

5.10 Rate Schedule for Non-NHERI Projects for NHERI Lehigh RTMD Experimental Facility, ATLSS and Fritz Structural Testing Laboratory

Tables 5.10-1 through 5.10-6 apply to rates associated with **non-NHERI projects only** (NSF funded projects that utilize the NHERI Lehigh RTMD Experimental Facility are referred to Tables 5.9-# for applicable costs). NHERI projects are defined as projects receiving funding through the NSF for utilization of NHERI Lehigh RTMD Experimental Facility equipment. Non-NHERI projects are projects that do not qualify per the definition above.

Note: All costs in subsequent tables are direct cost only (personnel costs also include employee benefits as noted in Table 5.10-3). All costs will be subject to Lehigh University's current indirect cost rate. Contact NHERI Lehigh RTMD Site Operations Manager for university's current indirect cost rate. For use fees assessed per day, the charges will be applied in either half day or full day increments.

Updated: 8/1/24

Table 5.10-1**ATLSS PROJECT FEE**

The ATLSS Project Fee is assessed as a *one-time* charge at the onset of a project at the percentages noted below. The fee is assessed *on the total test program* budget. The fee is assessed to cover costs associated with forklifts, cranes, hydraulic pumps, tools, etc. required for daily operation at ATLSS.

	Unit of Measure	Academic/ Sponsored	External Testing & Use
ATLSS Project Fee	Per project	1%	2%

Table 5.10-2**FLOOR, WALL SPACE, RED BRACING FRAME, AND GRILLAGE – ATLSS Laboratory**

** Note: Floor space/wall space charge is applicable to strong floor/reaction wall in laboratory's south bay (excluding red bracing frame fixture which is explained below). The steel test frame/wall grillage system in laboratory's north bay.*

Floor Space* (excludes floor space within red bracing frame fixture)

Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
Floor Space < 500 sq ft	Per calendar day	\$0	\$75
Floor Space to 1000 sq ft	Per calendar day	\$75	\$150
Floor Space to 1500 sq ft	Per calendar day	\$155	\$310
Floor Space to 2000 sq ft	Per calendar day	\$230	\$460
Floor Space to 2500 sq ft	Per calendar day	\$310	\$620
Floor Space to 3000 sq ft	Per calendar day	\$385	\$770
Floor Space to 3500 sq ft	Per calendar day	\$465	\$930
Floor Space to 4000 sq ft	Per calendar day	\$620	\$1240

Wall Space* (excludes wall space within red bracing frame fixture)

Calculated by multiplying applicable floor space daily rate by wall space occupancy/blockage factor (provided below)

Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
Wall space < 20 ft	-----	1.0	1.0
Wall space to 30 ft	-----	1.3	1.3
Wall space to 40 ft	-----	1.6	1.6
Wall space to 50 ft	-----	2.0	2.0

ATLSS Red Bracing Frame**

ATLSS Bracing Frame Fixture**	Per project per calendar year	\$15,000	\$15,000
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*** Projects whose floor and/or wall plan footprint lie within the red bracing frame fixture are charged a \$15,000 per project per calendar year usage fee in place of being charged per*

square foot for floor space and per foot for wall space for this area. Projects whose floor space footprint and wall space footprint fall outside of the red bracing frame but which utilize the outside of the red bracing frame as a support fixture are subject to the standard floor and wall space use fees as outlined above for projects whose footprint falls outside of the red bracing frame fixture.

Grillage System (North Bay) – includes			
Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
Grillage Floor	Per calendar day***	\$75	\$150
Grillage Wall	Per calendar day***	\$75	\$150

*** Excludes weekends unless running a cyclic loading test protocol that encompasses weekend dates

Table 5.10-3			
PERSONNEL - Labor			
ATLSS Staff (rates include vacation, holiday, and sick leave and employee benefits but does not include indirect cost)			
Personnel	Unit of Measure	Academic/ Sponsored	External Testing & Use
Laboratory Operations Manager	Per hour	\$81	\$83
Laboratory Technicians	Per hour	\$63	\$65
Instrumentation Manager	Per hour	\$75	\$77
Administrative Assistant	Per hour	\$39	\$40
NHERI Lehigh RTMD EF Staff (rates include vacation, holiday, and sick leave and employee benefits but does not include indirect cost)			
Personnel	Unit of Measure	Academic/ Sponsored	External Testing & Use
NHERI Lehigh Operations Manager	Per hour	\$96	\$99
NHERI Lehigh IT Systems Administrator	Per hour	\$103	\$106
NHERI Lehigh Research Scientist	Per hour	\$67	\$69

