

## Inclusive Healthy Housing Infrastructure

Because infrastructure always reaches the poorest last, its networks are always uneven. Because the business case for prevention can never be made until the cost of allowing failure is proven, preventive policies arise only after catastrophe. Because prevention and payment businesses draw from different revenue and subsidy streams, preventive-model value chains for municipal infrastructure are forged only out of self-interested desperation arising from extraordinary circumstances.

We are in extraordinary circumstances now.

The times have revealed our national deficiency of critical infrastructure networks—affordable in-home broadband and affordable in-home electronic banking—essential to healthy housing and a healthy America. Their expansion to everyone is not just a matter of public health and safety, but also of equity and inclusion.

### Three kinds of health security encounters: Wet, dry and scrub

Because short words make concepts easier to grasp and ideas easier to generate and then to internalize, we distinguish three types of socializing encounters:

**Wet.** People can exchange aerosols or fluids.

**Dry.** People know they cannot exchange aerosols or fluids.

**Scrub.** People sanitize away potential aerosols or fluids; neutralizes previous wet encounters.

Each time we redesign and re-engineer a process to replace wet encounters with dry ones while sustaining interpersonal and emotional connections, we become that little bit healthier – as people and as a society.

**Affordable in-home broadband: information infrastructure.** As the home rises in importance, home-based dry socialization has become critical for:

- Families' livelihoods, with work-from-home skyrocketing as a modality for people in an information-centric job—and beyond the individual family for the national economy.
- Children's education, with multiple ages on multiple devices taking different age-appropriate classes at the same time.
- Maintenance of friendships, affinity groups and social networks that nurture and sustain civility, community and human resilience.

- Leisure, as the streaming service disrupts movie-going the way Amazon vaporized the megamall.

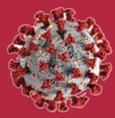
As most readers will have experienced during these last weeks, when in-home broadband capacity is overloaded, everyone in the home suffers. The impact is worse for those whom staying at home means broadband is fleeting, unreliable or unavailable – such as in housing for lower-income Americans, including:

- Legacy public housing;
- Elderly housing, whether by design or by evolution; and
- Housing built pre-broadband and never retrofitted for universal accessibility.

Those living in domestic broadband deserts can lack health essentials, such as staying connected with family and friends, person-to-person check-ins, continuing one's education or employment, access to prescription refills or telehealth and entertainment. The results can be accumulating stress, depression, poor nutrition, addictive behaviors leading to substance dependency, increased family tensions and outbreaks of domestic violence. A shortage of affordable in-home broadband is thus a public health risk.

**Affordable in-home electronic banking: financial infrastructure.** If being electronically connected to people is essential for affordable housing residents, so too is being connected to money. Many of them are underbanked or unbanked: they pay rent in cash (or via money orders in properties that do not accept cash), buy groceries in cash (or with EBT or SNAP cards), earn money in cash, use check-cashing services, receive intra-familial remittances in cash and otherwise exist outside the electronic banking system. This adds cost to every financial or economic transaction, makes saving hard and can make credit history difficult or impossible to establish. More urgently, it means that affordable housing residents are much more likely to face wet encounters with strangers, increasing their risk of infection or transmission. Being unbanked is thus also a public health risk.

**Natural market infrastructure expansion and exclusion.** Pure-market infrastructure expansion works via a principle of economic gravity: it starts private and moves through novelty for technophiles, status luxury for the rich, amenity for the well-to-do, then standard in the middle-income and



lower-middle marketplace. All this flows down the income pyramid and outward from the center city: the next mile of pipes, wires or signals is usually cheaper to add to an existing network than the previous one. These dynamics of heavy fixed-cost investment versus declining-marginal-cost grid extension encourage scaling, consolidation (whether entrepreneurial or politic) and in some cases monopolistic pricing.

Though the marginal cost of expanding the network drops with scale, the effective demand from reaching lower-income households usually drops faster. The political and policy response is price regulation (including differential pricing) and sometimes a homegrown public-utility alternative. The endgame is a last-mile problem where networks stop short of the poorest or most dilapidated neighborhoods – *until* achieving universal access becomes an urgent necessity, when it is funded either by internal cross-subsidy or by external public subsidy.

**The business case for free-to-user inclusive broadband and electronic banking infrastructure.** No matter how strong the moral case, a concept becomes universal only where there is also a compelling business case. For Health Secure Housing, the business case will be made in each property's operating budget comparing the Insecure versus Secure costs of:

- **Vacancy.** Health Secure Housing is more rentable and more competitive;
- **Concessions;**
- **Turnover.** The costs of prepping apartments on move-out/move-in;

- **Insurance.** Both workers' compensation and property casualty; as expressed in premiums, deductibles and covered events. Already the insurers are shivering and the industry is bracing for impact;
- **Financing.** Rate, tenor, availability and holdbacks, especially as driven by securitization and liquidity requirements through the big three (Fannie, Freddie and FHA).

And if that's not enough impetus to act, the soon-to-be conceptualized Health Reinvestment Act (for every large employer and every large property owner), with its combination of mandatory/scoring rules and access to favorable financing, will be.

**What happens next?** 'Essential infrastructure' is a technological standard that can rise slowly or, as now, abruptly. Because infrastructure's public network benefits are greatest when the infrastructure is available everywhere, infrastructure is both a private good and a public good, which calls the question of how we as a people and country pay for rising infrastructure requirements.

The virus has made information infrastructure gaps and financial infrastructure gaps visible health risks to cities and everyone who lives in them. As we emerge into recovery, health, economic and moral considerations make affordable in-home broadband and electronic banking essential public health utilities to be incorporated into new and retrofitted Health Secure Housing. **TCA**