

Eclipse Safety Manual

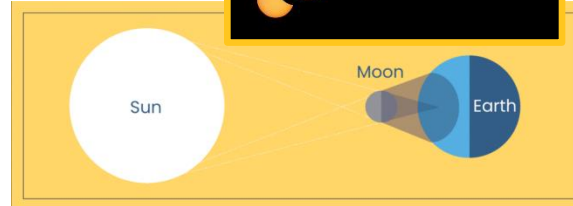
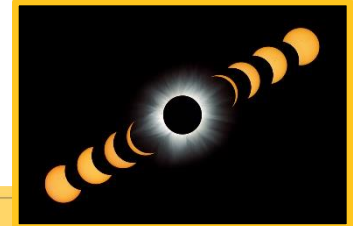


Part 1: Introduction

Date of the Eclipse: **Monday, April 8th 2024**

What is a Solar Eclipse?

A solar eclipse is a relatively rare event that occurs when the moon passes in between the Earth and the Sun. A total eclipse will occur somewhere around the world every 18 months. In Haldimand County, a total solar eclipse like the one occurring in April 2024, will not happen again for over 100 years.



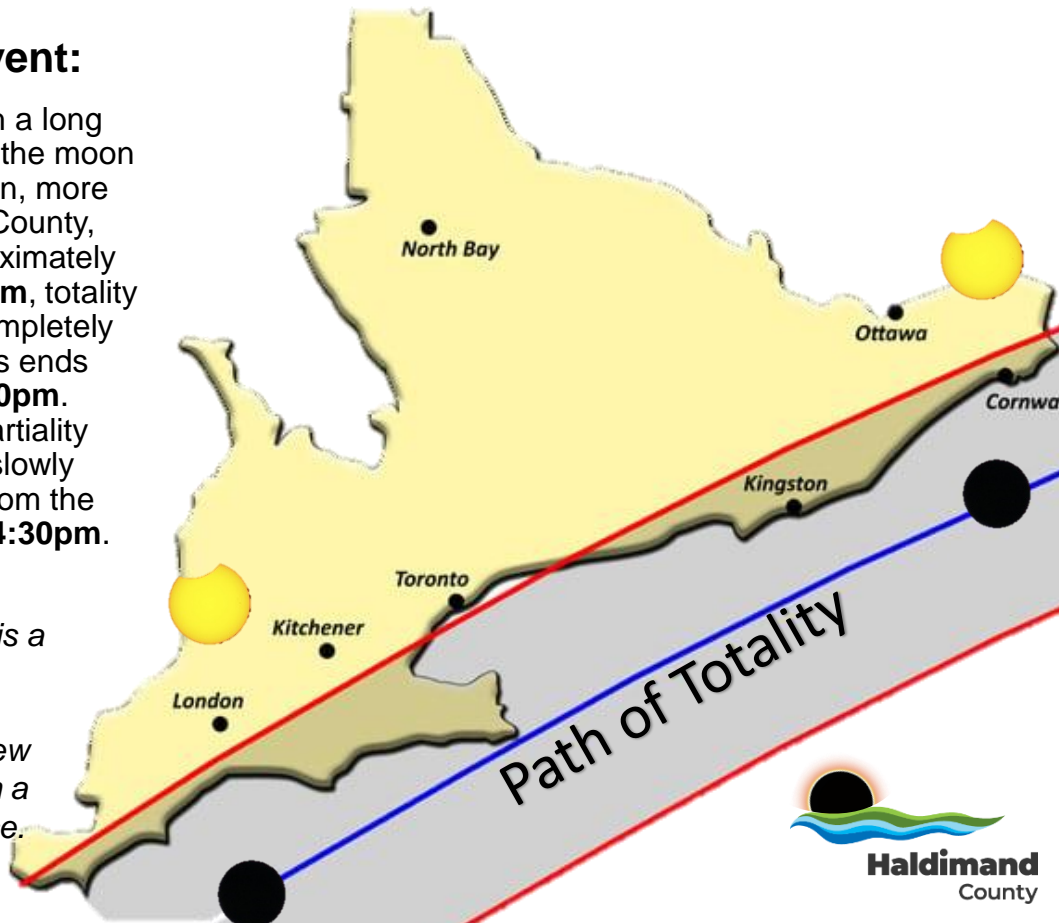
Total Solar Eclipse Appearance?

A partial eclipse will occur 4-5 times per year and will involve only a fraction of the sun being blocked. A total eclipse will result in the complete blocking of the sun, by the moon. It will appear to those in the **path of totality** to be similar to night-time. Those outside the path of totality will only see a partial solar eclipse. Haldimand County is in the path of totality! Take a look at the picture below. Anyone viewing the eclipse between the red lines will experience totality. Anyone viewing from outside those lines will only see a partial eclipse.

