Name of Collection

Fredericton Historical Aerial Photo Orthomosaic 1946

Description of Collection

Historical aerial photo mosaic of Fredericton, 1946. Created from a series of 225 aerial photo survey images. The images that comprise the mosaic were provided as analog prints (225 air photo prints total, 58 used in the mosaic) to the Geodesy and Geomatics Engineering Department (Remote Sensing Group/Dr. Yun Zhang) at the University of New Brunswick for the *Three Cities New Brunswick Project* (3CT-NB, Dr. Sasha Mullally, Dr. Yun Zhang) by Felix McCarthy, GIS Analyst at the City of Fredericton in 2021. They were then digitized by the Provincial Archives of New Brunswick (PANB – P960) in 2022 and are currently held there for permanent preservation.

Capture

Photographic Capture

Line	Fred-1-225	Fred-2-225	Fred-9-225	Fred-10-225
Air Photos in Mosaic	1-30	1-18	15	1-10

Flight structure

Unknown

Relationship between images

Aerial photo survey captured as individual images along survey flight lines.

Geographic scope of the flight

Fredericton and surrounding area.

Purpose of the flight

Unknown

Employing organization or company

Unknown

Commissioning body

City of Fredericton

Original Custody & Early Handling

Initial owner/custodian

Aerial photo prints initially held by the City of Fredericton.

Length of time held by original custodian

Within the year of capture (1946) to 2021.

Original format

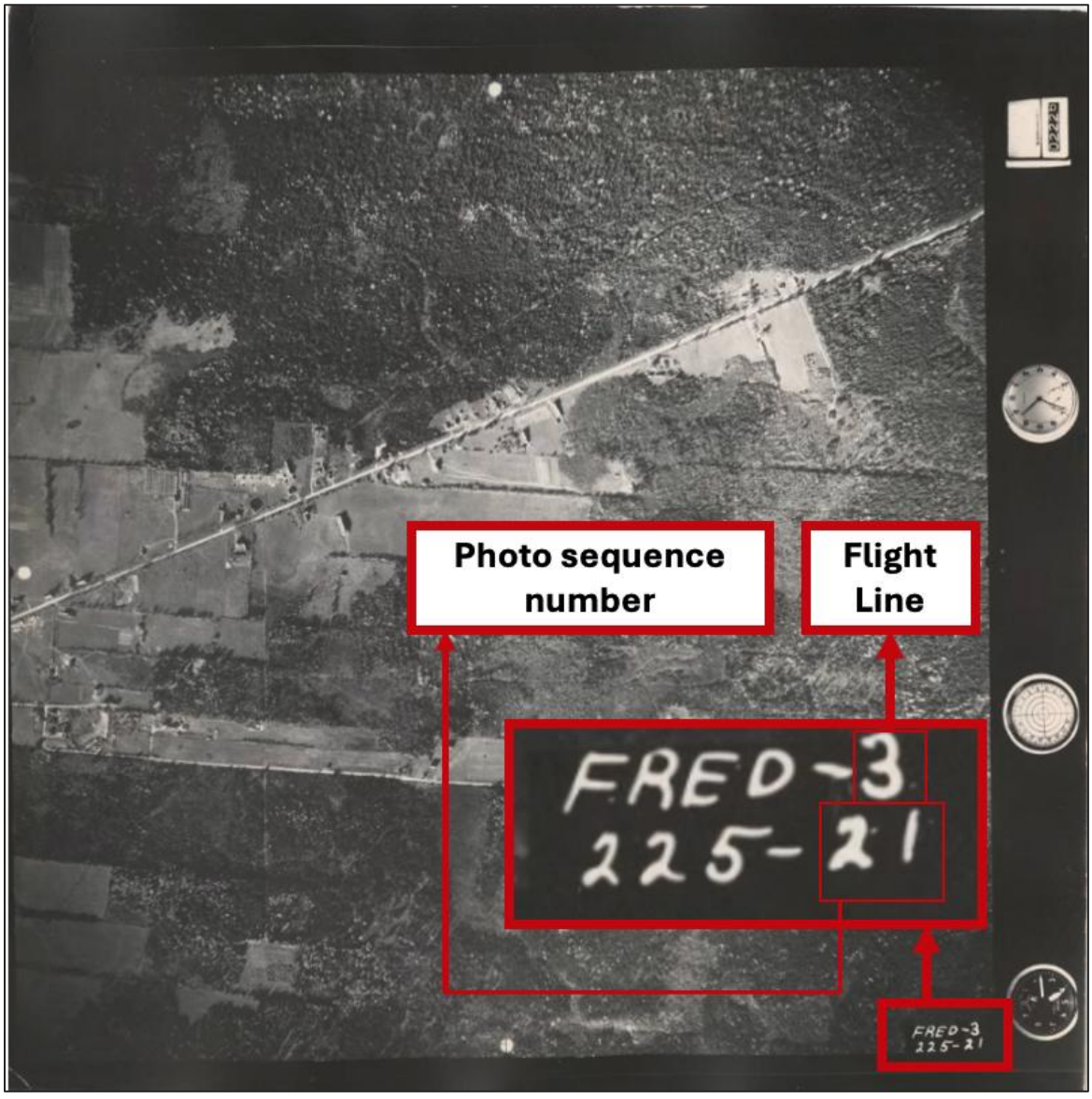
Analog photo prints mounted on cardboard and bound within four photo books.