Table 5.10-4

NHERI EQUIPMENT/INSTRUMENTATION

NHERI Equipment

Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
NHERI Hydraulic System (500 kip and 380 kip NHERI actuators)	Setup per project per calendar year	\$340	\$1360
- Static/Dynamic (Non-fatigue) per actuator	Per test day	\$340	\$1360
- Fatigue to 5M per actuator	Per M cycles	\$340	\$1360
- Fatigue 5M–50M per actuator	Per M cycles	\$205	\$820
- Fatigue 50M–200M per actuator	Per M cycles	\$135	\$540
- Fatigue >200M per actuator	Per M cycles	\$70	\$280
All other NHERI Actuators (55 kip)	Setup per project per calendar year	\$385	\$1540
- Static/Dynamic (Non-fatigue) per actuator	Per test day	\$310	\$1240
- Fatigue to 5M per actuator	Per M cycles	\$310	\$1240
- Fatigue 5M–50M per actuator	Per M cycles	\$155	\$620
- Fatigue 50M–200M per actuator	Per M cycles	\$75	\$300
- Fatigue >200M per actuator	Per M cycles	\$30	\$120
NHERI Accumulator System	Setup per project per calendar year	\$205	\$820
- Accumulator discharge	Per discharge	\$135	\$540
NHERI Control System (Pulsar or Inertia)	Setup per project per calendar year	\$270	\$810
- NHERI Control System	Per test day	\$205	\$820

Note 1: For Academic/Sponsored projects with actuator use subject to fatigue use rates above, the number of cycles used in determining the applicable use rate (based on cycle count) for *all actuators* on that project is calculated by summing the number of cycles run for all actuators.

Note 2: Fatigue projects (both Academic/Sponsored and External Use & Testing) will not be subject to static test charges for setting load limits for fatigue tests if the loads in such tests do not exceed the fatigue test load range. If these conditions are met, the tests conducted at slow rate to establish the load limits for cycling do not qualify as static tests. If fatigue test ranges are exceeding, then static test charges are applicable to the project.

Note 3: Crawl tests conducted on bridge fatigue simulation projects are subject to static test rates for actuators utilized during testing.

Note 4: Equipment subject to weekly and monthly rates (as opposed to the per day rate noted

above) if the following criteria are met:

- Weekly rate (>2 days/calendar week)	2.5*day rate	2.5*day rate
- Monthly rate (>2 weeks/calendar month)	2.5*week rate	2.5*week rate

NHERI Instrumentation (Charges per instrument, regardless of quantity)

Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
NHERI Data Acquisition System (Pacific Instruments)	Per test day	\$205	\$820
NHERI Accelerometers (monoaxial)	Per test day	\$20	\$80
NHERI Accelerometers (triaxial)	Per test day	\$25	\$100
Portable Web Camera	Per test day	\$15	\$60
GoPro Camera	Per test day	\$25	\$100
Agilent Power Supply	Per instrument	\$15	\$60
Agilent Volt Meter	Per instrument	\$20	\$80

Note: Instrumentation subject to weekly and monthly rates (as opposed to the per day rate noted above) if the following criteria are met:

- Weekly rate (>2 days/calendar week)	2.5*day rate	2.5*day rate
- Monthly rate (>2 weeks/calendar month)	2.5*week rate	2.5*week rate

