

UBC Renew Program

NATIONAL TRUST CONFERENCE

OCTOBER 22, 2016

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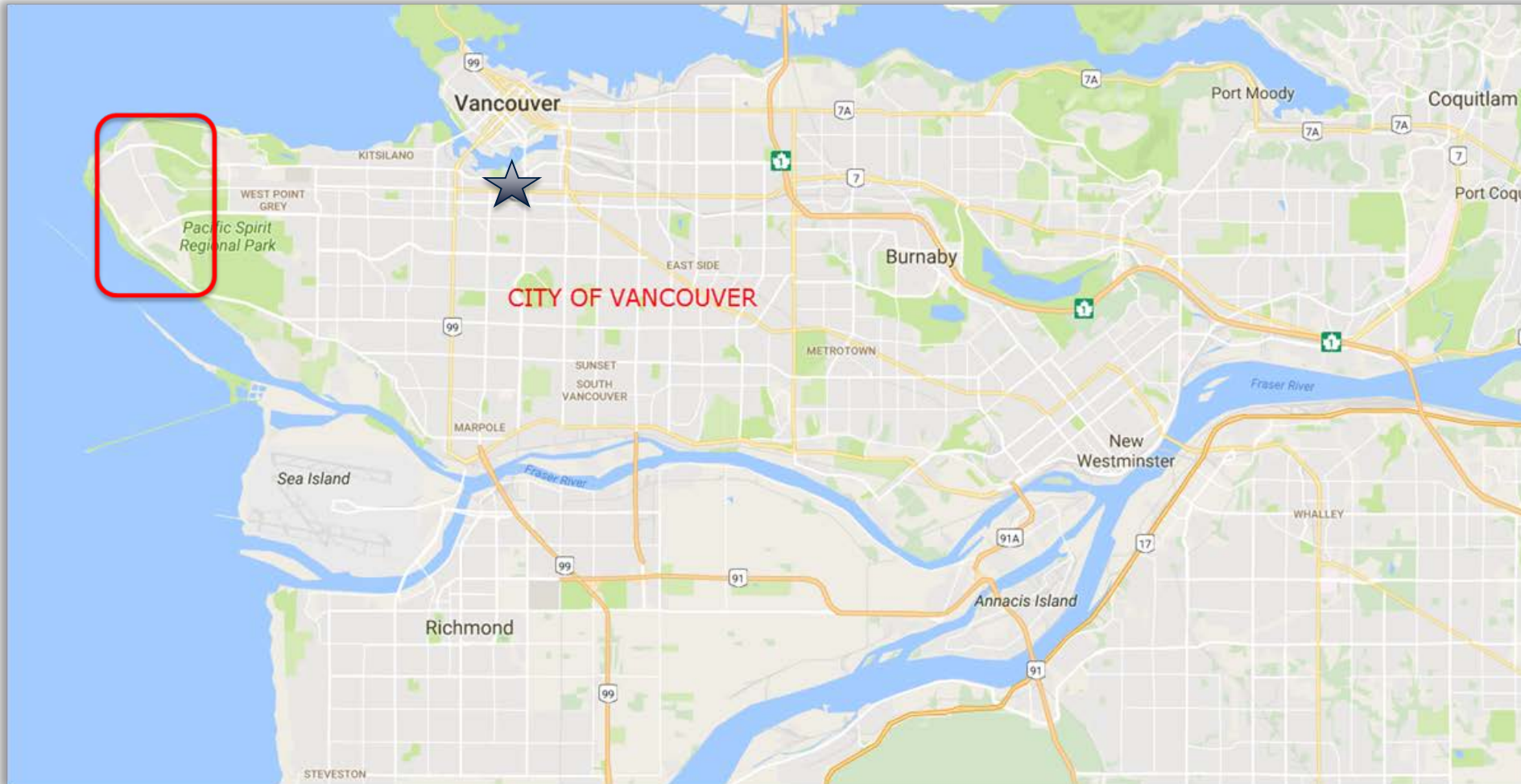
OVERVIEW



- Introduction to UBC
- Our problem
- Our solution
- Results, Challenges, Takeaways



UBC POINT GREY CAMPUS



Vancouver
Sun
1920

THE U.B.C. PRESIDENT LIVED IN A SHOE, (POETIC LICENSE)
HE HAD SO MANY STUDENTS, HE DIDN'T KNOW WHAT TO DO.
HE CRAMPED THEM, AND SQUEEZED THEM, AND TRUSTED TO LUCK,
WHILE THE GOVERNMENT DAWDLED
AND PASSED HIM THE

