans when cooking.
- Don't hang wet clothes inside. Keep wet shoes outside.

3) Follow these additional tips:

- Tell your landlord if you have mold.
- Clean more frequently, if necessary, to prevent mold from growing.
- Don't use a humidifier if your apartment is prone to mold.
- If your apartment has a patch of mold smaller than 3 feet by 3 feet, clean the area with a solution of one cup vinegar and one cup water. Wear dishwashing gloves, unvented goggles and a N95 respirator (all available at a hardware store for under \$20). Thoroughly scrub and dry the area.
- Do not attempt to clean mold if the patch is larger than 3 feet by 3 feet; notify your landlord instead.
- Pair warm air with good air circulation to prevent mold growth. Assuming your apartment is well ventilated, maintain an indoor temperature of 68°.



Keeping furniture and other belongings at least three inches away from walls will help prevent mold like this from growing.

Point your residents to Multnomah County's healthy home resources.

Written for tenants and landlords, **What Makes a Healthy Home?** contains tips on keeping apartments dry and ventilated.

Rent Right: A Guide for Landlords and Tenants, developed by the Multnomah County Healthy Homes Coalition, discusses the different responsibilities that landlords and tenants have in making sure that rental units are safe, clean and habitable. It includes helpful tips on mold prevention.

Get the word out to non-English-speaking residents

Provide translations of notices and signs in residents' own languages. Consider using pictures and icons to communicate across multiple languages. Or ask bilingual residents, including youth, to verbally pass along the information to others in their language community.

Cleaning up mold? Have the right equipment handy.

[Insert photos of dishwashing gloves, unvented goggles and a N95 respirator]

Design and Construction

Keep rain and irrigation water flowing away from your building.

- Direct downspouts away from the foundation. Grading should have a 5% slope away from the building for the first 10 feet.
- Shape landscaping berms properly so that they carry water away from the building, rather than toward it.
- Locate sprinklers at least one foot away from buildings to prevent intrusion of irrigation water.

Provide suitable and sufficient mechanical ventilation systems.

- Consider installing whole-house ventilation fans in each apartment. Whole-house fans provide 24-hour ventilation throughout an entire unit.
- Also consider installing passive vents in each unit, a cost-effective way of drawing in fresh air and circulating it throughout the apartment.
- Install occupancy-sensor fans in bathrooms; they automatically turn on when the room is occupied, and they stay on for a few minutes after it is vacated.
- Vent fan ducts to the outside.

Warm up your walls and windows.

- Add insulation to your building's exterior walls. Insulation causes the surface temperature of walls to increase, which reduces moisture condensation.
- Install temporary (plastic) storm windows or new double-pane windows. This will increase the surface temperature of interior glass panes, which will in turn reduce interior moisture condensation.

If attempting a major renovation, design your building envelope to the highest standards.

- Ensure there is adequate air sealing/weatherization.
- Ensure that window flashing is installed properly so that water drains to the outside.
- Opt for roofs that have overhangs or eaves to keep rainwater away from siding.
- If your building has a crawlspace, make sure it's vented and a vapor barrier is installed.
- Specify operable windows so that residents are better able to control the air circulation in their units.

Get help paying for insulation and windows

EnergyTrust of Oregon offers cash incentives for installing replacement windows and adding insulation to your attic, walls and underfloors. (Adequate insulation and tight-fitting, energy-efficient windows warm up interior surfaces, which reduces interior moisture condensation.)

Consult the experts on improving your building envelope

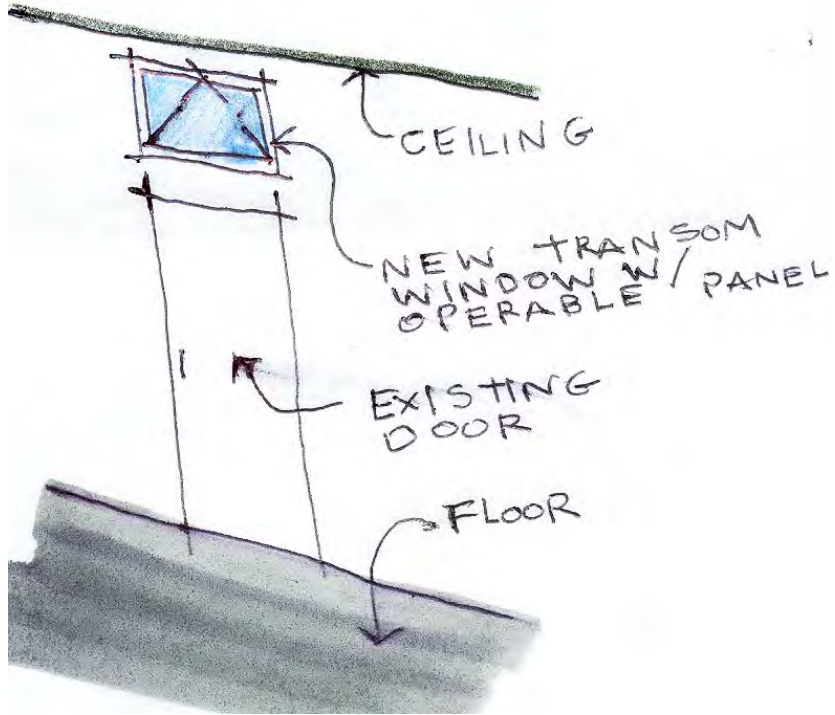
Oregon Housing and Community Services' **Building Enclosure Rehabilitation Guide: Multiunit Residential Wood-Framed Buildings** focuses on how to manage heat, air and moisture transfer through building envelope design. It also offers guidance on assessing and rehabilitating wood-framed multifamily properties.

