A Supplementary Materials

A.1 Experiment Dataset
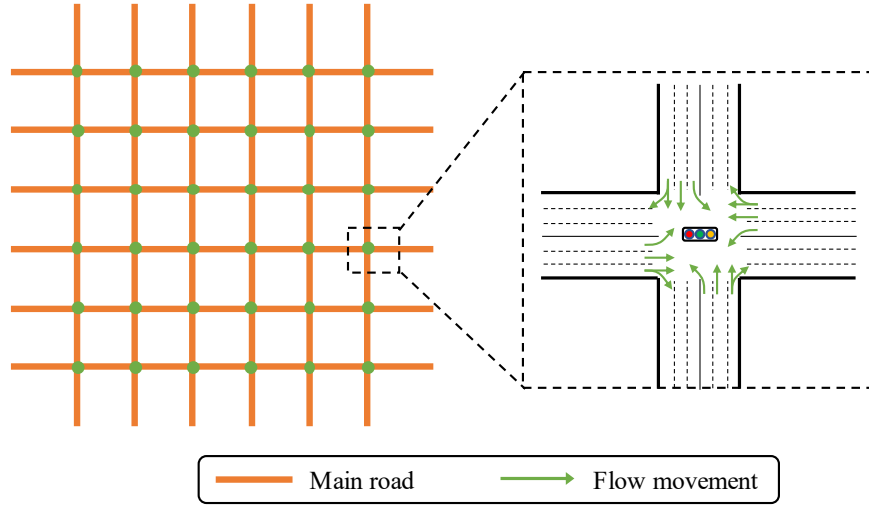
Figure 1: The 6×6 synthetic grid network and the flow movements at a single intersection

Figure 1 shows the 6×6 synthetic grid network used in the experiment. There are totally 36 homogeneous intersections in this network. Each intersection has 4 incoming directions and 12 incoming lanes. For the vehicle flow from one direction, there are 3 movements (i.e., right-turn, straight, and left-turn). Each intersection has four candidate actions (i.e., phase combinations that can be set to green for a given time instant): {West $\rightarrow$ East, West $\rightarrow$ South, East $\rightarrow$ West, East $\rightarrow$ North}, {West $\rightarrow$ North, East $\rightarrow$ South}, {South $\rightarrow$ North, South $\rightarrow$ East, North $\rightarrow$ South, North $\rightarrow$ West} and {South $\rightarrow$ West, North $\rightarrow$ East}.

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