

A Checklist

The Robbins Company



Choosing the right TBM is of critical importance to your project. A customized machine, for your project's challenges and geology, can make the difference between success and significant delays. This checklist helps you to consider the various factors that go in to deciding on a TBM.

Project Name:

Expected Geological Conditions:

1. Are you expecting difficult ground on your project? Consider that most projects do experience unforeseen conditions.

- Fault zones
- High cover
- Low cover
- Mixed Face
- Water Inflows
- Squeezing Ground
- High rock strength
- Collapsing Ground

2. Consider ground investigation tools for your TBM operation:

- Probe Drill
- BEAM, TSP or other prediction software
- Collapse Detection Cylinder
- Cutterhead inspection camera

3. Consider a knowledgeable support/tunneling crew. Robbins Field Service Personnel have been involved in 900+ projects worldwide:

- Robbins full assistance operating TBM & training crew throughout project
- Robbins partial assistance during tunneling
- Robbins assistance/training through TBM launch
- No assistance

4. Consider support equipment for your tunneling operation. For example, 75% of all projects achieving world records utilize continuous conveyors for muck removal rather than muck cars. Robbins is a total supply company:

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- Continuous Conveyors
 - Cutters
 - Spare Parts-Fully Supply
 - Spare Parts-As Needed
 - Rolling Stock
 - Segment Molds
 - Segment Plant
 - Auxiliary Tunnel Equipment (e.g., ventilation, power cables, rails)

5. Are you considering a rebuilt TBM? Robbins TBMs are built for a minimum of 10,000 hours of operational life, and refurbishing a machine for your project can result in significant time and cost savings

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- Rebuilt Open-Type Main Beam (hard rock)
 - Rebuilt Double Shield TBM (fractured rock)
 - Rebuilt Single Shield TBM (very fractured rock w/water)
 - Rebuilt EPB TBM (Soft to Mixed Ground)
 - Rebuilt Slurry TBM (Soft to Mixed Ground w/high water pressure)
 - Rebuilt Crossover TBM (hybrid-type machine for variable ground)

6. Are you considering a customized TBM? Customized machines may cost more up front but more than pay for themselves in reduced downtime and good advance rates later on.

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- Yes, I need a customized TBM
 - No, I need a standardized TBM

7. A well-designed TBM assembly plan can keep your project on schedule. Consider Onsite First Time Assembly (OFTA), a Robbins-developed method that saves time and money by assembling your machine at the jobsite.

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- Yes, I would consider OFTA
 - No, I would prefer a factory-assembled TBM

8. Are you planning to own your TBM? Consider the life cycle of a machine—Robbins TBMs are built to last, and are capable of decades of service and of tunneling over 50 km. The up-front cost of a machine is more than compensated for when a machine is used on two or more tunnels.

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- Plan to own TBM
 - Plan to do lease-to-own program for TBM
 - Plan to lease TBM
 - Plan to sell TBM back to Robbins after completion

9. Additional Project Requirements: