THE BORING COMPANY

Not-a-Boring Competition 2024

Abbreviated Rules and Requirements V3.0

Updated on December 4, 2023

CONTENTS

1. INTRODUCTION

Created by Elon Musk, founder of Tesla and SpaceX, The Boring Company (TBC) creates safe, fast-to-dig, and low-cost transportation, utility, and freight tunnels. TBC's mission is to solve traffic, enable rapid point-to-point transportation, and transform cities. In September 2021, TBC hosted the first Not-a-Boring Competition which challenged engineers to build tunnel boring machines (TBMs) in an effort to accelerate innovation in tunneling technology. Talented teams from around the world answered the call and demonstrated innovative tunneling technology.

This year, TBC is again inviting teams to design, build, and race their own tunneling machines at TBC's factory in Texas.

TBC is also expanding the event with the addition of Mini Competitions: three projects that can be completed on a shorter timeline than our main event.

2. GENERAL INFORMATION

This document does not represent the full scope of the rules governing the Not-a-Boring Competition. Rules are subject to change.

2.1 Mini Competitions

In addition to the main event, we are introducing three smaller projects that are designed to introduce rookie teams to tunnel boring technology and propel them into the main event in subsequent years.

The competitions are:

1. Digging Project: Create an innovative digging system for a tunnel boring machine
    a. Competition Deliverable(s):
        i. On-site demonstration (vertical boring)
        ii. Winner: Fastest to dig 1 meter deep with a 0.2 m^2 cross section
            1. Scope should be kept on the cutterhead (or other digging method) subsystem and any custom supporting equipment to test it
2. Tunnel Lining Project: Create an innovative tunnel reinforcement system for a tunnel boring machine
    a. Competition Deliverable(s):
        i. Lining material test in pit with dirt piled and settled on top
        ii. Detailed integration design

iii. Winner: Tunnel with the highest support strength and best logistics
1. Scope should be kept solely on the lining mechanism; designing only necessary TBM systems around the lining mechanism
3. Navigation Project: Innovate on a tunnel boring machine's autonomous guidance and navigation system, which cannot use GPS to localize
   a. Competition Deliverable(s):
      i. On-site maze navigation without GPS
      ii. Winner: Most accurate maze navigation result
         1. Scope should be kept on guidance and navigation subsystem and any custom supporting equipment to test it

2.2 Main Event: Categories & Requirements

At the 2024 Not-a-Boring Competition, teams will compete in three categories, in order of priority:

1. Fastest to complete the tunnel (Overall Winner)
   a. Constraints:
      i. Must hit target exit area within a radial tolerance of 5% of the tunnel length
      ii. Surface disturbances might lead to deduction
   b. If no team can finish the 30 m tunnel, the team who got the furthest wins
2. Innovative design, build, and/or test (Innovation Award)
3. Most accurate tunnel (Accuracy Award)
   a. Bonus points for tightest turn, side-to-side, without additional depth

The competition has several top-level requirements. Teams shall:

1. Design their own tunneling machine and launch structure (if applicable)
2. Provide and follow a predicted tunnel path
   a. There is no predefined depth a tunnel must reach
   b. There is no maximum depth (within reason)
3. Monitor and control their machine
   a. Machines shall be capable of measuring their position at all times
   b. Machines shall be remotely controlled
      i. No human or animal shall ride in any tunneling machine or in any in tunnel transportation device during this competition or during any pre-competition access
4. Tunnel Dimensions
   a. Functional cross-sectional area of at least 0.2 square meters (equivalent to a circle with a 0.5-meter diameter)
   b. Length of 30 m (measured as the shortest distance between the tunnel entrance and the tunnel exit)
      i. Starts when the full cutterhead is fully immersed in the ground

TBC encourages teams to:

1. Design, build, and test all systems in-house (within reason)

2. Minimize dependency on heavy machinery during competition week (small excavators and forklifts can be provided, no cranes will be provided); any time needed to dig a pit will be added to the overall tunneling time as a penalty
3. Simplify launch setups

For updates on the competition schedule, visit boringcompany.com/competition. Any questions or comments about the 2024 Competition Rules and Requirements should be submitted to competition@boringcompany.com.

2.3 Eligibility

Both student and non-student teams are eligible to enter the competition.

1. Student led teams must have a Faculty Adviser
2. Teams may consist of students from multiple schools, or individuals from multiple companies
3. The team structure is flexible with a minimum number of 2 team members and no maximum number (within reason)

For any question regarding eligibility, please contact us prior to the competition under competition@boringcompany.com.

2.4 Competition Format

Once formed, interested teams must apply for the competition using the form on boringcompany.com/competition. Applying teams are screened on their eligibility per the requirements outlined above. Once screened, teams will receive additional information including requirements for the first assessment (Preliminary Design Briefing) and a non-abbreviated version of this document.

The teams selected to advance to Competition Week must successfully pass the following pre-competition assessments where they will be judged by TBC advisers:

1. Preliminary Design Briefing
2. Final Design Package
3. Final Design Presentation
4. Operational, Procedural, and Safety (OPS) Briefing

After passing the pre-competition assessments, selected applicants and their machines will compete at TBC's manufacturing and testing facility in Texas. At the competition, teams will conduct several tests and briefings on their machines and operations to prove safety and reliability to TBC advisers. After completing these final assessments and passing the safety and reliability check, at TBC's discretion, teams will be allowed to test their tunneling machine during Competition Week.

TBC, at its sole discretion, may allow or disallow entrants from accessing the site or from participating in the competition.

2.5 Additional Notes

For updates on the competition schedule, visit boringcompany.com/competition. Any questions or comments about the 2024 Competition Rules and Requirements should be submitted to competition@boringcompany.com. This competition is a The Boring Company event.

3. MAIN EVENT COMPETITION SCHEDULE

The competition schedule will be updated throughout the season. Dates are subject to change.

Date Milestones:

04/22/23 Unabbreviated Rules and Requirements document released to teams

06/10/23 Preliminary Design Briefings due

10/15/23 Final Design Briefings due

3/24/24 - 3/31/24 Range for Competition Week in Bastrop

4. MINI COMPETITION SCHEDULE

The competition schedule will be updated throughout the season. Dates are subject to change.

Date Milestones:

12/08/23 Preliminary Design Briefings Due

01/29/24 Final Design Briefings Due

3/24/24 - 3/31/24 Range for Competition Week in Bastrop