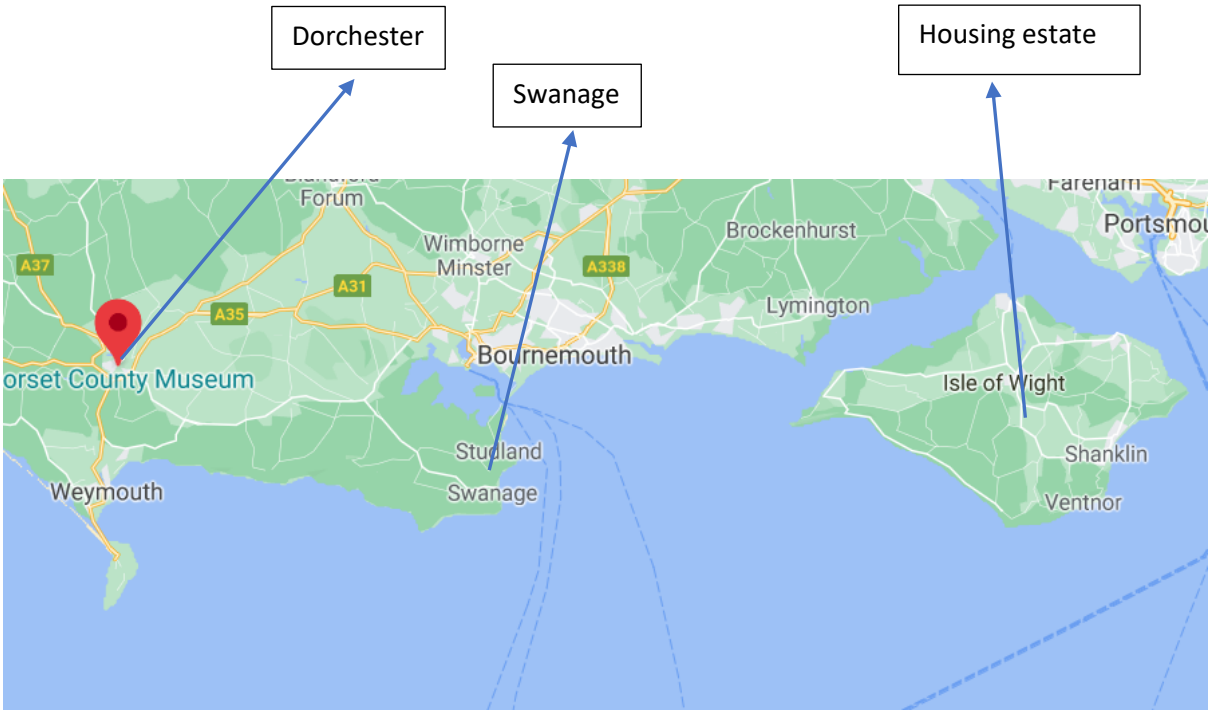
Funding the project

You have been asked by the project managers to calculate the cost of installing the electric lines needed to connect the Queen Victoria Housing estate to the power station in Dorchester. There are two proposed routes (details below) with the need for (1) Overhead electric lines (2) tunnelled lines underground and (3) underwater lines.

Your task is to calculate the cost of the power lines and recommend which route is the most financially prudent. Route information and price lists can be found below.

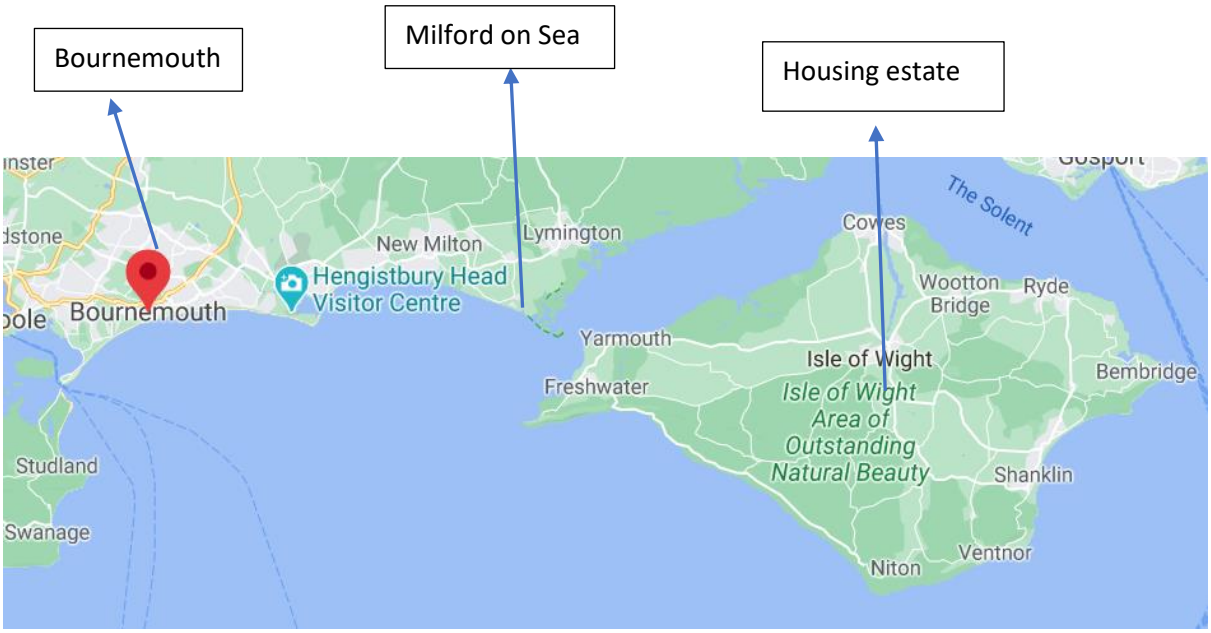
Route 1:

Stage of Route	Materials needed	Distance
Dorchester to Swanage	Overhead cables, Steel pylons	32 miles
Swanage	Underground cables	3 miles
Underwater to Isle of Wight	Underwater cables	37 miles
Isle of Wight	Wooden Poles, Overhead cables	8 miles



Route 2

Stage of Route	Materials needed	Distance
Dorchester to Bournemouth	Overhead cables, Steel pylons	25 miles
Bournemouth to Milford on Sea	Underground cables	13 miles
Milford on Sea to Isle of Wight	Underwater cables	8 miles
Isle of Wight	Wooden Poles, Overhead cables	20 miles



Price List

Item	Cost	Number of units needed	Notes
Overhead lines	£213,000 per mile	1 cable per mile	
Underground lines	£1.3 million per mile	1 cable per mile	
Underwater Lines	£1.2 million per mile	1 cable per mile	
Wooden Poles	£407 per pole	15 wooden poles per mile	Remember to also add the cost of cables between poles!
Steel Pylons	£120,450 per tower	3 towers per mile	Remember to also add the cost of cables between poles!