3a) Yes, we are able to estimate the adjacent railway given K, R and t

If we take one point (u_1, v_1) from a track, track A from tracks.jpg and another point (u_2, v_2) from an adjacent track, track B from the same image.

For our points we will append a 1 to make them $(u_1, v_1, 1)$

We can define a homography H from K, R and t

$$H = \begin{bmatrix} K \end{bmatrix} \begin{bmatrix} r_1 & r_2 & t \end{bmatrix}$$

r_1 & r_2 are first 2 col of matrix R

then

$$H * \begin{bmatrix} u \\ v \\ 1 \end{bmatrix} = \begin{bmatrix} x \\ y \\ z \end{bmatrix}$$

We can then take the two points and calculate the distan from these two points