There are five important rules that must be adhered to in the operation of a lift. They are listed below:

**Rule 1** Car calls *always* take precedence over landing calls.

**Rule 2** A lift must *not reverse* its direction of travel with passengers in the car.

**Rule 3** A lift *must stop* at a passenger destination floor (it must not pass it).

**Rule 4** Passengers wishing to travel in one direction *must not enter* a lift committed to travel in the opposite direction.

**Rule 5** A lift must *not stop* at a floor where no passengers wish to enter or leave the car.

Rule 1 ensures that passengers already in the lift reach their destinations, whatever the demand on the landings may be. Rule 2 means that a lift must continue to serve the last car call in the direction of travel before reversing direction. These rules must also be obeyed by all group traffic control systems.

It might be thought that a more optimal solution might be to ignore Rule 2, in order to give a more equal service to all landing and car calls. This might involve a down travelling lift collecting an up travelling passenger at a floor, where a down travelling passenger alights, travelling down to a lower floor to allow another passenger to alight and then to travel up to the desired destination of the up travelling passenger. Closs (1970, 1972) showed this to be untrue and that it is always best (but not necessarily optimum) to always collect calls ahead and only reverse when the last passenger has exited the lift.

Rule 4 could be violated by absent-minded passengers and Rule 5 could be violated by the search procedure for the optimum path stopping a car and then reversing direction, hence also violating Rule 2.