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Dane County Land Information Office  
Senior GIS Analyst  
Fly Dane Project Lead

# History of Fly Dane

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- ◆ Started in 1999
- ◆ Goal: To acquire the highest resolution imagery possible countywide
  - ◆ 1995 acquired 1-meter, black & white imagery
  - ◆ Focused on getting 1-foot black & white imagery
- ◆ Consolidate the numerous municipal project under one countywide project
- ◆ Designed to meet municipal and county needs
- ◆ Take advantage of economy of scale
  - ◆ Lower unit costs
  - ◆ Provide high resolution products



# History of Fly Dane

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- ◆ First project used film base cameras
  - ◆ Large film negatives
  - ◆ Scan photo prints
  - ◆ Very manual process
- ◆ Starting in 2014 used digital cameras
  - ◆ Digital products
  - ◆ Automated process
  - ◆ Sharper imagery
- ◆ 2017 first LiDAR project
  - ◆ Digital terrain data
  - ◆ More accurate terrain data and 3D elements

# History of Fly Dane



- ◆ First flights needed utilities to be painted with targets
- ◆ Always a demand for higher resolution imagery



- 4' **T** 4' Drop Inlet
- 4' **Y** 5' Sanitary Manhole
- 5' **O** 5' Storm Manhole
- 4' **V** 4' Fire Hydrant  
Paint arrow in street pointing to hydrant
- 4' **X** 4' Valve Boxes
- 4'

# History of Fly Dane



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- ◆ **2000**
    - 1-foot resolution imagery Countywide
    - 6-inch resolution municipal buy-up
  - ◆ **2005**
    - 1-foot resolution imagery Countywide
    - 6-inch resolution municipal buy-up
  - ◆ **2010**
    - 1-foot resolution imagery Countywide
    - 6-inch resolution municipal buy-up
  - ◆ **2014**
    - 6-inch resolution imagery Countywide
  - ◆ **2017**
    - 6-inch resolution imagery Countywide
  - ◆ **2020**
    - 6-inch resolution imagery Countywide
    - 3-inch resolution municipal buy-up
  - ◆ **2022**
    - 6-inch resolution imagery Countywide
    - 3-inch resolution municipal buy-up
- 2009**  
Countywide terrain model
- Countywide LiDAR
- LiDAR Buy-up for City of Madison

# WROC

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- ◆ Wisconsin Regional Orthoimagery Consortium
- ◆ Coordinated by North Central Wisconsin RPC
- ◆ Puts out an RFP and selects a vendor for a 5-year contract
- ◆ Establishes set unit pricing
- ◆ Enables counties to contract with vendor
- ◆ Built partnerships with utilities for regional imagery
  - ◆ Utilities buy-in to offset costs
  - ◆ Provide rebates to partners to offset future projects

# Fly Dane 2024

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- ◆ Dane County signed Letter-of-Intent with WROC
- ◆ Imagery only project
  - ◆ Base Project = 6-inch color imagery countywide
  - ◆ Municipal buy-up = 3-inch color imagery
- ◆ Gauged broad interest in 3-inch color imagery
- ◆ Planning for countywide 3-inch project
  - ◆ Municipal commitment for 601+ sections

# Fly Dane 2024



6-inch imagery



3-inch imagery



Projects that benefit from higher resolution imagery:

- Hydrant Inventory
- Culvert Inventory
- Building Footprints
- Municipal Engineering



# Fly Dane 2024 - Pricing



## Base:

Specifications:	Costs:
<ul style="list-style-type: none"><li>• 6-inch resolution</li><li>• Color</li><li>• 4-band</li><li>• ASPRS Class 1 accuracy</li><li>• Countywide</li></ul>	<ul style="list-style-type: none"><li>• \$76/mi<sup>2</sup></li><li>• Total Cost: ~\$95,000</li></ul>

