

Disneyland Dream: Average Speed

This travelogue of the Barstow's trip to Disneyland recounts many details of their trip and how they won the trip through the Scotch Tape mail-in sweepstakes. Many of the references are rather quaint and antiquated, and the innocent enjoyment of the Barstow family offers both laughable moments and a look back at how life used to be.

In this scene, Mr. Barstow (the narrator) describes their travel from the east to west coast, "over 3000 miles in a single day." Assume the typical instantaneous speed of a propeller plane is 300 mph (135 m/s). How does this compare with the average speed of the TWA plane that the Barstow family was on.

Assuming the day to be about 12 hours, the average speed is:

$$v_{avg} = \frac{\Delta x}{\Delta t} = \frac{3000 \text{ mi}}{12 \text{ hr}} = 250 \text{ mph} = 110 \frac{m}{s}$$

Use this as a time to discuss the difference between average and instantaneous speed. Given the assumed quantities, how long was the layover in St. Louis, MO?