Table 5.10-5

Non-NHERI EQUIPMENT/ INSTRUMENTATION			
ATLSS LABORATORY			
Non-NHERI Equipment			
Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
ATLSS Hydraulic System (non-NHERI actuators)	Setup per project per year	\$385	\$1540
- Static/Dynamic (Non-fatigue) per actuator*	Per test day	\$310	\$1240
- Fatigue to 5M per actuator	Per M cycles	\$310	\$1240
- Fatigue 5M–50M per actuator	Per M cycles	\$155	\$620
- Fatigue 50M–200M per actuator	Per M cycles	\$75	\$300
- Fatigue >200M per actuator	Per M cycles	\$30	\$120
Enerpac Pumping System*	Per test day	\$200	\$800
Enerpac Jacks per jack*	Per test day	\$200	\$800
Crane Scale	Setup per project per calendar year	\$250	\$500
ATLSS Control System	Setup per project per calendar year	\$75	\$300
- MTS Flex System*	Per channel per test day	\$30	\$105
- Wineman System*	Per channel per test day	\$20	\$75
Note 1: For Academic/Sponsored projects with actuator use subject to fatigue use rates above, the number of cycles used in determining the applicable use rate for <i>all actuators</i> on that project is calculated by summing the number of cycles run for all actuators.			
Note 2: Fatigue projects will not be subject to static test charges for setting load limits for fatigue tests if the loads are not exceeding the fatigue test ranges. If these conditions are met, the tests conducted at slow rate to establish the load limits for cycling do not qualify as static tests. If fatigue test ranges are exceeding, then static test charges are applicable to the project.			
Note 3: Crawl tests conducted on bridge fatigue simulation projects are subject to static test rates for actuators utilized during testing.			
Note 4: Equipment followed by * subject to weekly and monthly rates (as opposed to the per day rate noted above) if the following criteria are met:			
- Weekly rate (>2 days/calendar week)		2.5*day rate	2.5*day rate
- Monthly rate (>2 weeks/calendar month)		2.5*week rate	2.5*week rate
Non-NHERI Instrumentation <i>(Charges dependent on quantity of instrumentation utilized)</i>			
Description	Unit of Measure	Academic/ Sponsored	External Testing & Use
Trilion 3-D Image Correlation	Per test day	\$660	\$1980

System			
- CR9000 data logger (includes power supply charge)*	Per test day	\$125	\$500
- CR5000 data logger (includes power supply charge)*	Per test day	\$85	\$340
- CR1000 data logger (includes power supply charge)*	Per test day	\$85	\$340
LVDTs, Temposonics, Displacement Transducers	-----	-----	-----
- 1 – 8*	Per test day	\$15	\$60
- 9 – 16*	Per test day	\$25	\$100
- 17 – 24*	Per test day	\$30	\$120
- 25 – 32*	Per test day	\$40	\$160
- 33 – 40*	Per test day	\$45	\$180
- 41 – 48*	Per test day	\$55	\$220
- 49 – 56*	Per test day	\$60	\$240
- 57 – 64*	Per test day	\$70	\$180
- > 64*	Per test day	\$75	\$300
Plastic slides	-----	-----	-----
- 1 – 8*	Per test day	\$10	\$40
- 9 – 16*	Per test day	\$15	\$60
- > 16*	Per test day	\$25	\$100
String Pots, Accelerometers	-----	-----	-----
- 1 – 4*	Per test day	\$15	\$60
- 5 – 8*	Per test day	\$25	\$100
- 9 – 12*	Per test day	\$30	\$120
- > 12*	Per test day	\$40	\$160
Rotation Meters, Inclinometers	-----	-----	-----
- 1 – 8*	Per test day	\$15	\$60
- 9 – 16*	Per test day	\$25	\$100
- > 16*	Per test day	\$30	\$120
Laser Displacement Sensors*	Per test day	\$25	\$100
Load Cell*	Per test day	\$15	\$60
Portable Web Camera*	Per test day	\$15	\$60
GoPro Camera*	Per test day	\$25	\$100
Note: Instrumentation followed by * subject to weekly and monthly rates (as opposed to the per day rate noted above) if the following criteria are met:			
- Weekly rate (>2 days/calendar week)		2.5*day rate	2.5*day rate
- Monthly rate (>2 weeks/calendar month)		2.5*week rate	2.5*week rate

