ROUNDABOUT VS TRAFFIC LIGHT INTERSECTION TRAFFIC FLOW OPTIMIZATION

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**Abstract**

Have you ever sat at a traffic light and thought to yourself "there has got to be a better way". In this paper we plan to provide solutions to this problem. We wanted to know which is more effective at redirecting traffic, a roundabout or a four-way intersection regulated by traffic lights? We approached our problem by analyzing average waiting times and vehicle queuing lengths. We found that a standard conversion from an intersection to a roundabout provide over 50 percent decrease in vehicle waiting times at the road junction, and a further 50 percent when the roundabout is further optimized. We suggest that newer road developments should incorporate roundabouts and current intersections should be converted into roundabouts if possible.