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The modern roundabout is growing in popularity as an alternative intersection design, however it presents engineers a new quandary. As transportation engineers assess traffic patterns through turning movement counts, this procedure increases in difficulty at a roundabout. At a traditional intersection, traffic movements may more easily be counted given vehicle spacing, lane demarcations, and signal phasing. At a roundabout, counting techniques are much different. While others have developed such technology using costly proprietary technologies, this research has shown the feasibility of creating an automated traffic counting solution that is comprised of readily available parts. The solution proposed uses an elevated and inverted camera together with a dome mirror and a heuristic computer algorithm. In comparing the results of this solution to other techniques, not only is there a cost savings, but quality of the results is increased.