FRITZ LABORATORY			
Non-NHERI Equipment			
Amsler Hydraulic System	Setup per project per year	\$125	\$500
- Static per actuator*	Per test day	\$75	\$300
- Fatigue to 5M per actuator	Per M cycles	\$75	\$300
- Fatigue 5M–50M per actuator	Per M cycles	\$50	\$200
- Fatigue 50M–200M per actuator	Per M cycles	\$25	\$100
- Fatigue >200M per actuator	Per M cycles	\$10	\$40
Amsler Alternating Stress Machine	Per M cycles	\$75	\$300
Baldwin 5000 kip Universal*	Per test day	\$250	\$1000
Baldwin 5000 kip Universal*	Overnight	\$100 additional	\$400 additional
Riehle 800 kip Universal*	Per test day	\$150	\$600
Southwark Emery 300 kip Universal*	Per test day	\$75	\$300
Drop Weight Tester	Per test day	\$15	\$60
Rexroth Pumping System	Per test day	\$100	\$400
Note 1: For Academic/Sponsored projects with actuator use subject to fatigue use rates above, the number of cycles used in determining the applicable use rate for <i>all actuators</i> on that project is calculated by summing the number of cycles run for all actuators.			
Note 2: Fatigue projects will not be subject to static test charges for setting load limits for fatigue tests if the loads are not exceeding the fatigue test ranges. If these conditions are met, the tests conducted at slow rate to establish the load limits for cycling do not qualify as static tests. If fatigue test ranges are exceeding, then static test charges are applicable to the project.			
Note 3: Crawl tests conducted on bridge fatigue simulation projects are subject to static test rates for actuators utilized during testing.			
Note 4: Equipment followed by * subject to weekly and monthly rates (as opposed to the per day rate noted above) if the following criteria are met:			
- Weekly rate (>2 days/calendar week)		2.5*day rate	2.5*day rate
- Monthly rate (>2 weeks/calendar month)		2.5*week rate	2.5*week rate

Table 5.10-6			
ADDITIONAL LABORATORIES/SERVICES/EQUIPMENT			
ATLSS LABORATORY			
Description	Unit of Measure	Academic/Sponsored	External Testing & Use
Small-Soil Box (3 ft by 2.5 ft)*	Per test day	\$50	\$200
Medium-Soil Box (6 ft by 6 ft)*	Per test day	\$100	\$400
Large-Soil Box (12 ft by 12 ft)*	Per test day	\$200	\$1600
Large Scale Furnace	Setup per project per year	\$500	\$2000

- Structural Test	Per test day	\$500	\$1000
Box Furnace*	Per test day	\$50	\$200
Tube Furnace*	Per test day	\$50	\$200
Mechanical Testing	-----	-----	-----
- 2670 kN (600 kip) Universal*	Per test day	\$355	\$710
- 267 kN (55 kip) Universal*	Per test day	\$90	\$180
- Fatigue to 5 M cycles	Per M cycles	\$90	\$180
- Fatigue 5 – 50 M cycles	Per M cycles	\$45	\$70
- Fatigue > 50 M cycles	Per M cycles	\$20	\$30
Note 1: Equipment followed by * subject to weekly and monthly rates (as opposed to the per day rate noted above) if the following criteria are met:			
Weekly rate (>2 days/calendar week)		2.5*day rate	2.5*day rate
Monthly rate (>2 weeks/calendar month)		2.5*week rate	2.5* week rate

Additional Notes:

(1). The testing machines at Fritz Laboratory are also available for use by NHERI researchers. Use fee estimates and associated costs will be developed on a per test basis, based on the complexity of the test setup.

(2). All costs require indirect cost to be applied to the stated rates (stated rates are only direct cost, with the exception of personnel which also includes employee benefits). Contact the NHERI Lehigh RTMD Operations Manager for current Lehigh University indirect cost rates.

(3). Space rates (both floor and wall) are applicable for total calendar days associated with a given project. Such rates are not subject to the special weekly and monthly rates noted above for select equipment and instrumentation.

(4). Equipment measured per calendar or test day will be charged for 1/2 day if used for 4 hours or less, and 1 day if used for longer than 4 hours.