Rethink This Property

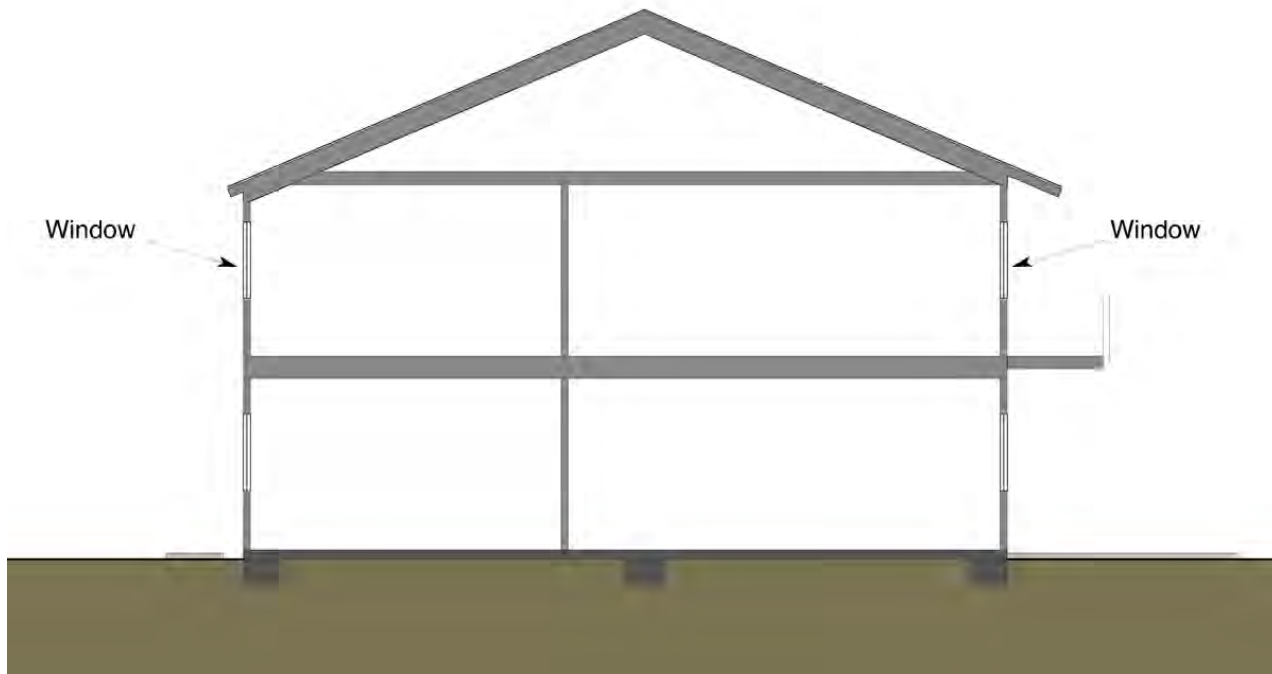
Mold and Moisture Control

We asked a team of architects to recommend health-related design solutions for real East Portland apartment complexes. These drawings illustrate how adding transom windows can improve interior airflow for better moisture control.

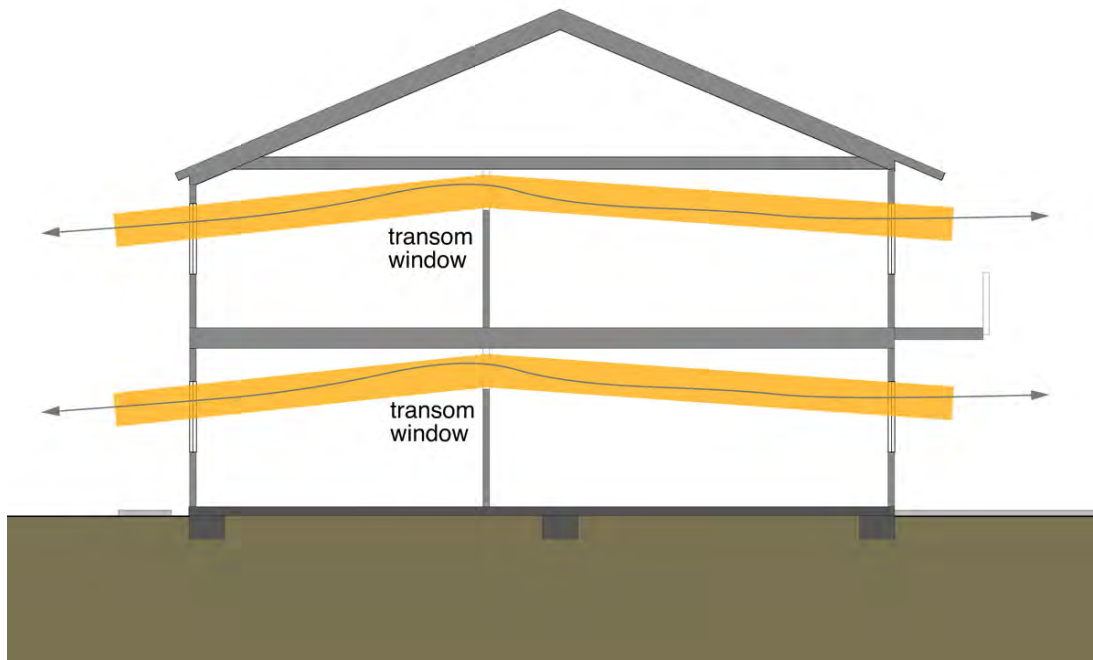
What is a transom window? An operable transom window, placed in an interior wall, lets in natural light and improves air circulation.



Existing building cross section. There is no opportunity for cross-ventilation between these two rooms.



Reduce moisture by increasing ventilation. Adding a transom in an interior wall provides cross-ventilation, a key component of good mold and moisture control.





