The housing prototypes of this section are intended to serve as a problem-solving tool to help improve the design of medium-density infill housing projects, particularly in the R2 and R1 multidwelling zones. The prototypes highlight medium-density housing types and configurations, suitable for common infill situations, that meet City regulations and design objectives and are feasible from a market perspective. They illustrate solutions for common infill design challenges, such as balancing parking needs with pedestrian-friendly design and providing usable open space while achieving density goals. They are also intended to help broaden the range of housing types being built in Portland by presenting innovative configurations, with a particular focus on arrangements conducive to ownership housing.

The prototypes are based on site configurations common in different parts of the city, such as those of close-in neighborhoods, where the widths of infill sites are typically in increments of the 50’-wide lots established by their Streetcar Era platting; and the very different sites typical in Outer East, where lots are larger, but disproportionately deep. This set of housing prototypes is intended to be the beginning of a collection of housing prototypes that will be added to over time to expand the range of design solutions.

Each prototype includes cross references to other sections of the Portland Infill Design Guide that can be referenced for more detailed information on specific design issues and for information on case studies that highlight “lessons learned” from built examples.

Guiding Criteria
The housing prototypes were designed to:

- Meet City regulatory requirements;
- Be financially realistic;
- Minimize the prominence of vehicle areas, while limiting impervious surfaces and providing at least one parking space per unit;
- Provide usable outdoor space;
- Respond to typical neighborhood contextual situations (through site design, arrangement of building volumes, etc.); and
- Include configurations conducive to ownership housing (such as by allowing housing units to be on separate lots).

Regulatory Review
To ensure that the housing prototypes illustrate “approvable” configurations that can meet the requirements of the various City regulatory agencies, they have been reviewed by the following City bureaus:

- Planning
- Development Services
- Office of Transportation
- Environmental Services (regarding stormwater management)
- Fire and Rescue
Caveats
While the housing prototypes focus on illustrating configurations that meet regulatory standards, in certain cases code adjustments or appeals would be necessary for particular aspects of the prototypes to be approved. In these situations, the “Regulatory Notes” included with each prototype highlights aspects of the prototypes that would require additional review (their inclusion here does not guarantee the outcome of a code adjustment request or appeal).

Also note that the prototypes do not take into account area-specific regulations or design review criteria that may apply to a site, or other site-specific issues and constraints. Bureau of Development Services staff and other relevant agencies should be consulted regarding such issues and the general applicability of the prototype configurations to any particular site.

Prototype Sites
The prototype sites their attendant issues are summarized below:

Inner neighborhoods
- **Site 1**: 10,000 SF site in the R2 zone – What can be built besides 4-5 rowhouses? Opportunities for courtyard housing?
- **Site 2**: 5,000 SF site in the R1 zone – How to fit 3-5 units, plus parking?
- **Site 3**: 10,000 SF site in the R1 zone – Opportunities for courtyard housing and additional homeownership possibilities? (such sites require too great a density and lack enough street frontage for conventional rowhouses to be practical)

Outer East neighborhoods
- **Site 4**: 95’ wide by 180’ deep site in the R2 zone – How to design density for narrow sites? Homeownership opportunities?
- **Site 5**: 90’ wide by 220’ deep site in the R1 zone on a busy arterial street – How to provide livable housing close to traffic, contribute to a transit-oriented environment, transition to lower density housing, and fit 14-20 units and vehicles?

Prototypes Consulting Team
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**Site Plan (1” : 30’)**

**Precedents**

**Site Axonometric View**

**Neighborhood Context**

**PROTOTYPE 1a**

100’ X 100’ Site, R2 Zone “Cottage Cluster”

- 4 units (1,500 - 1,950 sq.ft each) arranged around a common green, either attached or detached

- Intended to allow fee simple ownership, with common green held as a common tract
Prototype 1a Details

Parcelization Plan with Driveway (1”=30’)

Private Open Space (Frontyards)

Open Space Plan (1”=30’)

REGULATORY NOTES:

• As shown, would require adjustment for reduced setback with Common green.

RELATED SECTIONS
Driveways and Parking .........................14
Common Greens..............................17

CASE STUDIES
Driveways and Parking .........................34
Common Greens..............................48
PROTOTYPE 1b
100’ X 100’ Site, R2 Zone
“Contextual Rowhouses”

- 4 Rowhouse units (1,050 sq.ft each)
- Massing intended to blend with surrounding single family context
- Parking in detached garages to the rear of each unit
- Small private gardens between each unit and the garages
- Additional square footage is possible if living space is added in a third story or above garages
Prototype 1b Details

Parcelization Plan with Driveway (1"=30’)

Open Space Plan (1"=30’)

RELATED SECTIONS
Driveways and Parking ..................................14
Common Greens.............................................17

CASE STUDIES
Driveways and Parking .........................34
Common Greens .......................................48
PROTOTYPE 1c
100’ X 100’ Site, R2 Zone
“Cottage Court”

- 4 or 5 attached or detached units (1,600-1,850 sq.ft each)
- Two units face public street, gives appearance of two single family homes from street
- As shown would require condominium ownership. Also possible as a “shared street” configuration, with separate lots for each unit
- Shared driveway with special paving provides both vehicle and pedestrian access
Prototype 1c Details

Parcellization Plan Condominium ownership (1”=30’)

Parcelization with Shared street, Currently not permitted

Private Open Space (Back/Sideyards)

Open Space Plan’ (1”=30’)

RELATED SECTIONS
Driveways and Parking ..................................14
Common Greens..........................................17

CASE STUDIES
Driveways and Parking ..................................34
Common Greens..........................................48
Two sets of Attached-rowhouses, 4 units total (1,000-1,300 sq.ft each, not including garages)

