

Background

The UM Medical School consists of 46 buildings, 2 campuses, and ~4M gross sq. ft. (2M NASF)

- ~500,000 NASF are aging wet lab buildings
- These buildings make up ~45% of Medical School research space and PI occupancy

The buildings require major renovation and infrastructure replacement

- Many labs and education functions need modernizing
- Safety, inclusivity, and carbon reduction measures must also be addressed

The Challenge: the buildings are full and there is no swing space.

Hence – today's hot topic:

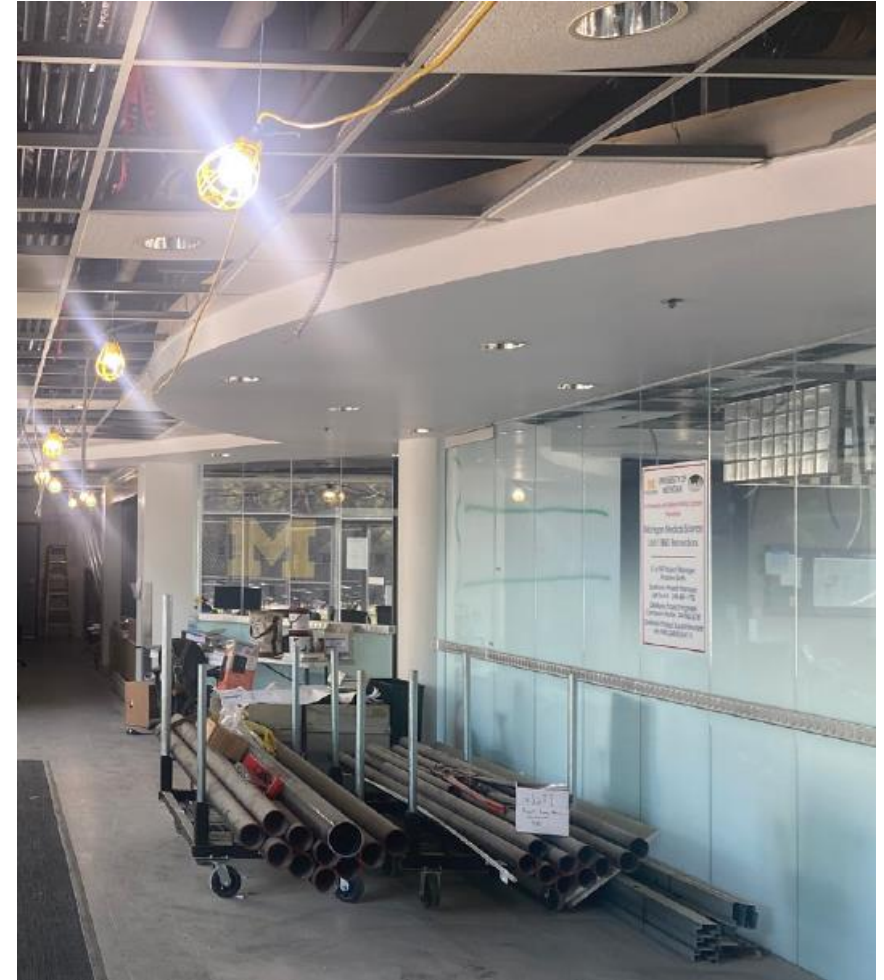
Strategies for renovating aging facilities when space is fully occupied



Questions/ Ideas?

Scope: Determining the scale of project impact:

- What methods have been used for Pre-Construction Planning?
 - Integrated Project Delivery (IPD): *a collaborative approach of bringing together all stakeholders, including the owner, architect, construction manager, and key subcontractors, as early as possible.*
 - Early Contractor Involvement (ECI): *Bringing in a contractor and their expertise during the design phase. This early involvement can result in cost savings, innovation, and risk reduction due to the contractor's influence on design and constructability issues.*
- Other processes/ methods?



Questions/ Ideas?

Potential Solutions:

- Stay in place:
 - Novel construction approaches i.e. building additions?/ others?
 - Were redundant systems an option?:
 - Backup generators,
 - Alternative water sources
 - Temporary climate controls
- Create swing space, or eliminate the need altogether?
 - Temporary modular facilities
 - Offsite lease space
 - Container labs
 - Other novel approaches to relocating lab and/or classroom activity?



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Questions/ Ideas?

Implementation:

- How were phasing plans determined?
- Were alternate work schedules/ change in operations an option?
 - For the occupants? i.e. possibility of working off-site as applicable
 - For the contractor? Evening/ weekend work?
- What controls were put into place to minimize or track disruption (i.e noise control/ vibration testing?)
- Communication strategies?
- Business Continuity Planning?



Lessons Learned?

- Identify risks and determine the FULL scope of the construction impact in advance
- Don't rely on as-builts to provide accurate existing conditions
- Know your impacted occupants – including their research activity and their tolerance level
- Thoroughly plan all solutions in advance
- No when to say when – changing direction as soon as possible will save time and money later
- Set realistic expectations
- Communicate often, including the very unpopular messages