Pest Management

Roaches, mice and other pests pose health and safety threats to residents, and they can do severe damage to your property. If left untreated, pest infestations may quickly spread throughout entire buildings. Multiple factors contribute to pest problems, some related to resident practices and others to property maintenance procedures and structural defects. The good news is that both residents and owners can take effective actions to eradicate pests—and to prevent infestations from occurring in the first place.

Common Portland Pests

Ants	Possums
Bed bugs	Raccoons
Carpenter ants	Roaches
Dust mites	Squirrels
Fleas	Termites
Lice	Wasps
Mice	

Pest Management Benefits

Resident Health and Wellbeing

Pest management prevents infectious disease. Residents may be infected with extremely hazardous diseases from rat bites. Contact with rat feces or urine can spread salmonellosis, leptospirosis and toxoplasmosis. Children playing near sources of pest infestation, such as Dumpsters, and babies crawling on floors, are at increased risk of exposure to disease-bearing pathogens.

Pest management helps residents control asthma. Cockroach debris (old shells, body parts and droppings) is a powerful allergen that can trigger asthma or aggravate existing cases.

Pest management keeps food safe from contamination. When mice and roaches get into food, they spread germs and render items unusable.

Pest management prevents damage to personal property. Rats and roaches are attracted to electrical heat; they'll gnaw through electrical cords and equipment, destroying expensive items such as TVs, computers and DVD players. Cockroaches eat glue in furniture and books. Other bugs burrow into clothing, furniture and mattresses, laying eggs and leaving droppings.

Property Performance and Condition

Pest management keeps property costs reined in. Left uncontrolled, pest infestations can severely damage your property and lead to potentially massive repair bills.

Pest management protects the integrity of wood structures. Wood-eating pests, such as termites and certain types of ants, can wreak havoc on your building's wood frame.

Pest management prevents damage to building finishes and systems. Cockroaches that feast on glue can ruin carpet and linoleum. Rodents will gnaw through electrical wiring and tear into insulation when they nest.

Pest Management Solutions

Management and Maintenance

Treat pest infestations aggressively.

- Address infestations immediately, before they get out of hand and become prohibitively expensive to eradicate.
- Take a whole-building approach. Rather than treating only those units where problems are reported, inspect and treat the entire structure that's affected.

Get ahead of pest reporting and detection.

- Give residents an easy-to-follow system for notifying you of pest infestations.
- Implement a regular pest inspection schedule. Inspect at least twice a year if your building has no recent history of pest infestation, monthly if it does.
- When a resident reports a problem, inspect the entire unit. Always check for water leaks, because access to water encourages pests to visit and stay.
- Assign responsibility for pest management. Many pest control companies familiar with IPM (see orange box at left) offer ongoing prevention and maintenance contracts.

Take proactive steps to prevent pests from easily accessing food, water and shelter.

- Remove landscaping debris, garbage and pet-food containers from outdoor areas.
- Fix active leaks that provide ready water sources for pests.
- Get rid of standing water by regrading soil and repairing holes and depressions in paved areas.
- Seal any building-envelope cracks, which welcome pests like open doors. Pay special attention to plumbing penetrations, eaves and roof fascia. Also, repair holes in interior walls that separate units.
- Replace or fix broken screens in windows and doors. During warmer months, even small holes in screens permit easy access for all types of pests.
- Maintain adequate clearance between siding and soil, and trim landscaping to provide at least 18 inches of clearance from the building. Rats and mice like to hide in shrubbery.

Deal with Dumpsters. Dumpsters are very attractive to pests, so it's important to diligently monitor and maintain your building's entire Dumpster and recycling area.

- Make sure you have adequate Dumpster space and that garbage service is scheduled frequently enough to accommodate residents' needs. When garbage overflows, pests have easy access to food.
- Encourage recycling to reduce garbage loads. Provide guidance by placing pictures of recyclable items above the appropriate bins.
- Chain a step stool to the base of your Dumpsters so that residents, including children, can reach the top when throwing out trash.
- Move Dumpsters away from your buildings, at least 15 to 20 feet, so pests aren't tempted to crawl indoors.
- Fence, screen or add concrete barriers around your Dumpsters to make food scraps and other trash less accessible to pests.
- Request that your garbage service company regularly wash out the inside of your Dumpsters.
- Decommission garbage chutes.

Inspection Tips

Move appliances and furniture to make sure you don't overlook any pests.

Inspect at night, using a flashlight, because roaches like to hide during the day.



Regular inspections can prevent pest problems from getting out of hand.

Use integrated pest management (IPM) techniques

Much of the advice in this chapter references and builds on a proven system for preventing and controlling pests known as integrated pest management, or IPM. IPM strategies are simple and environmentally sound, focused on addressing the underlying conditions that cause pests rather than spraying with pesticide once pests are discovered. Here are some basic IPM strategies:

- Monitor pest populations to get a sense of baseline conditions and changes over time.
- Block pest access by sealing any building cracks and interior holes, particularly in kitchens and bathrooms.
- Eliminate food and water sources for pests.
- Apply low-toxicity pesticide selectively to specific, documented problem areas.
- Continue to monitor for pests after problems subside.

The National Center for Healthy Housing has some **good introductory material** on practicing integrated pest management in multifamily housing. Check out *IPM Case Studies* and *Costs Comparison* to learn how IPM can benefit your property.

Resident Communication and Education

Encourage prompt reporting of pest problems.

- Don't charge residents for spraying or setting traps. Residents may delay reporting problems if they fear being charged or blamed. Moreover, pest infestations often have multiple or indeterminate sources; by charging the person who reports the problem, you may end up "punishing the victim".
- Use safe and nontoxic treatments, and explain to residents that these treatments won't harm people or pets.

