

A map of Nashville, Tennessee, showing a network of highways and city streets. Major highways like I-440 and I-255 are highlighted in orange and yellow. The Cumberland River is visible on the left side. The map is tilted slightly to the right. A semi-transparent green box is overlaid on the map, containing text.

You may notice on a map, that many highways route traffic around a city. If it takes 15 minutes to drive around a city, how long do you estimate that it would take to drive through that city? Explain your thinking.

If going through a city is faster than going around, why does the highway system take you around?

You may notice on a map, that many highways route traffic around a city. If it takes 15 minutes to drive around a city, how long do you estimate that it would take to drive through that city? Explain your thinking.

Going around a city is similar to going around half the circumference of the circular route. Going around the full circle would take 30 minutes, Divide that by 3 (π estimate) because $C=\pi d$. That gives you 10 minutes for a good estimate.

If going through a city is faster than going around, why does the highway system take you around?

In theory, it is faster to go around. In practice on/off ramps and local business traffic can cause congestion that make it longer to go through the city.