Duration of the Event:

The eclipse will begin with a long period of partiality, where the moon is slowly obscuring the sun, more and more. In Haldimand County, this period starts at approximately **2:03pm**. At around **3:17pm**, totality begins; the sun will be completely blocked by the moon. This ends three minutes later at **3:20pm**. Then another period of partiality occurs, where the moon slowly moves out of alignment from the sun. This continues until **4:30pm**.

Note: Haldimand County is a big place, so times may differ slightly based on location. If you want to view totality, prepared to watch a couple minutes in advance.



Times and Useful Links:

| Event Summary | Duration Time |
|------------------------------------|---------------------|
| Duration of Event: | 2 hours, 30 minutes |
| Duration of Totality (Sun Blocked) | 3 minutes |

| Event Benchmarks: | Time: | PPE Required to Look at Eclipse? |
|-------------------------|--------|----------------------------------|
| Partial Eclipse Starts: | 2:03pm | Yes |
| Total Eclipse Starts: | 3:17pm | No |
| Total Eclipse Ends: | 3:20pm | Yes |
| Partial Eclipse Ends: | 4:30pm | Yes |

Eclipse 2024: <https://eclipse2024.org/>

Eclipse Simulator: <https://eclipse2024.org/eclipse-simulator/2024/862>

Eye Safety: <https://opto.ca/eye-health-library/solar-eclipse-safety>

Haldimand County Eclipse Website: <https://www.haldimandcounty.ca/eclipse/>

NASA Eclipse Website: <https://science.nasa.gov/eclipses/future-eclipses/eclipse-2024/>

NASA Safety Guidelines: <https://science.nasa.gov/eclipses/future-eclipses/eclipse-2024/safety/>

Eclipse Glasses Safety Series (YouTube Videos):

- [Introduction](#), [Types of Eclipses](#)
- [Part 1](#), [Part 2](#), [Part 3](#), [Part 4](#), [Part 5](#),



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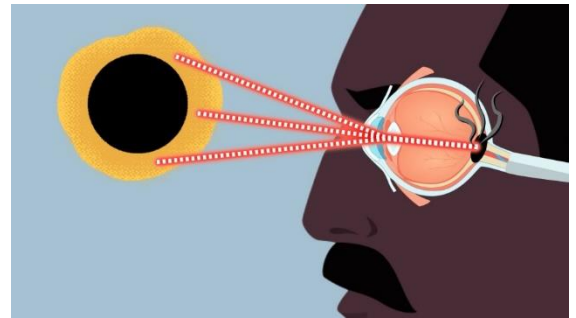
Part 2: H&S Hazards

Dangers During the Eclipse:

A total solar eclipse comes with some health and safety considerations, for both those that wish and those that do not wish to view the event. This section will cover some of the health and safety hazards. Part 3 of this manual will highlight some of the controls for these health and safety hazards.

Eye Damage:

An eclipsing sun is **no** more dangerous to look at than the sun in its normal state. The danger during an eclipse is that everyone is interested in looking directly at the sun to view the progress/blockage, often for long periods. Eye damage is common during the partial eclipse phase when interested onlookers do not abide by appropriate safety precautions. It is most common in uninformed peoples or those that do not understand the risks.



Mechanism of Eye Damage (Solar Retinopathy):

Staring directly at the sun, even for short periods, can result in damage to your retina. The retina is the light sensitive tissue your body uses to see. Damage to your retina can occur without the sensation of pain, which is why it is critical that you do not look directly at the sun, even for short periods. It can result in moderate to severe central vision loss (often appears to be blurry), which may be temporary or permanent.

<https://aapos.org/glossary/solar-retinopathy>

Increased Traffic/Pedestrian Density:

The path of totality is missing a lot of population hubs in the Southern Ontario area (ex. Toronto). It is expected that Haldimand County will experience a considerable amount of tourists who wish to view the eclipse within the path, especially if the weather is nice. An increase in non-residents to the area will mean an increase in the risk of motor vehicle accidents. An increase in the use of our public parks and parking lots is also expected.

Visibility and Other Environmental Conditions:

At around 3:15pm, totality will occur. When totality occurs, the sun will be completely blocked by the moon; there will be very little natural light outdoors. The lack of light will increase the risk of slips, falls, MVAs and other similar accidents.

Finally, consider the time being spent outdoors. Appropriate consideration must be given to environmental conditions, like sun exposure and ambient temperature.

