



Phased Retrofits—Single Family Lab 1

Insight Brief

Reimagine Buildings Collective—SUMMER 2025

Phased Retrofits—Single Family Lab 1

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Guideline for Retrofitting Single Family Homes

Goal

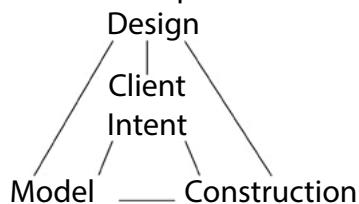
Cost-effective and accessible single-family home retrofitting

Challenge

How to make comprehensive retrofits achievable and understandable for homeowners.

The Integrative Design/Build Process

- **Key Principle:** This is NOT a linear process; all aspects are investigated early and revised iteratively.
- Establish a complete project plan scaffold
 - As the project progresses and different aspects (Items below in list) are investigated, the project plan is interactively updated and the appropriate sequence of investigation and of project execution are fleshed out
 - Comfort, Health, and Value driven
 - A semi continuous process



Core Interactive Steps

Step 1: Establish the client's priorities

- Client survey (comfort, acoustics, IAQ, mold) to define project goals.
- Helps establish what to tackle first.

Step 2: Putting together the team

- Contractor involvement from the start.
- Integrative Design Process: All team members (architect, builder, consultant) in communication.
- Project Representative for oversight.

Step 3: Establish a baseline

- Blower door test, thermal imaging, baseline air quality/comfort.
- Create a baseline model (DesignPH, WUFI Passive) for planning.

Step 4: Establish a timeline

- Consider component replacement, budget phasing, contractor sequencing, and lifestyle.

Step 5: Model in PHPP or WUFI Passive

- Set a target (EnerPHit/Passive House) and model variants to assess impact.

Note: Steps 4, 5, and 6 (which would be "Execute Retrofit" for completion) are highly interactive.

Takeaways & Next Steps

- An integrative approach is crucial for success.
- Continuous feedback loop between design, modeling, and construction.
- Next: Further develop team responsibilities and refine the project plan scaffold.