

the exams (which includes some 50 per cent of the annual intake) are not sufficiently dedicated or hard-working, a judgment which reaches spectacular levels of implausibility. The survey has done nothing to establish why these students discontinue their courses.

Professor Jayle says that the number of students entering medical schools has increased from 6,000 in 1957 to 21,000 in 1967, a rate of increase which easily outstrips the growth in population. But on past experience, only 7,300 of the 1967 intake can be expected to qualify as doctors. Nor is population increase the only factor in this demand for doctors; equally important is the higher standard of medical attention expected. In Britain, for example, the Todd Commission found that the number of doctors per unit of population has increased by 1.5 per cent annually since 1911—a supply which is unlikely to have been greater than the demand. According to the latest WHO figures, France in 1964 had one doctor to 840 head of population; Britain had 830, Germany 650 and the United States 680 persons per doctor.

TRANSPORT

Victorian Debut

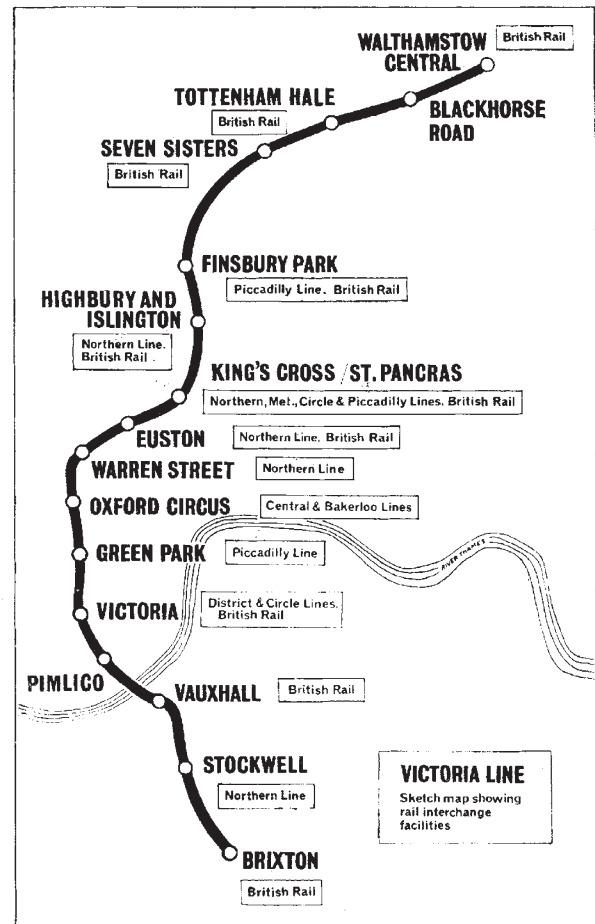
THE first section of the Victoria Line, the new underground railway planned by London Transport in 1962, is to open early next month. At a total cost of £80 million, the line will extend 14 miles from Walthamstow north-east of London to Brixton south of the Thames. The section from Highbury to Victoria will be completed by spring of next year and the extension to Brixton by the early 1970s.

The blue clay beneath London is the ideal material for tunnelling and, apart from patches of water laden gravel, the Victoria Line has so far run into very little trouble. The tunnelling rig is assembled by hand against the tunnelling face. Rams, pressing against the last concrete rib to be completed, press a rotating shield into the clay face; the excavated material is taken on conveyor belts and removed from a series of shafts sunk at points along the route. Rates of tunnelling have been as much as 470 feet a week.

The running of the Victoria Line will be considerably more automated than the present systems. Automatic gates will collect and check tickets, returning season tickets to their owners and demanding excess fare from passengers with the wrong ticket. The trains will be automatically driven between stations; the single operator has only to close the doors and start the train. Automatic operation is expected to make more efficient use of electricity as well as reducing staff costs.

London Transport Human Factors Group has been studying the ergonomics of tube train design and the Victoria Line trains will incorporate several new features. Sitting passengers will not have to contest with their neighbours for possession of the arm rest—double arm rests are provided—and the higher windows will relieve standing passengers from craning their necks to see the names of stations. The seat and equipment of the train operator have also been re-designed.

London Transport is not prepared to estimate the annual revenue the new line will bring in, but the net



Route for the Victoria Line.

revenue after deduction of annual working expenses of £11.4 million will be less than the 8 per cent interest charges on capital. But although, in accountant's terms, the line will be running at a loss, the social benefit will be considerable. Factors which go into the calculation of this benefit include the value of savings in leisure time of people whose journeys are made shorter by the new line. London Transport estimates that the total net benefit will be £12.5 million over a depreciation period of 50 years.

WATER

Flooding Dartmoor

CONTROVERSY is certain to be stirred up by the plan announced this week to build a reservoir in the heart of the Dartmoor National Park. The Water Resources Board has decided that a reservoir is needed to supply Plymouth and the South Devon Water Board, and that the best site is at Swincombe, in Devon. This is about 2 miles south of Princetown, where Dartmoor Prison is situated.

The Water Resources Board, doubtless anticipating trouble, has produced a closely argued report which sets out the points in favour of the reservoir. To keep up with demand for water until the end of the century, Plymouth will need 20 million gallons a day, the South West Devon Water Board will need 10 million, the North West Devon Board 5 million, and Cornwall