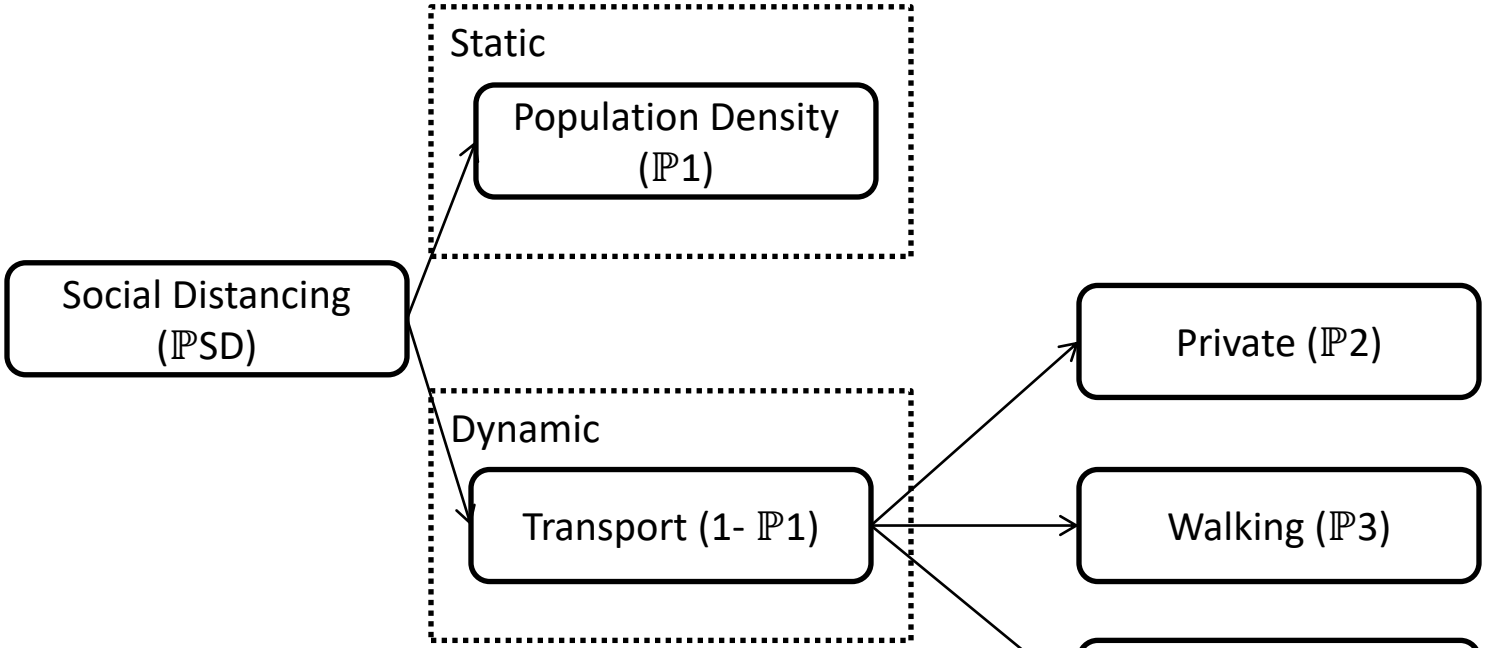


$$\mathbb{P}2 + \mathbb{P}3 + \mathbb{P}4 = 1$$

$$\mathbb{P}1 = \frac{current\ population\ density\ (30m * 30m)}{Population\ density\ with\ proper\ social\ diatance(30m * 30m)}$$