Create a written notice informing residents of these pest prevention practices:

- Store perishable food in the refrigerator. Store nonperishable foods, like flour and beans, in metal/glass containers with tight-fitting lids.
- Don't put aluminum foil around stovetop burners, as trapped grease provides a breeding ground for pests.
- Keep up with housework:
 - Sweep or mop up spilled food and beverages; vacuum carpets regularly.
 - Don't leave dirty pet-food containers on the floor. Pick them up and wash them out after your pet has eaten.
 - Throw away garbage quickly and take out the trash at least once a week. Use garbage cans with tight-fitting lids.
- Make sure trash makes it inside your building's Dumpster; don't leave it on the ground.
- Don't leave pet food outside, where it will quickly become a good meal for pests.

Get the word out to non-English-speaking residents

Provide translations of notices and signs in residents' own languages. Consider using pictures and icons to communicate across multiple languages. Or ask bilingual residents, including youth, to verbally pass along the information to others in their language community.

Design and Construction

Design family-sized kitchens that provide adequate space to store and prepare food.

- Maximize cabinet storage. Otherwise, residents' best option may be to use dishwashers for storage, preventing quick cleanup of dirty dishes.
- Provide large-capacity refrigerators.

When laying out sites, locate pest "magnets" away from buildings.

- Locate the garbage and recycling area at least 15 to 20 feet away from the building.
- In your landscaping plan, specify plants that won't quickly become overgrown and touch the buildings.

Design pest-resistant structures.

- Use durable non-wood siding materials such as cementitious siding.

- Eliminate material that contains cellulose, including wood, under and near structures.
- Design structures for easy pest inspection. Build in access to critical areas, such as foundations.

Seal off openings.

- Use flap valves or mesh to prevent rodents from climbing up downspouts and pipes. (Note that valves and mesh will require regular cleaning.)
- Install mesh to prevent animals and insects from gaining entry through vents and other building openings.

Pest Prevention by Design

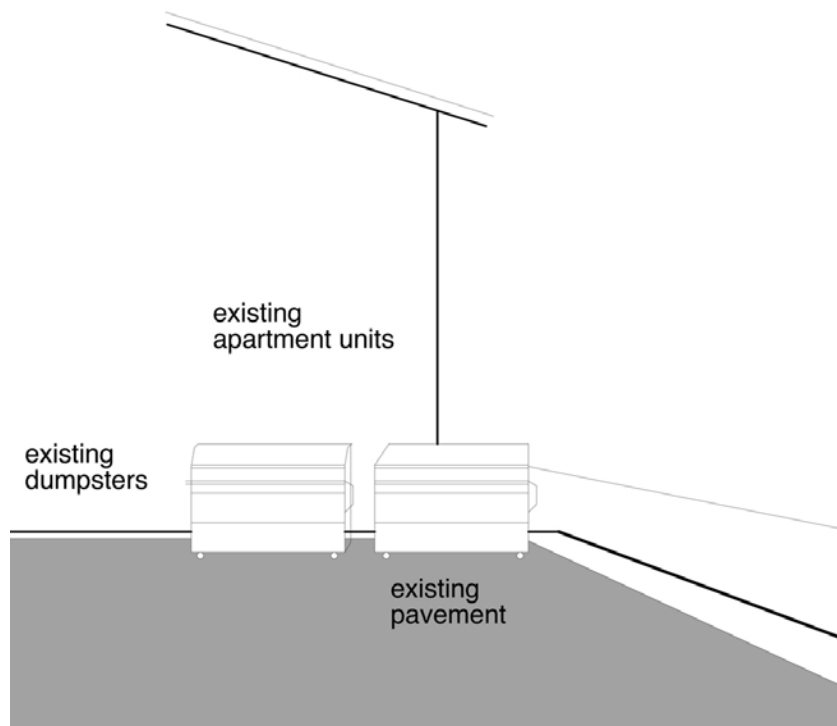
For guidance on designing pest-resilient structures, see the City of San Francisco's excellent technical resource, **Pest Prevention by Design: Authoritative Guidelines for Designing Pests Out of Structures**. These guidelines apply to a wide variety of building structures, addressing both initial design and retrofit work.

Rethink This Property

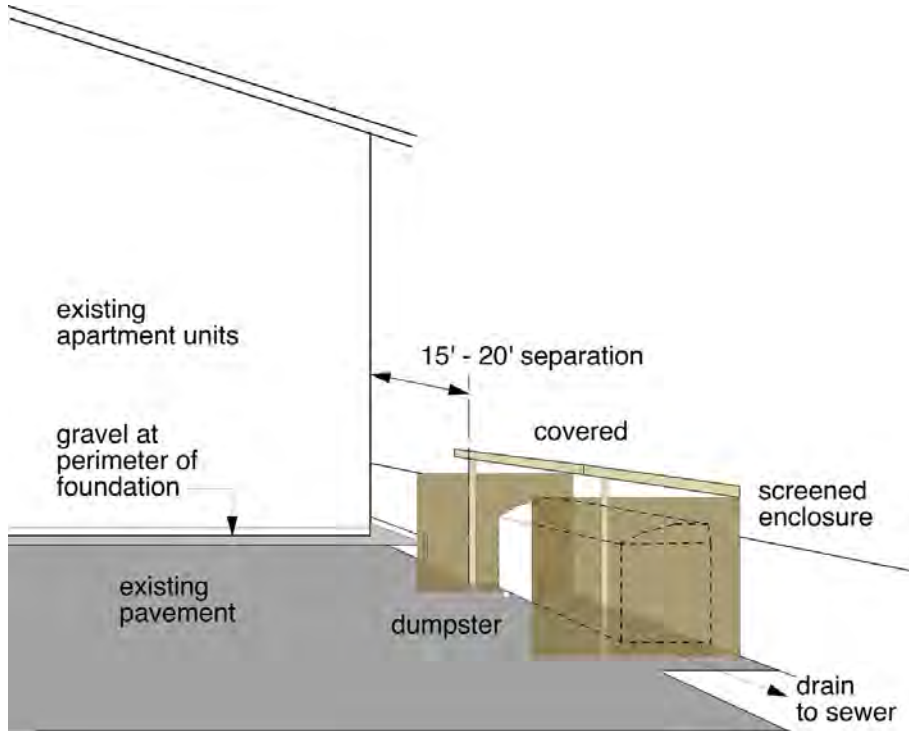
Pest Management

We asked a team of architects to recommend health-related design solutions for real East Portland apartment complexes. These drawings show how to keep your Dumpsters from becoming pest magnets.