Evidence of original sequencing or labeling

Individual imagery is labeled within each image and contains numbering and sequencing based on survey flight lines.

Figure 1

Fredericton 1946 aerial photo flight sequencing labels



Transfer to Archives

Tracking how the material moved through institutions.

Chain of custody summary

The imagery in the mosaic originates the City of Fredericton held as 225 colour analog prints from within its year of capture (1946) until the summer of 2021. The analog imagery was then given to the Geodesy and Geomatics Engineering Department (GGE, Remote Sensing Group/Dr. Yun Zhang) at the University of New Brunswick (UNB) for the *Three Cities New Brunswick Project* (3CT-NB, Dr. Sasha Mullally, Dr. Yun Zhang) by Felix McCarthy, GIS Analyst at the City of Fredericton (2021). The analog print images were given to the Provincial Archives of New Brunswick (PANB – P960) for digitization (2021) and are currently held there for permanent preservation (2021 – present).

All digitized imagery was then given to the geomatics analyst in the 3CT-NB Project in GGE at UNB (2021) and processed for the 3CT-NB project (2022).

Source of acquisition for AIM Project & Format

City of Fredericton, Felix McCarthy, GIS Analyst, 225 analog prints

Known storage environments

Analog prints, 225 prints contained in four bound photo books in Fredericton City Hall, within capture date (1946) until 2021. The imagery was used actively ahead of digital technologies; however the bound collection was relegated to storage within the basement of City Hall (former jail cell) over time. The collection was brought to E13 Remote Sensing Lab for review and interpretation at UNB in GGE (2021), and then to PANB for digitizing (2021).

Technical Provenance

The imagery was georeferenced in ArcGIS Pro (2022) and then mosaicked in PCI Geomatica (2022).

Additional information and sources

There are no additional documents available for this collection.

This collection contained no external metadata such as flight index or camera/flight/film reports. Metadata is contained within the margins via instrument or indicator: altimeter, clock, camera orientation and angle, and camera manufacturer.

The photos were originally captured using an aerial survey camera manufactured by Williamson Manufacturing Company Limited (noted within the images), using a lens with a focal length of 6", which was calculated by using,

i) indicated altitude (instrument reading within the images)
ii) scale (written into a taped margin on image P906-2-225-14)
iii) average elevation of Fredericton above sea level (ASL)

and following the formula:

*f (focal length) = H (flying height) * S (photo scale)*

f = H (Fredericton average terrain elevation above sea level - indicated altitude) * S (photo scale)

f = (4200ft - 240 ft) * 10chains/inch

f = 6"

Based on the calculated focal length and manufacturer, the Williamson F-24 camera is estimated to have been the camera used to conduct this aerial survey.