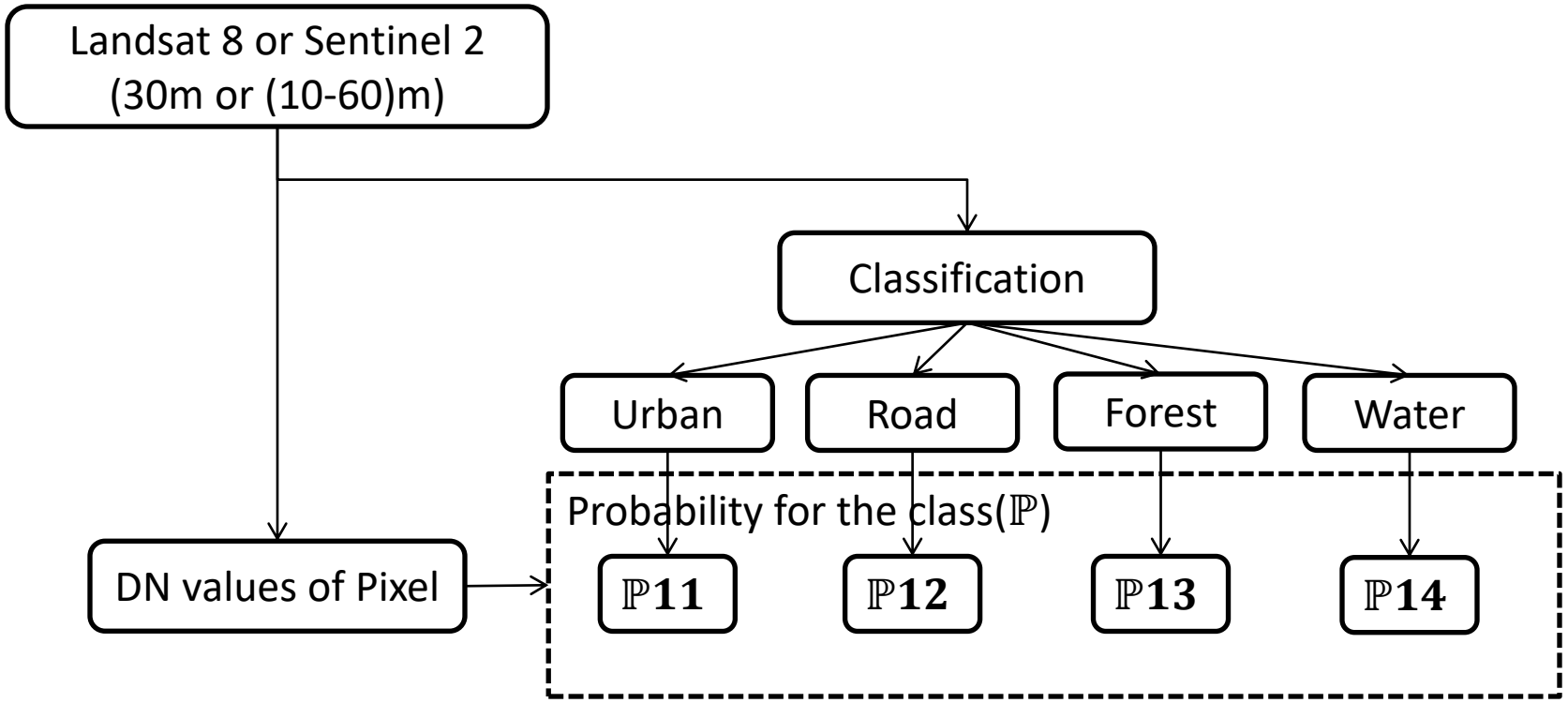
$$\mathbb{P}2 = \frac{Current\ Private\ vehical\ usage\ (30m * 30m)}{Private\ vechicals\ with\ proper\ social\ diatance(30m * 30m)}$$

$$\mathbb{P}3 = \frac{Number\ of\ current\ \ walking\ people\ (30m * 30m)}{Number\ of\ Walking\ people\ with\ proper\ social\ diatance(30m * 30m)}$$

$$\mathbb{P}4 = \frac{Nuber\ of Current\ \ Public\ transit\ users\ (30m * 30m)}{Number\ of\ public\ transport\ users\ with\ proper\ social\ diatance(30m * 30m)}$$