Easy jump for pests from Dumpsters to your buildings. These Dumpsters are too close to the building, allowing pests to make an easy transition from trash to unit interiors.



Move Dumpsters and protect your building with a strip of gravel. Make sure there's a 15- to 20-foot separation between Dumpsters and buildings. Install a screened enclosure with a cover and door. Provide extra protection from pests by putting in a strip of gravel, 6 to 12 inches wide, around the perimeter of your property.





Youth Design Workshop: Open Space

What do youth want from outdoor open space at their apartment buildings? At a design workshop held in April 2013, the creators of this handbook asked youth living at or near the apartment complexes in our study area to share their ideas.

About the Participants

About 15 teenagers, mostly sophomores and juniors in high school, participated in the design workshop. Most had lived in East Portland for three years or less. Participants included three Karen, four Bhutanese, and six Burmese youth, most from families that are intergenerational and/or have many children.

About the Workshop

The workshop's purpose was to get feedback on how to create more usable, community-oriented outdoor spaces, geared toward the needs of youth (ages 13 and over) and children (ages 12 and under). We invited participants to discuss challenges and problems related to the outdoor space at two properties, and to imagine what would make the environment better.

Results

Workshop participants looked at two properties with different site configurations. Common themes emerged from both discussions:

Existing Conditions

- Most critically, participants cited a lack of outdoor open space suitable for recreation. There is no outdoor recreation space on either property, so youth don't play games outside on site. Management dissuades residents from playing outside, concerned that wayward balls will break windows.
- The properties also lack indoor common space for play or socializing. Youth spend a lot of time inside, doing things like watching movies, when the weather is bad.
- The properties lack safe outdoor paths and walkways. With minimal separation between pedestrians and autos, it's unsafe to bike and walk around on site.
- At one property, residents and neighborhood kids use the vacant lot to the north to play games like soccer and stick ball. The empty lot attracts kids who have no other place to play. But it's unkempt and dirty, as people use it as a dumping ground for garbage and old mattresses.

Youth Experience

- Many youth expressed trepidation about using the outdoor spaces at their schools and neighborhood parks. At these public sites, participants described facing harassment from other kids. They also wished to avoid encountering police and drawing attention to themselves. An additional deterrent to using the outdoor space at schools and parks is that they're about a 20-30 minute walk away.
- Youth are very busy outside of school with studying, watching younger siblings and sometimes cooking.
- Childcare often falls to older youth, as parents with jobs work long hours.
- Participants talked about not having enough room and privacy in their apartments to study. This was discussed in parallel with their responsibility for watching younger siblings.

Ideal Environment

- Youth were primarily interested in a recreation area that could accommodate a variety of games and ages. Many participants wanted to play soccer, stick ball and foursquare. Others were interested in jump-rope, coin-toss games and lifting weights.
- Participants cited a need for an on-site play area that was safe and contained so that small children couldn't wander off. It could be indoors or outdoors, as long as the space were enclosed and had a roof to keep the area dry.
- Youth wanted an adjacent study area that would allow them to supervise younger children while studying. This study area could double as a community space for gatherings such as birthday parties.
- Some youth expressed an interest in gardening, and suggested their parents would make use of garden space to grow food. An adjacent seating area would make the space more conducive to interaction.
- Youth said they'd enjoy having a common kitchen and dining area. Sharing food is a great way to encourage community, and youth would use a common kitchen and dining area for celebrations and summer barbeques.
- Storage for bikes, games and sports equipment would be helpful. Units are not big enough to accommodate many of these items.

Resources

General Resources

- [Rent Right: A Guide for Landlords and Tenants](#), developed by the Multnomah County Healthy Homes Coalition, offers tips and information to both landlords and renters and presents their roles and responsibilities in making sure that rental units are safe, clean and habitable.
- Multnomah County Health Department's [What Makes a Healthy Home? A Guide for Landlords and Tenants](#) is a helpful resource for residents and property owners and managers.
- The [East Portland Action Plan](#) is a community effort focused on improving livability in East Portland.
- Multnomah County Environmental Health's [Empowering Approaches to Healthy Affordable Housing: A Toolkit for Change](#) provides resources for health and housing education.
- [Rental Housing and Health Equity in Portland, Oregon](#), a report by the Oregon Public Health Institute, is a health-impact assessment of Portland's rental-housing inspections program.
- [Overview of the Zoning Code](#), available from the City of Portland's Bureau of Development Services, explains the different types of zones and hierarchies contained in the Portland Zoning Code (Title 33).
- [Multi-Dwelling Residential Zones](#) is the zoning code that governs apartments and rowhouses.