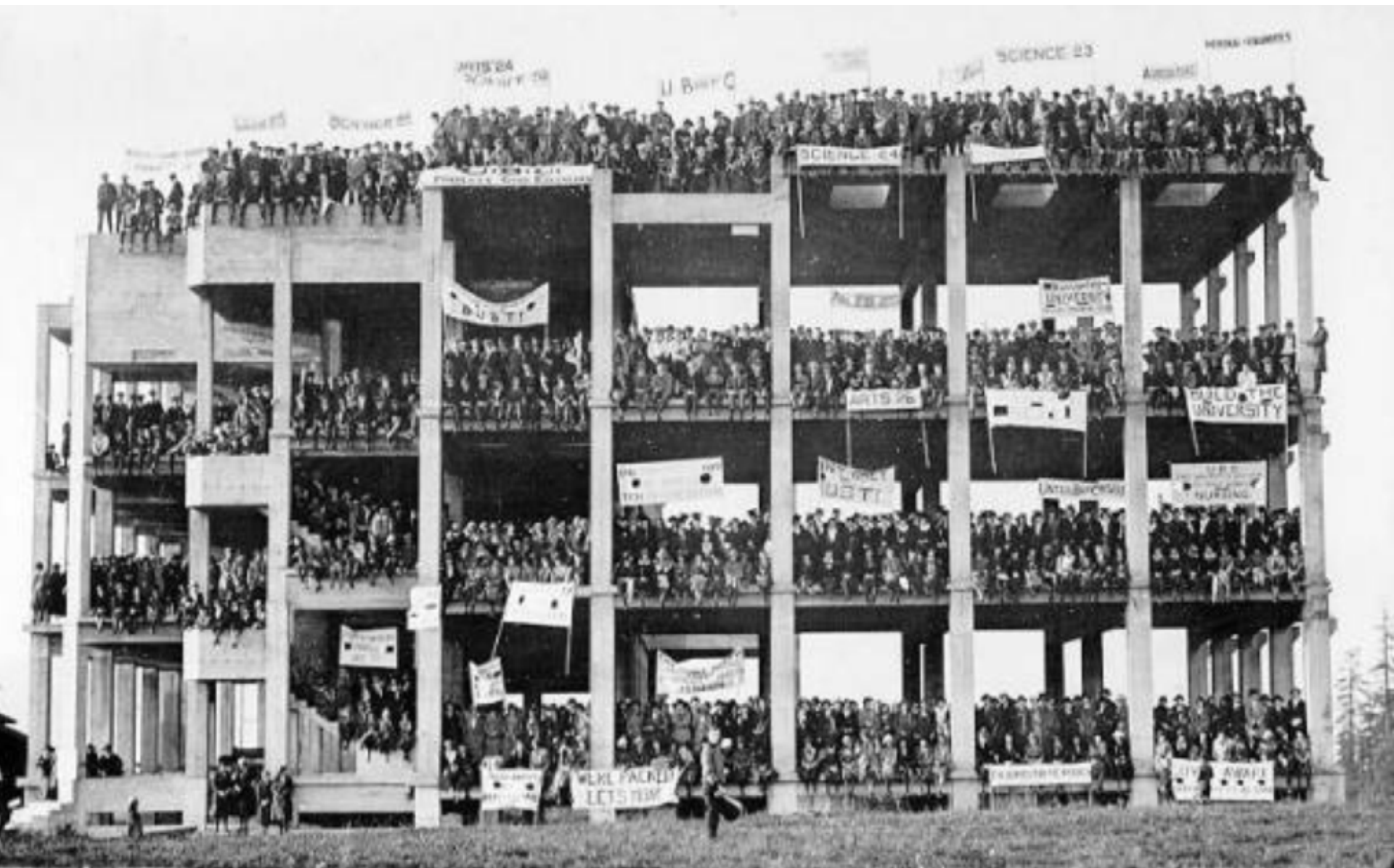
"BUCK"



