

Bethlehem Space & Exploration Center

Plan brief · planned, proposed independently by David Fischbarg · v0.3, 2026-10-19

PLANNING PHASE

WHAT IT IS

Bethlehem Space & Exploration Center (BSEC) is an independent plan for a space science, engineering and education center in Bethlehem, Pennsylvania. It starts with free programs in existing venues, then a small space of its own, and grows in steps toward a compact research center and, much later, a campus.

It exists so that students, families and early-career engineers can do real space work close to home: build payloads, run mission simulations, track satellites, observe the sky and learn the trades that space work needs.

WHY BETHLEHEM

Bethlehem has a deep engineering and manufacturing history, universities and colleges within a short ride, career-technical schools, and active astronomy and science groups across the Lehigh Valley. The center is meant to add to what already exists, not duplicate or compete with it, so it starts by asking existing programs what is missing.

WHO IT HELPS

School groups and students of every age, through free school missions run with partner schools. Families, through free public programs and star nights. Early-career engineers, technicians and researchers, through shared equipment, projects and paid internships wherever possible. Nobody is sorted or labeled by income.

WHAT IT PROTECTS

Everything the center does is for the world and its people, and it takes care of the people, animals, land, water and air it touches. It protects people, through free, safe and accessible programs; the night sky, through shielded outdoor lighting; water, through free refill and careful stormwater design; land and wildlife, by reusing buildings and restoring what is disturbed; and the air, through all-electric buildings and natural energy.

Every site and event has sorting points for recycling, compost and reuse; materials are salvaged when a building is redeveloped or adapted, and food and garden waste is composted where possible. Every place is left cleaner than we found it.

WHERE

The public front door and first program space are planned in walkable South Bethlehem, near Third Street, close to today's buses. A research home at Lehigh's Mountaintop Campus is possible only if Lehigh invites it; otherwise it stays undecided. A space playground, a food and water hub and modern, accessible restrooms are planned next to the center. Every site is studied, not selected, until its owner agrees in writing.

WHAT IT OFFERS

Mission simulation, payload design, integration and test, and a mission-control room. A satellite ground station that listens to real spacecraft, and scheduled radio contacts with the space station through school programs. Robotics, a maker shop with supervised sign-off, and exhibits that explain the work in plain words.

Real flights happen safely: student payloads ride licensed launches elsewhere, and small balloon and model-rocket flights happen only at suitable fields beyond 5 nm of the airport, flown by insured partners. No rockets fly in Bethlehem, and a launch site in Bethlehem is not credible. A regional spaceport is only a long-term idea for others to decide.

HOW IT IS BUILT

Reuse first: existing buildings before new ones. All-electric with heat pumps and natural energy only: solar on site, and wind, geothermal, heat recovery and permitted hydro for the rest, stored for reuse. Reused, local and low-carbon materials, dark-sky lighting outdoors and free water everywhere.

Many short build-phase roles (6 in the plan, each with an end point) and only 3 long-term positions, sized to what safety and the law require. Scheduling, inventory, records and paperwork run in software.

WHAT IT COSTS

About \$0.4M–\$2.5M to set up the 2030 program space, and \$1.8M–\$8.5M for the compact research center (design assumptions, not quotes). No money is asked for or accepted until the nonprofit is registered as a charity, and every budget is planned as if no gift arrives.

WHAT IT NEEDS NEXT

An independent board and nonprofit registration; a first pilot venue with insurance and a youth-safety policy; a partner school; an expert review of the plan; and the City's support in writing for any City land or programs. Volunteer roles open with the first pilots.

STEPS TO 2030 (TARGETS, NOT PROMISES)

Gate 1: Name and trademark search; nonprofit incorporated with an independent board.

Gate 2: IRS Form 1023 filed; Pennsylvania charitable registration (or documented exemption).

Gate 3: First pilot program run in a borrowed venue, with insurance and youth-safety policy in place.

Gate 4: First written agreement with a school or partner organization.

Gate 5: Host or lease agreement for S1-minimum space, with a funded first-year budget.

STATUS

Planning phase. An independent plan; nothing is funded or built yet. No organization named in this plan has agreed to anything in writing. Not an official project of, or endorsed by, Lehigh University or the City of Bethlehem.

Facts carry numbered sources in the master plan.