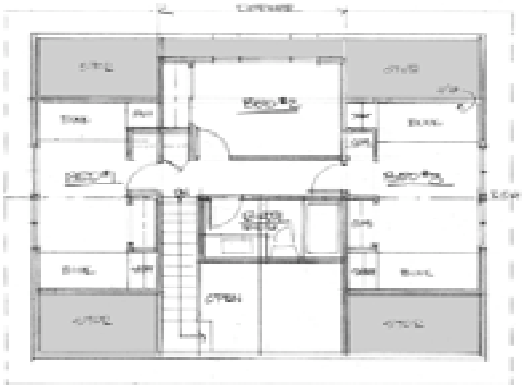
FLEX-HOUSING

Two things have helped us develop some of the most inflexible and expensive housing in the world. First is going "house-hunting" with our minds set only on our immediate needs. "We've three kids, so need a three-bedroom house" (even though they all will graduate from high school within two years). Second is our "black-and-white" land use zoning. "Only single-family homes on this block. Only duplexes on that block."

The result is that we ignore the ever-changing flow of our lives, our needs, and our financial capabilities. Because of this, we end up changing homes on average every seven years, and pay transaction costs each time that add up to nearly a third of the cost of the house itself over a lifetime.

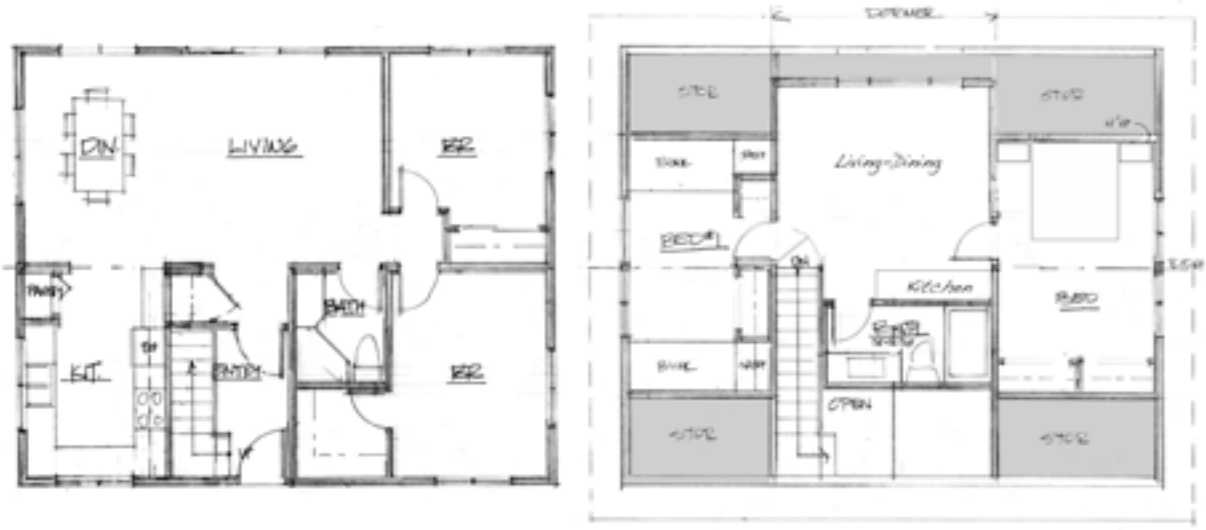
An alternative to this approach is the concept of *flex-housing*. In its simplest form, a flex-house might be a normal four-bedroom home, with one small (but big) difference. It is planned so that you can go from the entry directly into one of the two first-floor bedrooms.



Above: second story, with 3 bedrooms

Merely by adding or closing a door, that room can be used for a home occupation, or an efficiency accessory dwelling unit, or with the other bedroom a one-bedroom ADU (see alternate plan, below).

By adding or closing in another door, the upstairs can be separated so the home turns into an up-and-down duplex:



What this gives is incredible flexibility. A young couple who is planning to have kids later and can't afford a big house can rent out a duplex-half or ADU to help pay for the house, expanding into more of it as their family and income grow. And after the kids leave, their "home" can contract in different ways, with space for an aging mother-in-law to move in and be cared for, or ending up with a one-floor handicap-accessible unit for themselves, with space for a caregiver or young help-out couple above. Our homes need to be able to flex and change as our lives do.

This kind of home design allows us to stay in a neighborhood where we have roots and friends, as our lives do their inevitable changes. It helps financing and paying for a home, as well as accommodating various kinds of home occupations or health emergencies.

Our first experiment with flex-housing was a re-do of a standard three-bedroom 1970's ranch house a couple of years ago, partly as a vehicle for getting our retirement savings out of the stock market and into doing something good for our community. Housing costs had exploded so much locally that we anticipated we'd have to depend on our existing housing stock for affordable housing. So we looked at where non-bearing walls could be removed, halls closed off, and energy upgrades made in existing homes.

We ended up with this house in converting the home, with full daylight basement, into a legal duplex accommodating six to eight people – as well as workspace for them – in various configurations over time as people's needs change. We updated wood heat fireplace inserts, windows, and insulation levels; and added wireless internet, dual-flush toilets, and efficient laundry equipment, while also reducing commuting transportation impacts.

The residents have added wonderful improvements in individual garden areas and interior space.[1]

In the process, we figured out a number of ways even a single-story ranch can be made into different kinds of duplex units, while increasing efficiency significantly:

Left: Garage into 1-bed unit Right: 3-bed ranch into two 1-bed units

Our current work with flex-housing is happening in conjunction with the NW regional CLT (Community Land Trust) affordable housing network project on efficient housing. That project has been working with factory-built housing - but with construction specifications targeted on durability, livability, and net-zero-energy design. One of the designs developed is a story-and-a-half home where the lower floor is two factory-built units. The roof is 4' wide SIP panels (structural insulated panels), delivered on top of the module to save shipping costs. The roof is installed the same day as delivery, closing the house in and allowing the homeowners to do sweat-equity finish of the second floor if desired. We tweaked the design for passive solar, net-zero-energy, better fit for coastal conditions, and for "flex" use over time. The design can be site-built, panelized, or factory-built.

Ironically, this design turned out to be very similar to the home we built for ourselves and have lived in for over 30 years, with two kids and two home offices![2] So we know it can provide low-cost efficiency and luxury in only 1200 sq.ft.!

Left: Woodshed and entry porch are on the north, out of the coastal winds.

Left: Kitchens and other interior areas can be left "unfinished", with homeowner doing finish work. This kitchen cost $100, including recycled stove and sink, and a "cool box" rather than a refrigerator. Towel "curtains", 2x12 shelves, and counters made from ends of flooring saved money.

How will local planning departments respond to flex housing? When built from scratch, they can provide "duplex-code" higher sound separation between possible units and separate wiring circuits so each unit can pay their own electric bills. Many communities are passing ADU ordinances allowing existing homes to be converted to this kind of unit without having to do expensive code updates. Some communities are requiring energy upgrades as part of the permitting, and putting rental caps on the units so they stay affordable.

But even if local zoning won't permit the additional flex-housing unit to be "legal", that is unlikely to stop them from happening once people start thinking creatively. It's way better than living under a bridge. Most zoning ordinances define a "living unit" by having living, bathroom, and cooking facilities. Everything other than a stove can be put in legally. And it's hard to know who has plugged in an electric hotplate or microwave, or drilled a single hole in the wall to run propane to a "heater".

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[1] <www.tombender.org/factor10econarticles/REDWING.pdf>

[2] <www.tombender.org/archprojects/bdem3.jpg>