VANCOUVER 1922



UBC Point Grey Campus 1922

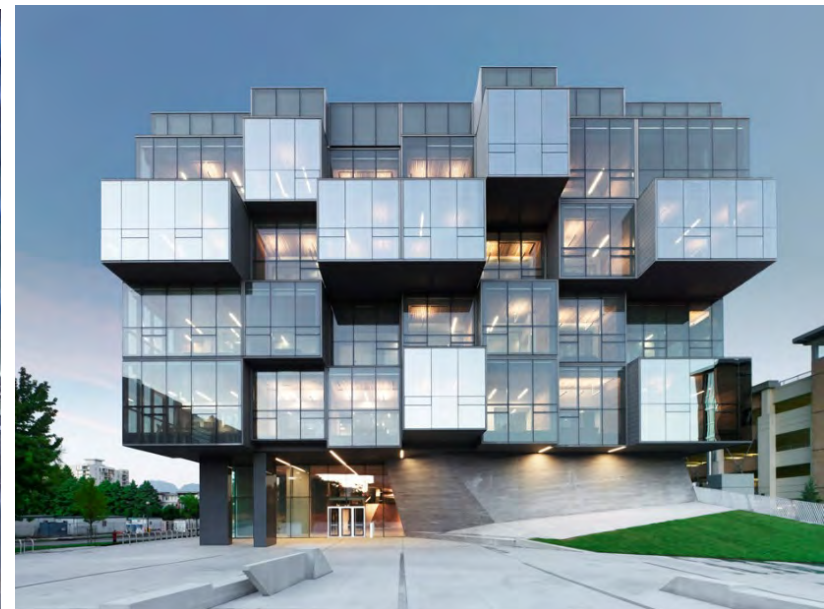




THE UNIVERSITY OF BRITISH COLUMBIA



- 1000 acres
- 406 buildings worth \$5B
- 1 million square metres
- 52,700 students





NINETY YEARS LATER...

THE PROBLEM

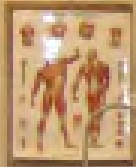
- 90% of UBC buildings are over 30 years old
- History of insufficient funding to replace deteriorating parts and systems
- Result:

A deferred maintenance debt of **\$550m**



Study hours
Wed. 10:00-12:00
Thurs. 10:00-12:00
Fri. 12:00-2:00

Monday
Wed. Mar. 11. 10:00-12:00
Wed. Mar. 12. 10:00-12:00
Wed. Mar. 13. 10:00-12:00









OUR SOLUTION – UBC RENEW



- \$192 million partnership between UBC and Provincial and Federal Governments.
- Provided 12 buildings another 40 years of life for just over half the cost of new buildings





UBC RENEW GOALS

- Preserve heritage buildings
- Mitigate deferred maintenance debt
- Align facilities with Academic Plan
- Minimize environmental impacts
- Save money



