School Zone Flashing Lights
Electricity Cost

The lights are powered from a 12V transformer that plugs into a power point in the house. The lights are either 100mm or 200mm depending on the size of the sign. Maximum annual electricity cost is 80c for 100mm lights or $1.12 for 200mm lights.

Lights
The lights are LED based. The 100mm lights draw 0.65A of current at 12V = 8W. The 200mm lights draw 1A of current = 12W.

Only one light is on at a time. When on, the lights strobe 50% on and 50% off. Total running time is therefore one light for 1.5 hours per day.

There are 12 weeks of holidays per year leaving 40 weeks of school = 200 school days per year.

8W x 1.5 hours per day x 200 days per year = 2400 Watt Hours = 2.4 KWH pa. (100mm).
12W x 1.5 hours per day x 200 days per year = 3600 Watt Hours = 3.6 KWH pa. (200mm).

Electricity currently costs a maximum of 27 cents per KWH (avg. of morning shoulder rates and afternoon peak rates).

2.4 x 27c = 65c per year for the 100mm lights.
3.6 x 27c = 97c per year for the 200mm lights.

Computer Controller
The lights are driven by a computer controller that is always on.

The controller draws 6mA of current at 12V = 0.072W.

0.072W x 24 hours x 365 days = 630 Watt Hours = 0.63 KWH per year.

0.63 x 22 cents = 14 cents per year.

GPS Satellite Receiver
There is a GPS satellite receiver in the controller that obtains the time and date from the satellites once an hour.

The GPS draws 80mA of current at 12V = 1W. It is turned on for 10 seconds per hour or 240 seconds per day = 0.066 hours per day.

1W x 0.066 x 365 days = 25 Watt Hours = 0.025 KWH per year.

0.025 x 22 cents = 1 cent per year.

Total operating cost = 80c p.a. (100mm lights) or $1.12 p.a. (200mm lights)