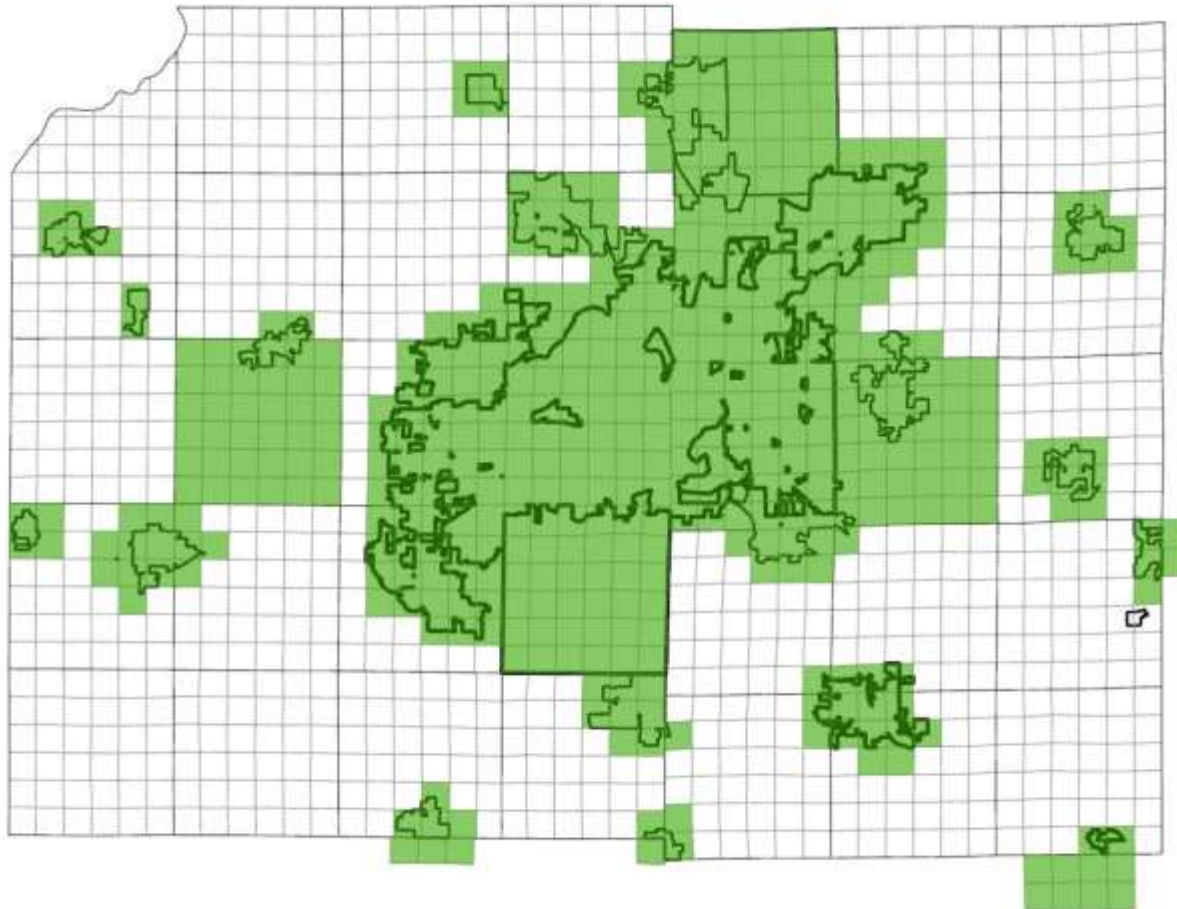
## Municipal Buy-Up:

Specifications:	Costs:
<ul style="list-style-type: none"><li>• 3-inch resolution</li><li>• Color</li><li>• 4-band</li><li>• ASPRS Class 1 accuracy</li><li>• Municipal</li></ul>	<ul style="list-style-type: none"><li>• \$680/mi<sup>2</sup> (31-50 mi<sup>2</sup>)</li><li>• \$530/mi<sup>2</sup> (51-100 mi<sup>2</sup>)</li><li>• \$320/mi<sup>2</sup> (101-400 mi<sup>2</sup>)</li><li>• \$180/mi<sup>2</sup> (401-600 mi<sup>2</sup>)</li><li>• Unit cost go down with a larger coverage area</li></ul>

## Countywide Buy-Up:

Specifications:	Costs:
<ul style="list-style-type: none"><li>• 3-inch resolution</li><li>• Color</li><li>• 4-band</li><li>• ASPRS Class 1 accuracy</li><li>• County wide</li></ul>	<ul style="list-style-type: none"><li>• \$150/mi<sup>2</sup> (601+ mi<sup>2</sup>) municipalities</li><li>• \$30/mi<sup>2</sup> cost share by county</li><li>• Total Cost: ~\$225,000</li></ul>

# Fly Dane 2024



Community  
commitment to  
date:

- 472 sections

# Fly Dane 2024

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- ◆ Considerations:
  - ◆ Town has a large geography, but smaller budget than a city or village
  - ◆ Standard town - 36 sq. mi. (sections), cost \$5,400
  - ◆ Take into account the higher cost of participation
  - ◆ Earlier Fly Dane projects took into account larger geography against equalized value
- ◆ Set a cost limit for town participation, not to exceed **\$3,300**

# Fly Dane 2024

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- ◆ Project Timeline:
  - ◆ Contract base project – Summer 2023
  - ◆ Partner Outreach – Summer 2023
  - ◆ Final Specifications – December 2023
    - Municipal budgets approved
    - Memorandums of Agreement with partners
  - ◆ Contract Addendum – January 2024
  - ◆ Data Acquisition – Spring 2024
  - ◆ Data Processing – Spring/Summer 2024
  - ◆ Data QA/QC – Summer/Fall 2024
  - ◆ Data Delivery – Fall 2024

# Fly Dane 2024

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- ◆ The LIO provides contracting, project management and deliverables
- ◆ Project Philosophy – If everyone contributes a little, we can all get a lot more
- ◆ Relies on large group to participate
- ◆ Understands that not everyone can afford to participate

# Fly Dane – Future Projects

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- ◆ Imagery

- ◆ Continue with 2-yr update cycle
- ◆ Next flights in 2026, 2028, 2030
- ◆ County provides base product - 6-inch color imagery
- ◆ Provide municipal buy-up - 3-inch color imagery
- ◆ Leverage opportunities for countywide 3-inch imagery

- ◆ LiDAR

- ◆ Provide enhanced terrain data
- ◆ Leverage federal funding to offset high cost of data
- ◆ Planned project for 2024 or 2025



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QUESTIONS?

**Fred Iausly**

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**Dane County**

**Land Information Office**

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