This configuration has become one of the most common owner-occupied infill housing types in Seattle. Possible in Portland as either condominiums or rental units

This prototype illustrates the use of paving blocks as an alternative to a grade-seperate walkway for access to rear units
Prototype 2a Details

Parcelization Plan with Driveway (1”=30’)

Private Open Space/ Backyards

Open Space Plan (1”=30’)

REGULATORY NOTES:
• Wider driveway entrance may be required for sites fronting onto arterial streets (see Prototype Site-2b)

RELATED SECTIONS
Driveways and Parking .........................14
Common Greens.................................17

CASE STUDIES
Driveways and Parking ..........................34
Common Greens.................................48
• 3 rental units in 2 buildings (1,000-1,400 sq.ft each, not including garages)
• Street facing “two-plex” building designed to reflect scale and front setback of single dwelling house
• Rear unit has garage; street-facing units share carport
• A 4th unit without parking is possible or with a parking pad instead of the rear yard
Prototype 2b Details

Variation w/ Wider Driveway Entrance for Arterial Streets

REGULATORY NOTES:
- Wider driveway entrance may be required for sites fronting onto arterial streets as shown above
PROTOTYPE 3a
100’ X 100’ Site, R1 Zone
“Shared Street Rowhouses”

• 8 attached or detached units (1,025 sq.ft each) grouped around a shared street

• Intended to allow fee simple ownership (pending adoption of shared street provisions), with shared street as a common tract
REGULATORY NOTES:

- Fee-simple parcelation contingent upon adoption of shared street provisions

RELATED SECTIONS

Driveways and Parking .................. 14
Common Greens ........................... 17

CASE STUDIES

Driveways and Parking .................. 34
Common Greens ........................... 48
PROTOTYPE 3b
100’ X 100’ Site, R1 Zone
“Corner Rowhouses”

- 7 Rowhouses units (950 - 1,050 sq.ft each) situated on a corner parcel
- Large unit sizes possible with a full-size third level
- Parking in “tuck-under” enclosed garages at the rear of each unit
Prototype 4a Details

Parcelization Plan (1”=30’)

Open Space Plan (1”=30’)

Site Plan with Backyards, Opt-2 (1:30)

 RELATED SECTIONS
Driveways and Parking .........................14
Common Greens ....................................17

 CASE STUDIES
Driveways and Parking ..........................34
Common Greens ...................................48

REGULATORY NOTES :
• Would require reduced corner radius at corner
  of the driveway and rear alley
PROTOTYPE 4a
95’ X 180’ Site, R2 Zone
“Interrupted Green”

- 8 units in 3 buildings (1,200-2,150 sq.ft each, not including garages) arranged around a pedestrian walkway and a common green
- Shared surface parking area at the middle of the site
- Specially paved walk crosses driveway to link pedestrian walkway to a common green
- This configuration would need to be apartments or condominiums
Prototype 4a Details

Parcelization Plan (1"=30')

Open Space Plan (1"=30')

Private Open Space (Back/Sideyards)

Private Open Space (Porches)

RELATED SECTIONS
Driveways and Parking ......................14
Common Greens ..................................17

CASE STUDIES
Driveways and Parking ......................34
Common Greens ..................................48

PORTLAND INFILL DESIGN GUIDE
8 units in 5 buildings (1,525-2,250 sq.ft each, not including garages) arranged around a shared street

- Shared surface parking areas near each unit

- As shown would require condominium ownership. Also possible as a “shared street” configuration with separate lots for each unit. Allowed density, however, would be reduced to 7 units

PROTOTYPE 4b
95’ X 180’ Site, R2 Zone
“Big Cottage Court”
Prototype 4b Details

Parcelization Plan (1"=30')

Open Space Plan (1"=30')

Private Open Space (Back/Sideyards)

10'
6'
6'
12'
14'

RELATED SECTIONS
Driveways and Parking .........................14
Common Greens ..................................17

CASE STUDIES
Driveways and Parking .........................34
Common Greens ..................................48
• 6 units (700 - 1,000 sq.ft each, not including lofts) arranged around a common green

• Detached, 1-1/2 story units at the back of the site are designed to blend in with outer east neighborhood landscape intensive, low lying character

• 10' wide sideyards as easements that extend over adjacent house's sideyards

• Design intended to allow a pattern of mirrored greens to develop over time, as shown in neighborhood context
Prototype 4c Details

Parcelization Plan (1”=30’)

Open Space Plan (1”=30’)

RELATED SECTIONS
Driveways and Parking ..................14
Common Greens...........................17

CASE STUDIES
Driveways and Parking ..................34
Common Greens...........................48
PROTOTYPE 5a
90’ X 220’ Site, R1 Zone
“Arterial Stacked Flats”

- 18-20 stacked-unit apartments (900-1,000 sq.ft each) grouped around a shared open space
- Provides a strong edge to busy arterial street and creates some sheltered open space
- Open “tuck-under” as well as side and rear surface parking. Considered more economical than structured or underground parking
- Plan could be mirrored on adjacent or larger site, with a single large central courtyard
PROTOTYPE 5b
90’ X 220’ Site, R1 Zone
“Shared Street With Common Green”

- 13 Townhouse-style units (900-1,150 sq.ft) grouped along shared streets and greens, similar to the Belmont Dairy Layout
- Intended to allow fee-simple ownership (pending adoption of shared street provisions), with shared street held as a common tract
- Three story units along site frontage intended to provide edge to busy arterial
Site Plan Option-2 w/ 2/3rds Public Street (1"=30')

Open Space Plan (1"=60')

Parcelization Plan (1"=60')

Private Open Space (Back/Slab yards)

Street Open Space 70' x 30'

Private Open Space (Balconies)