

The logistics of soil and rock removal



Truck 1 10 metre tipper



Haulage:

Capacity: **12 m³**
Maximum journeys per day: **8**

Daily costs:

Fuel: **\$460**
Driver wages: **\$392**
Maintenance: **\$63**

Key features

- Lightweight - can travel on **ALL** roads.
- Nimble - can access all sites, get through traffic lights quicker and travel at designated speed limits.
- Accessible - more drivers available as no special licence required.
- Readily available - project can scale operations up and down with greater ease.
- Smaller capacity - more trips per day to transport load.
- More trips = more emissions, increased pollution and more road congestion.

Should we use Truck 1?

1. How much excavated material can this truck remove in one day?

Truck Capacity x Maximum number of trips in one day
= Amount of soil and rock for one day

_____ x _____ = _____ m³

2. The project requires 3,000 m³ of excavated material to be removed per day to meet construction deadlines.

This truck can remove _____ m³ per day.

How many trucks will you need?

Amount of excavated material to be removed per day ÷
Amount of soil and rock removed by one truck in one day =
Number of trucks needed.

_____ m³ ÷ _____ m³ = _____ trucks

3. How much will it cost to run one of these trucks per day?

Use the information above and the truck facts to answer this question:

Driver wages: \$ _____

Truck maintenance cost: \$ _____

Fuel cost: \$ _____

Total cost for one truck per day: \$ _____

Total cost to remove the 3,000 m³ of excavated material per day:

Cost of one truck x Number of trucks needed each day = Total cost per day

\$ _____ x _____ = \$ _____