Open Space

- [Active Design Guidelines: Promoting Physical Activity and Health in Design](#), developed through a partnership of New York City agencies, architects and planners, contains design suggestions for promoting active living where people work, live and play.
- The Center for Active Design's [Active Design: Affordable Design for Affordable Housing](#) is a guide for creating affordable housing developments that improve resident health and well-being. It supplements New York City's [Active Design Guidelines](#) (above).
- [Physical Activity Resource Assessment](#) provides tools to assess the presence and adequacy of recreation areas. It was developed by Understanding Neighborhood Determinants of Obesity.
- [Depave](#) is a Portland nonprofit that works to remove unnecessary pavement to create community greenspaces and mitigate stormwater runoff.

Safety and Security

Resources for Property Owners & Managers

- Learn how to prevent illegal activity, property destruction and maintenance problems from the Bureau of Development Service's [landlord training program](#).
- [Enhanced Safety Properties](#), a program operated by the City of Portland's Office of Neighborhood Involvement, helps property owners and managers keep their properties safe and livable.
- The City of Portland's Office of Neighborhood Involvement summarizes the [principles of Crime Prevention Through Environmental Design](#).
- [CPTED for Multi-Family Housing worksheet](#) is an outline of CPTED strategies provided by the City of Portland's Office of Neighborhood Involvement.

Resources for Residents

- The following information sheets are available from the City of Portland's Office of Neighborhood Involvement:
- [Apartment Safety](#) offers tips on staying safe and secure at home.
- [Problem-Solving Resources](#) contains phone numbers for crime prevention, safety and livability services.
- [Establishing Your Neighborhood Watch](#) has suggestions for starting a neighborhood watch program.

Food Security

Food Resources for Residents in Need

- [Oregon Food Bank Network](#) provides food boxes and meals to people in need.
- [Food Buying Clubs](#) buy food in bulk and then split up orders, allowing families to buy healthy food more affordably.
- [Food for Oregon](#) is a database of local and regional community food resources provided by Oregon State University.

Gardening Resources for Property Owners & Residents

- [Growing Gardens](#) builds organic gardens in the backyards of low-income households.
- [Independence Gardens](#) is a consulting group that helps people build and care for edible gardens in Portland.
- [Village Gardens](#), a project of [Janus Youth](#), is a community organization that runs many programs, including the Food Works farm, and offers individual and family garden plots.
- [Square Foot Gardening](#) teaches people how to maximize the productivity of small gardens using fewer resources and very little work.
- [Groundwork Portland](#) converts land into greenspaces, parks, community gardens and multipurpose sites.
- [Depave](#) is a Portland nonprofit that works to remove unnecessary pavement to create community greenspaces and mitigate stormwater runoff.
- [Portland Brownfield Program](#), operated by the City of Portland's Bureau of Environmental Services, provides technical and financial support for transforming brownfields into usable spaces.
- [Urban Farm Collective](#) brings Portland neighbors together to turn vacant lots into neighborhood food gardens.
- [Oregon Food Bank's Learning Gardens](#) offers gardening courses.

Food Policy & Background

- [Food Systems](#), a Portland Plan background report by the City of Portland's Bureau of Planning and Sustainability, describes food-related challenges in Portland. It includes in-depth analysis of the physical, psychological and social problems resulting from food insecurity.
- [Food System Reports](#), produced by the Multnomah Food Initiative, provides background on community food assessments and offers local recommendations.
- [Access to Healthy Food Toolkit](#), from PolicyLink, addresses disparities in food access.

Relieving Overcrowding

- [Overview of the Zoning Code](#), available from the City of Portland's Bureau of Development Services, explains the different types of zones and hierarchies contained in the Portland Zoning Code (Title 33).
- [Multi-Dwelling Residential Zones](#) is the zoning code that governs apartments and rowhouses.

Mold and Moisture Control

- [A Brief Guide to Mold, Moisture, and Your Home](#), from the United States Environmental Protection Agency, offers simple tips and techniques to clean up and prevent mold.
- Multnomah County Health Department's [What Makes a Healthy Home? A Guide for Landlords and Tenants](#) is a helpful resource for residents and property owners and managers.
- [Rent Right: A Guide for Landlords and Tenants](#), developed by the Multnomah County Healthy Homes Coalition, offers tips and information to both landlords and renters and presents their roles and responsibilities in making sure that rental units are safe, clean and habitable.
- [EnergyTrust of Oregon](#) offers cash incentives for adding insulation to your attic, walls, underfloors and replacement windows.

Pest Management

- Multnomah County Environmental Health’s [Empowering Approaches to Healthy Affordable Housing: A Toolkit for Change](#) provides resources for health and housing education.
- [Rent Right: A Guide for Landlords and Tenants](#), developed by the Multnomah County Healthy Homes Coalition, offers tips and information to both landlords and renters and presents their roles and responsibilities in making sure that rental units are safe, clean and habitable.
- [Integrated Pest Management in Affordable Housing](#), provided by the National Center for Healthy Housing, has lots of resources on IPM—including case studies and cost comparisons.
- U.S. Environmental Protection Agency’s [Integrated Pest Management Principles](#) gives an overview of IPM.
- [Pest World](#) is the National Pest Management Association’s resource website for identifying and preventing pests.

Policy Context

The impact of housing on health

While each of us has a personal responsibility to maintain good health, our health is largely influenced by the condition of the environment where we live, work, play and recreate. Research suggests that communities that have a variety of opportunities for families to lead healthy lives experience better health outcomes, and their residents have greater life expectancy.

The social, economic and physical determinants of health play a critical role in predicting population health outcomes. Examples of health determinants include the following:

- Safe and affordable housing
- Family-wage employment
- Active transportation options including public transit and safe pedestrian and bicycle routes
- Environmental design that integrates public safety and crime prevention features
- Access to quality education
- Availability of healthy foods
- Access to high-quality, affordable health care

Housing is an important determinant of health. Many academic studies have addressed the impact that poor-quality or substandard housing has on health, particularly among low-income people and communities of color. Key housing-related health issues that have historically been of concern for public health leaders, housing providers and decision-makers include asthma and lead poisoning, physical injuries from unsafe building amenities, communicable diseases resulting from poor sanitation and pests, and overall stress resulting from these health conditions.

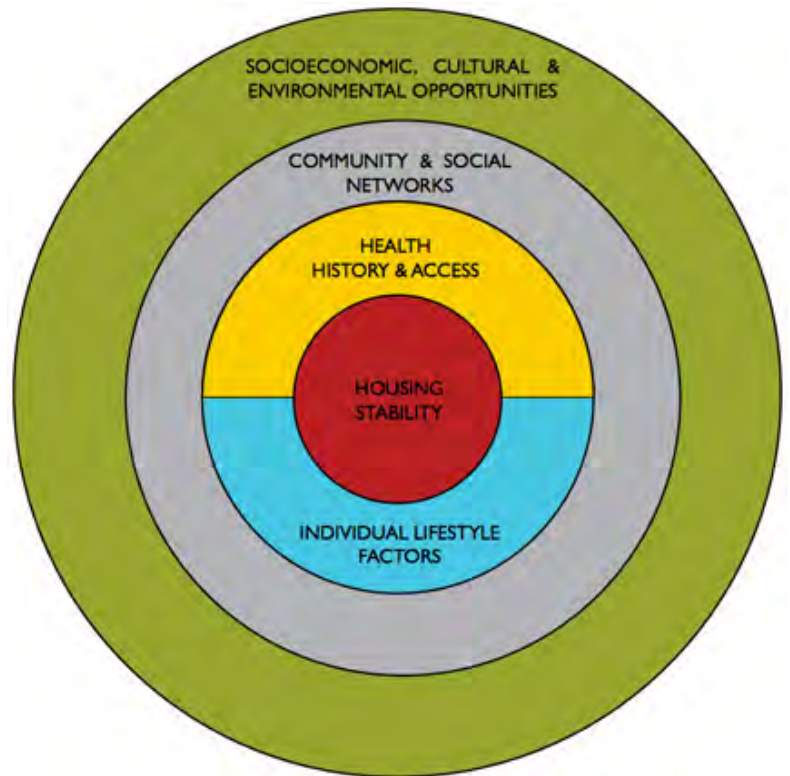
Recently, jurisdictions in Oregon and other cities across the country have initiated efforts to improve housing-related health conditions and to focus on additional factors impacting health, such as a lack of physical activity and poor nutrition. “Healthy Housing: A Handbook for Portland Property Owners” addresses a range of these issues — from controlling indoor moisture to increasing open space — and provides suggestions for on-site property improvements.

Project background

Starting in 2010, a “Healthy Kids, Healthy Communities” partnership, with funding from the Robert Wood Johnson Foundation, examined healthy eating and active living in affordable housing communities managed by community development corporations. Building on this work, a new consortium of partners, consisting of community-based organizations, health equity advocates and the City of Portland, turned its attention in 2012 to housing that is neither income- nor rent-restricted to explore how changes to housing design, construction and maintenance practices in open-market, non-restricted housing can improve residents’ health.

Funded through a Kaiser Permanente Community Fund Implementation Grant, the City of Portland’s Bureau of Planning and Sustainability convened a group of community advocates and nonprofit consultants, including the Community Alliance of Tenants, the Center for Intercultural Organizing, Oregon Public Health Institute and Housing Development Center. The group’s task was to investigate housing-related health challenges of low-income renters living in East Portland and to develop appropriate solutions. The purpose of this work was to explore how changes to open-market housing could improve the health of low-income residents. “Healthy Housing: A Handbook for Portland Property Owners” — a set of recommended best practices for housing owners and managers — is the product of this effort.

The Community Alliance of Tenants (CAT) and the Center for Intercultural Organizing (CIO) conducted extensive outreach and built relationships with residents of East Portland; CAT and CIO provided residents with information about their rights and responsibilities as tenants, and learned



about residents' housing-related health concerns. Oregon Public Health Institute advised the project team, providing health policy information and guidance regarding health amenities in multifamily housing. Housing Development Center worked with a team of property owners, managers and landlords to investigate solutions to the health-related challenges identified by residents; and led the writing and production of this handbook.

East Portland was chosen as a study area because it is home to many low-income residents and because it is affected by especially unhealthful environmental conditions. Poorly designed housing; lack of sidewalks and safe street crossings; and limited access to recreation, schools, nature, places for social interaction, vital services, preventive medical care and healthy food all contribute to health challenges that disparately affect low-income residents and communities of color. East Portland has a disproportionate share of multifamily housing complexes and incomplete streets, and it contains a significant number of households living in poverty.

East Portland's structural challenges

Most of Portland's development occurred during the streetcar era of the 1920s. While Portland proper had a tight development pattern and small city blocks, East Portland was mostly an agricultural outpost. And in contrast to the rest of Portland, East Portland was defined by big parcels of land. Around the 1950s, East Portland began evolving from a rural landscape to an automobile-oriented district.

As East Portland transitioned from an unincorporated area of Multnomah County to a part of the city in the 1980s, land owners began subdividing large parcels of property, often without connection features, such as streets and sidewalks. Only in more recent history did the City begin requiring property owners to provide street and sidewalk improvements through land divisions as part of new development.

East Portland residents have voiced concern that their community has not received its fair share of investments in infrastructure, services and amenities. Though City leaders are starting to address these inequities, East Portland residents still do not enjoy the easy access to parks, supermarkets, job centers, public transportation and pedestrian infrastructure that the rest of Portland's residents do. Compared to the rest of the city, East Portland has...