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Part 3: H&S Controls

Safe Viewing – Avoiding Eye Damage:

Haldimand County will be providing certified eclipse glasses to all staff to allow for safe viewing of the event. Eclipse glasses act to reduce the level of light entering your eye by a factor of 400 to 500 thousand times. The darkest pair of sun glasses do not get near that level of light filtration; therefore, **under no circumstance should you wear regular sun glasses to view the eclipse.**

Steps to Using Eclipse Glasses:

Step 1: Perform your pre-use inspection! Damage to the eclipse glasses filters/lenses can result in light entering your eye. Hold the glasses up to a light source (not the sun!) and look for small holes or other damage to the lenses. **If there is any damage, do not use the eclipse glasses!**

Step 2: Once the glasses have been inspected, remove them and walk towards your viewing location. Do not attempt to walk/drive with the glasses on, as it will completely obscure your ability to see. When moving towards your viewing location, **DO NOT** look directly at the sun (ex. look forward or down).

Step 3: Once at a safe viewing location (ex. not endangered by traffic, pedestrians or other hazards), don your eclipse glasses while looking away from the sun (ex. looking down or forward). Once they are securely on your face, it is safe to look at the eclipse. Glasses are required for the entire partial eclipse; they can be removed for the brief period of totality, as the sun is completely blocked by the moon. As a rule of thumb, if the sun is at all visible, even just a small portion, the glasses must be worn when looking at the eclipse.

Step 4: When done viewing, look away from the sun with your glasses still on. Only when not directly viewing the eclipse is it safe to remove the glasses.

Step 5: Navigate to a safe location.

See Attachment A for Additional Eclipse Glasses Information

Ensure you:

- Wear your glasses throughout the entire partial eclipse phase
- Perform your pre-use inspection
- Read the manufactures instructions on the eclipse glasses

Ensure you do not:

- Wear your eclipse glasses while walking or driving, these glasses will completely eliminate your ability to see (let in very little light); eclipse glasses are only required when looking directly at the sun to view the event, there are not intended to act as general use PPE when not viewing the eclipse directly
- View the eclipse through a phone camera or similar device
- View the eclipse, even when wearing glasses, through magnification devices such as binoculars or a telescope

Increased Traffic:

Steps should be taken to reduce offsite or remote work performed during the April 8 shift. Operations staff should endeavor to avoid excessive road use. Any non-essential maintenance tasks, especially those occurring near the roads, should be rescheduled to a different date. With the exception of emergency services and other essential workers, **staff should make every attempt to remain at a static work location during the eclipse event (between the hours of 2:00pm to 4:30pm).** It is safe to operate a motor vehicle during the eclipse; however, being at a static location will help staff avoid unintentional sun gazing (ex. looking directly at the sun because of interest without proper PPE).

Low Light Driving:

If staff members need to remain on the road during the event, there will be a short period of totality around 3:15pm. It may be quite jarring, as it will rather suddenly appear to be nighttime. Staff, like emergency services, should be prepared for this change and make required adjustments to their driving behaviour.

Environmental Exposures:

Simply, be prepared for the environmental conditions. When viewing the event outdoors, wear appropriate clothing for the weather conditions. If the conditions are sunny, a hat, sun screen or other similar clothing may be necessary.

| | |
|---|--|
|  <p>NOT SAFE Ordinary sunglasses are not strong enough to protect your eyes.</p> |  |
|  <p>SAFE Use specially designed solar eclipse glasses and viewers to block the sun's harmful rays.</p> |  |
|  <p>NOT SAFE Wearing solar eclipse glasses to look through a camera, binoculars or a telescope will not protect your eyes.</p> |  |
|  <p>SAFE Use only specially designed filters for lenses.</p> |  |

Attachment A: Eclipse Glasses Usage Guide



Glasses distributed to staff by Human Resources

Partial Eclipse – Glasses must be worn when looking at sun.

Total Eclipse– Glasses can be removed when examining sun/eclipse. Event to last 3 minutes.

Partial Eclipse – Totality ending. Ensure glasses are worn if you continue to observe.



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Grandview Lodge Specific Safety Protocols

We are thrilled to have the opportunity to participate in this awe-inspiring event. As this event occurs only once every 100 years, ensuring the safety of our staff and residents is our top priority. While this manual covers general safety guidelines, the following information specifically pertains to GVL:

- A staff-monitored viewing area will be set up for residents and family members who wish to witness this extraordinary event. Safety glasses will be provided, and the viewing area will be located in Centennial Gardens, weather permitting. Safety glasses will be inspected prior to use.
- For those who prefer to remain indoors, staff will be closing resident room blinds from 2:00 to 4:00 p.m. to prevent anyone from inadvertently looking at the eclipse without proper safety glasses.
- The home's leaders have arranged for all stock supplies to be delivered outside the dates of April 7th, 8th, and 9th to avoid potential traffic congestion.
- No medical appointments will be scheduled on the aforementioned dates.
- All staff members are required to acknowledge receipt of this safety manual by signing off on it.

If you have any questions or concerns please do not hesitate to contact me directly at amoores@halidmandcounty.on.ca ext. 2224. You can also speak to anyone from the Health & Safety committee.

