#### Retrofit or Build New? How Project Teams Are Choosing

Learn more from six great case studies: BuildingGreen.com/RazeOrRetrofit

## First-Cost Considerations



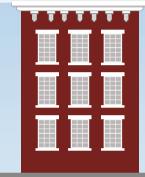
- Operations can continue during construction
- Projects are completedand leased-more quickly
- Renovation costs slightly less than demolition and new construction
- Historic tax credits might help

## **Ongoing Value Considerations**





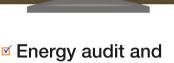
- Many older buildings are inherently energy efficient
- Daylighting and natural ventilation may already be built in
- Many occupants enjoy older-building charm
- Utility rebates might help
- Embodied carbon of new construction takes decades to pay back through better energy performance
- Many older buildings are in transit-oriented neighborhoods



# Decision-Making Tools

Reasons

to Retrofit



retrocomissioning

- Space-needs analysis

#### Energy audit

- Life-cycle cost analysis
- Cash-flow projections
- Occupant surveys
- IAQ assessment
- Vapor profile or hygrothermal modeling
- Whole-building life-cycle assessment of retrofit vs. new construction
- Transit and walkability analysis



- Program may require an addition, neutralizing cost advantage
- Dysfunctional systems may be too expensive to upgrade
- Seismic retrofits or other code requirements may be cost-prohibitive
- Deferred maintenance may increase costs and payback times
- Some older buildings can't be insulated
- Superior performance or net-zero energy may not be achievable
- Modernizing systems for efficiency and IEQ may not be affordable
- Program may require an addition, neutralizing carbon advantage
- Some gut renos are just as carbon-intensive as new construction