$$\mathbb{P} = Probability$$

Remote Sensing application

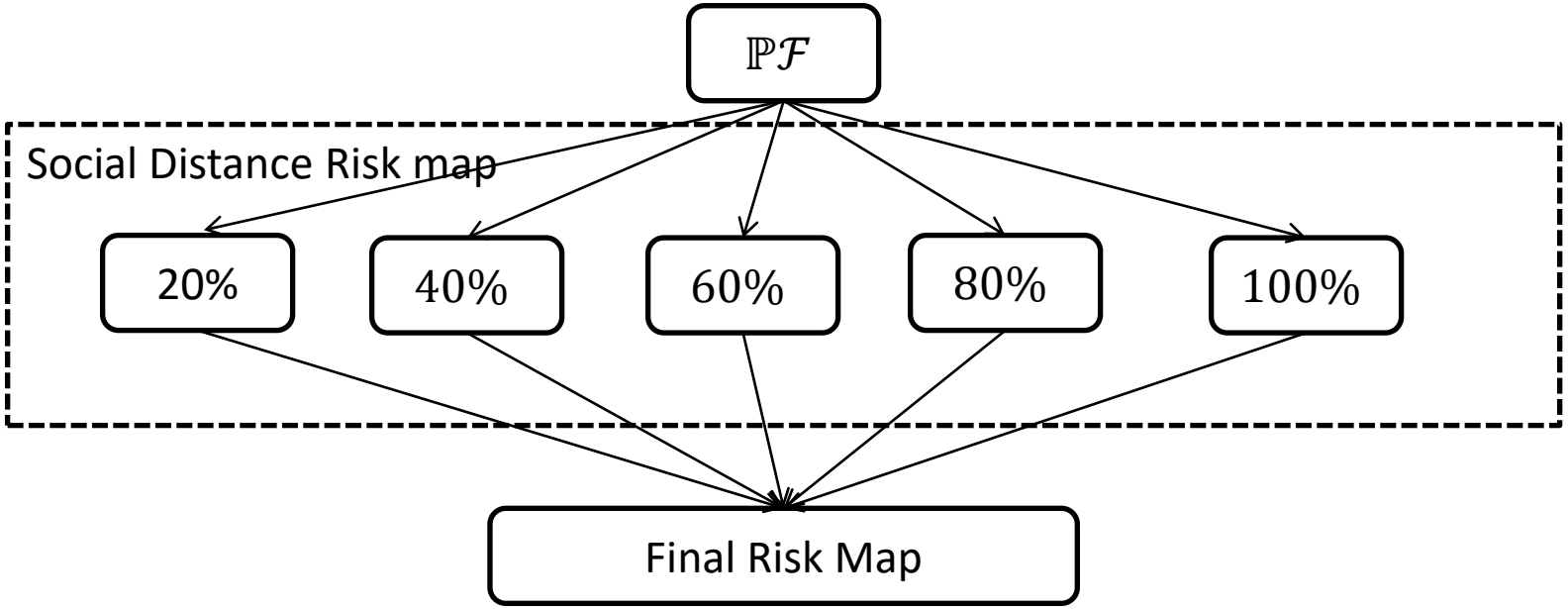


$\mathbb{P}SD = \mathbb{P}1 + (1 - \mathbb{P}1)^* (\mathbb{P}2 + \mathbb{P}3 + \mathbb{P}4)$

If $(\mathbb{P}11, \mathbb{P}12) >> (\mathbb{P}13, \mathbb{P}14)$ then
Final probability for Risk

$\mathbb{P}\mathcal{F} = \mathbb{P}\mathbf{11}^* \mathbb{P}\mathbf{SD}$ $\boldsymbol{or}$

$\mathbb{P}\boldsymbol{\mathcal{F}} = \mathbb{P}12^* \mathbb{P}\mathbf{SD}$


$\mathbb{P}\mathcal{F}$
Social Distance Risk map
20%
40%
60%
80%
100%
Final Risk Map