- A deficiency of neighborhood parks. Though the City of Portland has increased its parks and recreation investment through the [E205 Initiative](#), East Portland remains an underserved area.
- Poor neighborhood pedestrian connectivity. Walking and biking in East Portland is more challenging than in some other parts of the city. Without adequate sidewalks, crosswalks and other pedestrian safety measures, it's difficult for residents to be active neighborhood walkers.
- Few supermarkets, farmers' markets and culturally specific food centers. Huge swaths of Portland are considered food deserts by the [U.S. Department of Agriculture](#).
- A lack of cultural and social amenities, like libraries, community centers and performance venues. There is only one community center in all of East Portland, and there is poor recreation facility distribution.
- A development pattern that prioritizes vehicles. East Portland is characterized by wide streets and a large, irregular lot pattern. This has led to "flag lot" housing developments that provide plenty of parking but lack pedestrian connection and are difficult to keep safe and secure.

These unhealthful environmental conditions affect a population already burdened by severe economic challenges. The average East Portlander earns 40% less than those living in other Portland districts. A large portion of East Portland families living in poverty are headed by single parents. Incomes are stagnant, and home values are lower than in the rest of the city. East Portland's health-infrastructure deficiencies make these residents' daily struggles that much worse.

Resident challenges and concerns

Many residents who participated in this project are refugees who arrived to the United States in the past five years through the federal refugee resettlement program. The majority are Burmese, Karen, Zomi and Bhutanese, many of whom have arrived within the last year. The process of resettlement and acculturation undertaken by these families is extremely challenging. For the first eight months after their arrival in the U.S., resettlement agencies provide families with a small amount of money, ESL classes and orientation. After eight months' time, refugee families are left alone to provide for themselves with little or no assistance.

Unlike more established immigrant and refugee groups, these newer residents come with virtually no established resources in their native languages and very few community members who have been here long enough to serve as guides and leaders. Therefore, they lack the established social-support network that some other immigrant and refugee groups — like Latinos, Russians and Somalis — have built over time. This further exacerbates all of the usual challenges that come with moving to a new country, and it has dramatic impacts on health. The lack of support adds to the difficulty of navigating the social systems necessary for good education, mental and physical well-being, and economic independence.

Oftentimes immigrant and refugee households are large and intergenerational. Eight or more people may share a two-bedroom apartment. Furthermore, most of the residents have come to the United States from refugee camps, and many have never lived in a western environment or used modern appliances such as stoves, refrigerators and thermostats. This makes it more challenging to keep homes healthy and free of mold and other infestations. The harsh transition, lack of space and social isolation affects family dynamics and mental health.

The challenges faced by these newcomers are not unique to immigrants and refugees, nor are they unique to residents of East Portland. Though the scope and severity of their needs require a special set of solutions, their experiences illuminate housing- and health-related concerns for the rest of Portland's low-income renters.

Findings

Residents of East Portland identified six housing-related health challenges. Please read the chapters to learn more about their benefits and solutions.

- [Open Space](#)
- [Food Security](#)
- [Safety and Security](#)
- [Relieving Overcrowding](#)
- [Mold and Moisture Control](#)
- [Pest Management](#)

Related issues and additional concerns

Project partners identified several related issues outside the scope of “healthy housing”. They are important to understand, as they complicate the housing-related health challenges identified by residents.

Immigrants and Refugees Need Support to Realize Their Potential

- Language and cultural barriers make it very difficult for refugee and immigrant communities to integrate into larger society. Residents expressed feeling tremendous pressure and a sense of isolation and hopelessness because of inadequate interpretation and translation services, and limited access to English classes. Without proper support, these communities are unable to navigate existing social and economic systems. They have significant difficulty reporting problems with their housing and communicating with their landlords. In order for these residents to realize their full potential in society, language resources must be improved.
- Refugees are often offered unacceptable or inappropriate housing placements. Some residents have been placed in neighborhoods far from their ethnic enclave and support systems, creating a sense of isolation. Furthermore, some have been placed in housing that is substandard, unhealthy and far too small. Lastly, refugee families need more education and ongoing assistance in how to use appliances and systems in their apartments, and how to exercise their rights and responsibilities as tenants.

Existing Housing Stock Is Inadequate

- The shortage of affordable housing is an overarching concern. Portland's limited affordable housing supply is insufficient to meet swelling demand.
- There is a mismatch in East Portland's built environment between family sizes and apartment sizes. East Portland was developed largely during a time when small households and young families lived in apartments before purchasing homes. With an increasingly out-of-reach homeownership market, more families are staying in apartments instead of purchasing homes as their families grow. Additionally, there is a dearth of large dwelling units in Portland because it's cheaper to build smaller units; larger units don't command high enough rent to justify their upfront costs.
- The City's rental housing inspections program is effective but inadequately funded. Many of the apartment complexes surveyed as part of this project had multiple building code violations. This finding underscores the importance of using the Bureau of Development Services' housing inspections program to address basic health and safety concerns in apartment complexes. Despite the need, there is a lack of inspectors and funding for the program. The inspection program, particularly the enhanced inspection model, must be supported to ensure healthy living standards for all households.

Next steps

In response to the challenge of integrating health-related amenities in multifamily rental housing, the City of Portland is exploring a more holistic approach to site design standards. This will require a thoughtful balance between competing demands for site area — maximum lot coverage, stormwater management facilities, recreation and garden space, and parking, in addition to other elements like setback and circulation requirements.

As part of the City of Portland’s 20-year update of its zoning code, which guides development of residential property, the City will more fully investigate how the different elements of site design can be more holistically integrated.

As the City sets policy direction, it will be important to create healthier housing opportunities without displacing current residents and pricing vulnerable people out. The unique challenges of East Portland call for a neighborhood-based approach that works with the existing strengths of the community to create sustained benefits for residents.

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