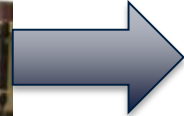


Chemistry North
During renewal



Before

During



After



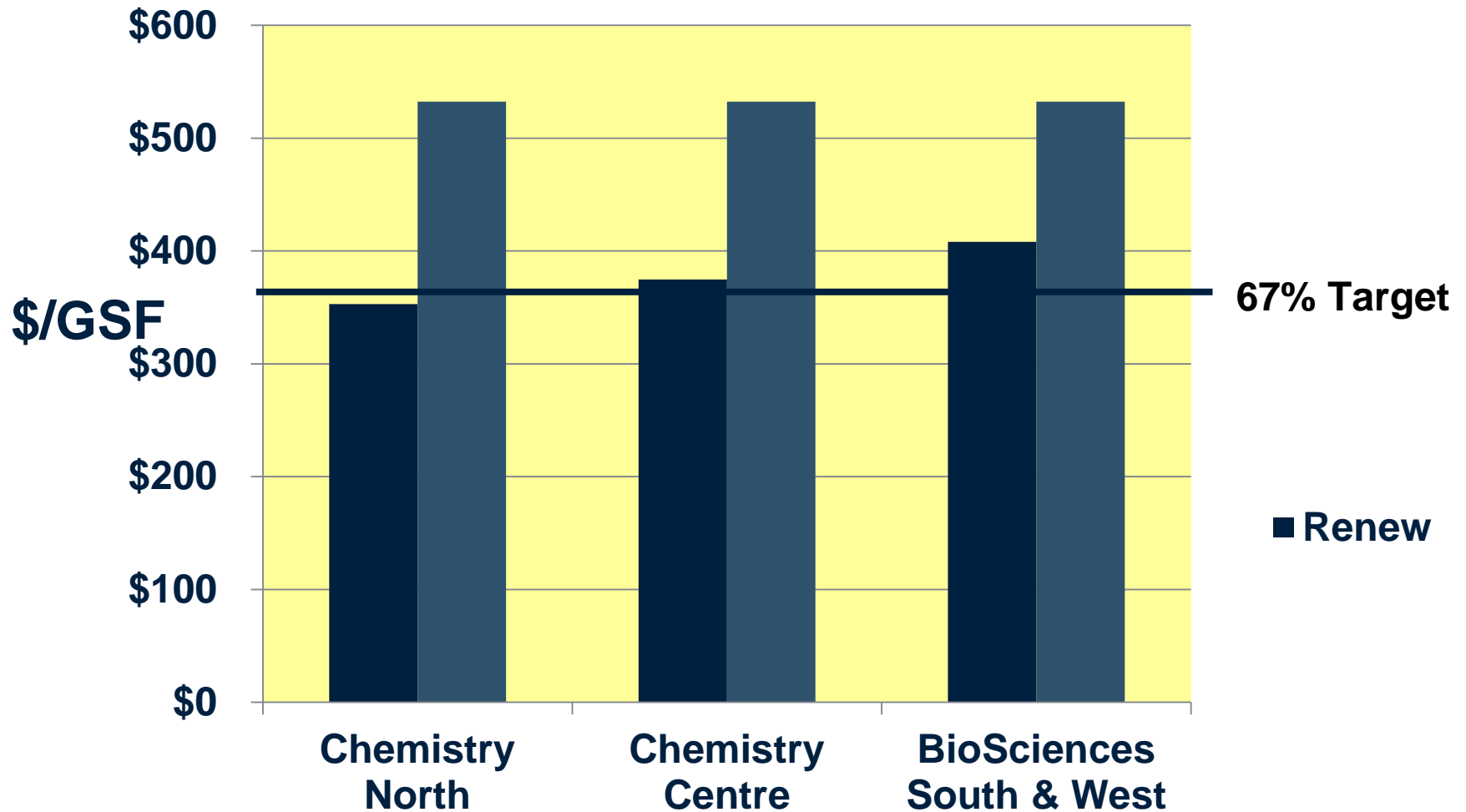


Chemistry North



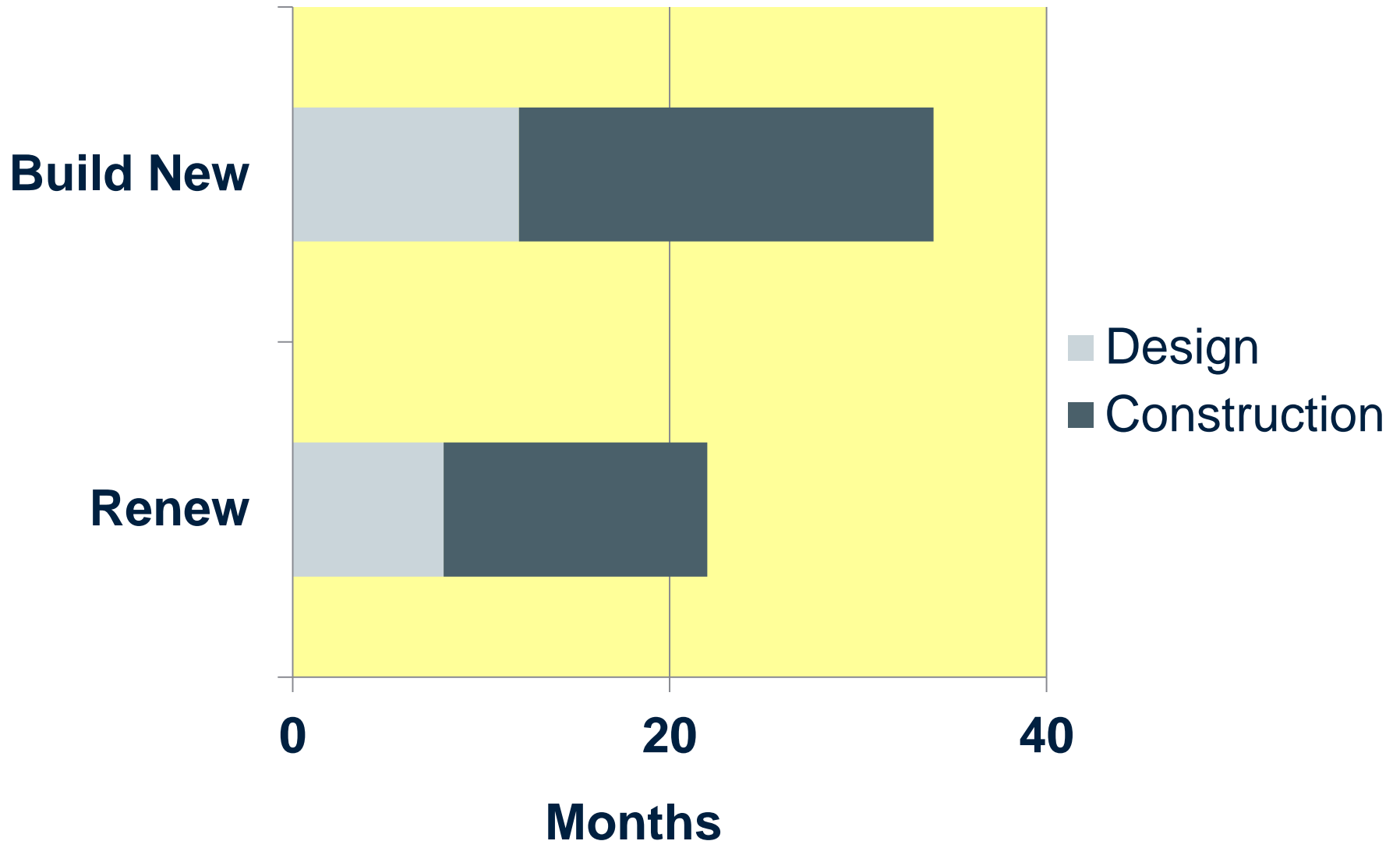


Every Third Building is Free



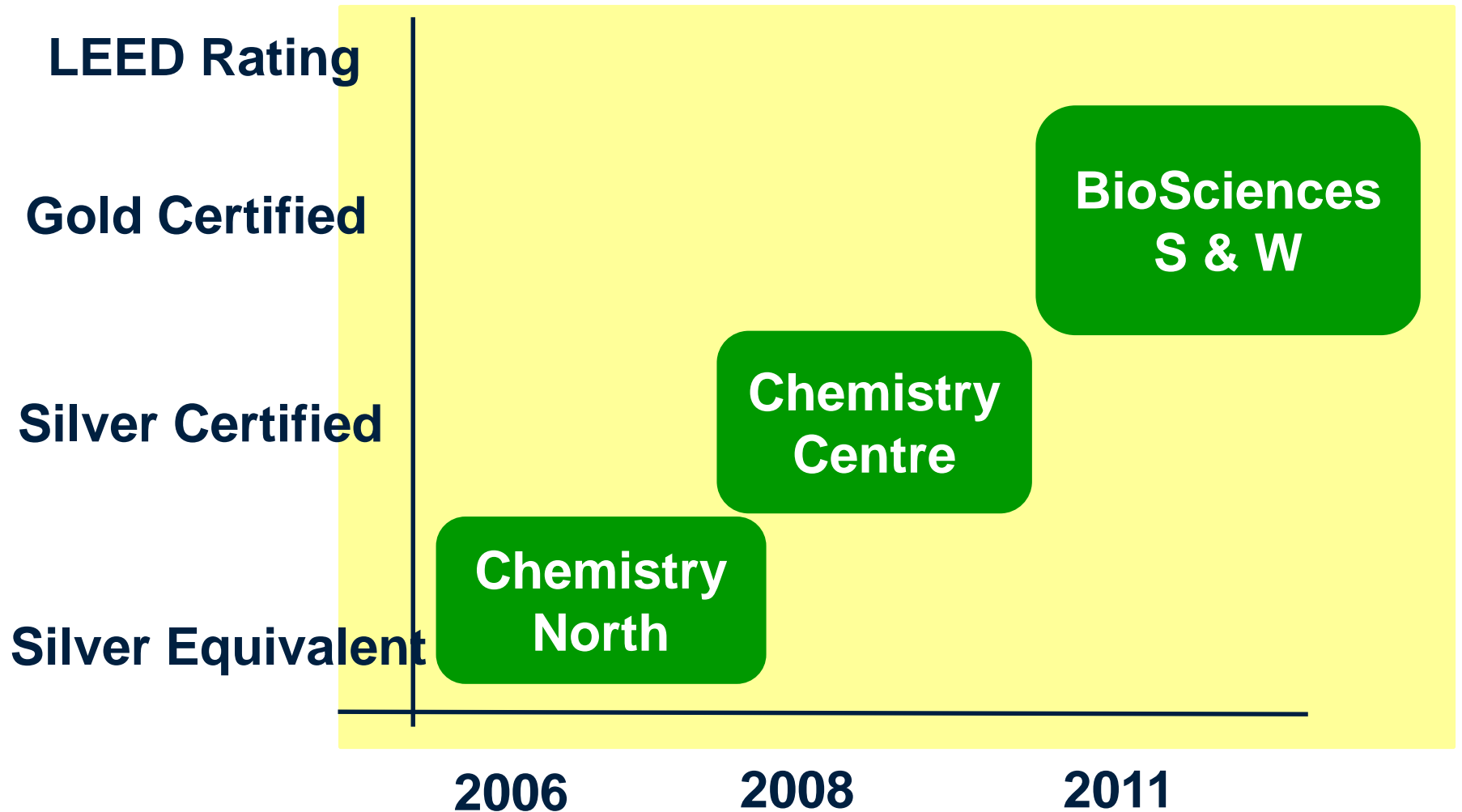


Quick Delivery





Getter Greener



REDUCE BASE BUILDING ENERGY

- Optimize lab ventilation with VAV supply, exhaust and fumehoods
- Ventilation heat recovery
- Variable speed drives for fans and pumps
- Building envelope upgrades (improved insulation and new thermally broken double-glazing)
- High efficiency lighting and use of light sensors
- Low flow water fixtures





UBC RENEW RESULTS

Renewal saves money, time and energy!

- Every 3rd building is free
- Saves time
- Utilization improvement
- Embodied energy savings
- Operating savings
- Reduced deferred maintenance







Buchanan B Corridor - before





Buchanan B Corridor



Buchanan B

Before



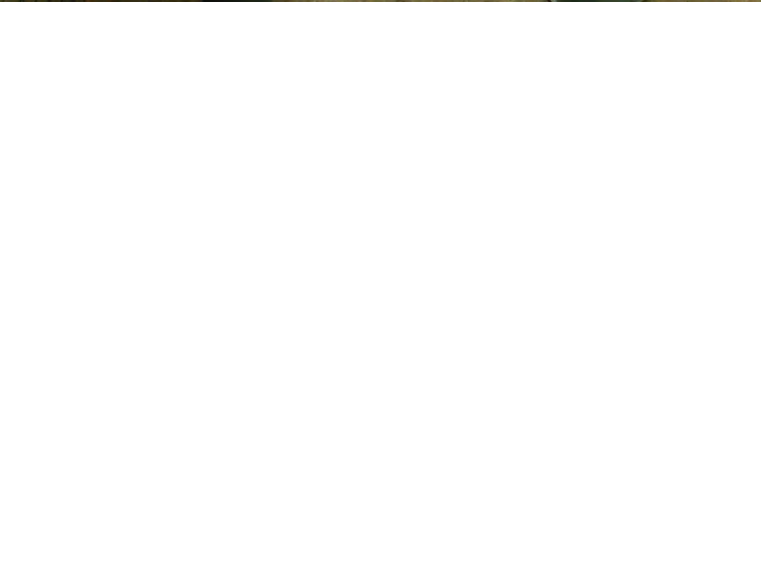
After



**Informal
Learning
Spaces**

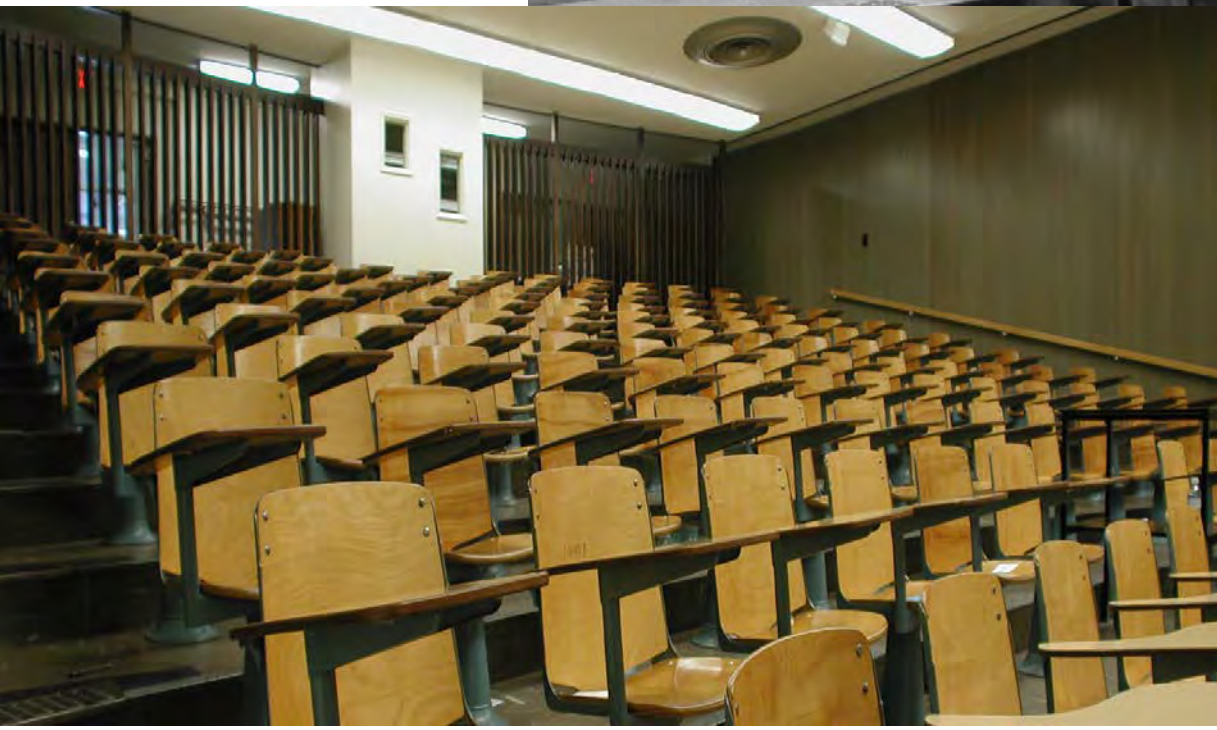


Classrooms – before



Classrooms - after









RISKS AND CHALLENGES



- Space constraints
- Electrical & mechanical system capacity
- Structural loading and vibration damping
- Seismic upgrades
- Swing space requirements



Takeaways

- **Renewal is Doable** – Old buildings can be sustainably renewed for 55-67% of the cost of new
- **Go Big** – Full building renewal works best to ensure adequate building system capacity and reliability

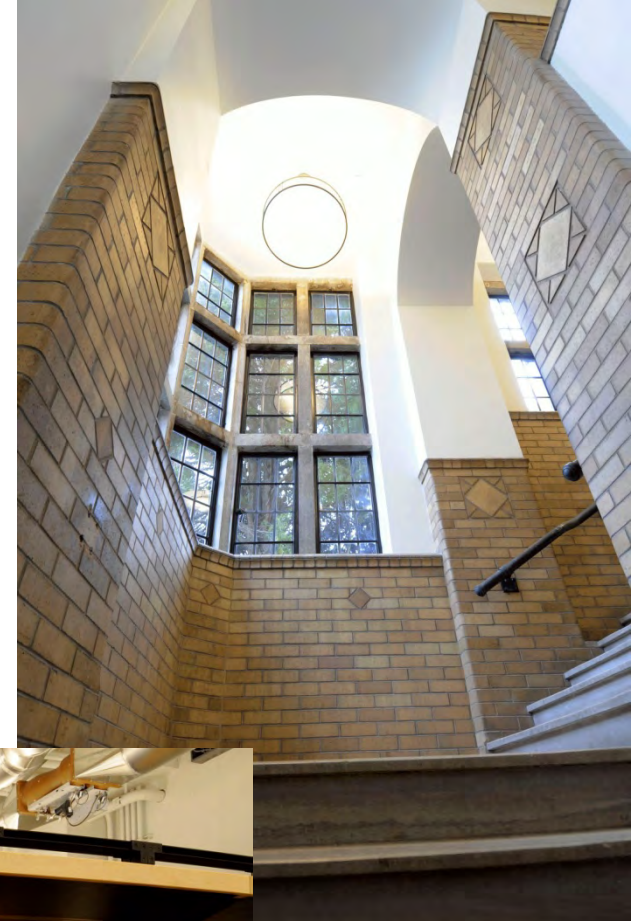




Modern research in a 90 year old building is not only possible...



... it's delightful!







a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

UBC100