



## AGENDA

### CUYAHOGA COUNTY PUBLIC SAFETY & JUSTICE AFFAIRS COMMITTEE MEETING

TUESDAY, JULY 11, 2023

CUYAHOGA COUNTY ADMINISTRATIVE HEADQUARTERS

C. ELLEN CONNALLY COUNCIL CHAMBERS – 4<sup>TH</sup> FLOOR

1:00 PM

#### Committee Members:

Michael J. Gallagher, Chair – District 5

Yvonne M. Conwell, Vice Chair – District 7

Patrick Kelly – District 1

Sunny M. Simon – District 11

Scott Tuma – District 4

#### 1. CALL TO ORDER

#### 2. ROLL CALL

#### 3. PUBLIC COMMENT

#### 4. APPROVAL OF MINUTES

a) May 16, 2023 Meeting

b) June 13, 2023 Meeting

#### 5. MATTERS REFERRED TO COMMITTEE

a) R2023-0185: A Resolution awarding a total sum, not to exceed \$9,998, to the City of Fairview Park for the Fairview Park Police Patrol Bicycle Project from the District 1 ARPA Community Grant Fund; and declaring the necessity that this Resolution become immediately effective.

b) R2023-0186: A Resolution awarding a total sum, not to exceed \$225,000, to Baldwin Wallace University for year 2 of the Northeast Ohio Flight Information Exchange (NEOFIX) Program from the District 2 ARPA Community Grant Fund and the Department of Development's

General Fund budget; and declaring the necessity that this Resolution become immediately effective.

**6. MISCELLANEOUS BUSINESS**

**7. ADJOURNMENT**

*\*Complimentary parking for the public is available in the attached garage at 900 Prospect. A skywalk extends from the garage to provide additional entry to the Council Chambers from the 5<sup>th</sup> floor parking level of the garage. Please see the Clerk to obtain a complimentary parking pass.*

*\*\*Council Chambers is equipped with a hearing assistance system. If needed, please see the Clerk to obtain a receiver.*



## MINUTES

CUYAHOGA COUNTY PUBLIC SAFETY & JUSTICE AFFAIRS COMMITTEE MEETING  
TUESDAY, MAY 16, 2023  
CUYAHOGA COUNTY ADMINISTRATIVE HEADQUARTERS  
C. ELLEN CONNALLY COUNCIL CHAMBERS – 4<sup>TH</sup> FLOOR  
1:00 PM

### 1. CALL TO ORDER

**Chairman Gallagher called the meeting to order at 1:09 p.m.**

### 2. ROLL CALL

**Mr. Gallagher asked Deputy Clerk Carter to call the roll. Committee members Gallagher and Kelly were in attendance and a quorum was not determined. A brief recess was taken after the roll call. The meeting was reconvened when Ms. Simon entered the meeting, and a quorum was then determined. Committee members Conwell and Tuma were absent from the meeting.**

**Mr. Kelly presented City of Rocky River Police Chief George Lichman with a proclamation in commemoration of National Police Week.**

### 3. PUBLIC COMMENT

**There were no public comments given.**

### 4. APPROVAL OF MINUTES FROM THE MAY 2, 2023 MEETING

**A motion was made by Ms. Simon, seconded by Mr. Kelly and approved by unanimous vote to approve the minutes from the May 2, 2023 meeting.**

### 5. MATTERS REFERRED TO COMMITTEE

- a) R2023-0124: A Resolution awarding a total sum, not to exceed \$12,851.65, to the City of Rocky River for the replacement of Automated External Defibrillators from the District 1 ARPA Community

Grant Fund; and declaring the necessity that this Resolution become immediately effective.

**Chief Lichman addressed the Committee regarding Resolution No. R2023-0124. Discussion ensued.**

**Committee members asked questions of Chief Lichman pertaining to the item, which he answered accordingly.**

**On a motion by Mr. Gallagher with a second by Ms. Simon, Resolution No. R2023-0124 was considered and approved by unanimous vote to be referred to the full Council agenda for second reading.**

**6. MISCELLANEOUS BUSINESS**

**There was no miscellaneous business.**

**7. ADJOURNMENT**

**With no further business to discuss, Chairman Gallagher adjourned the meeting at 1:22 p.m., without objection.**



## MINUTES

CUYAHOGA COUNTY PUBLIC SAFETY & JUSTICE AFFAIRS COMMITTEE MEETING  
TUESDAY, JUNE 13, 2023  
CUYAHOGA COUNTY ADMINISTRATIVE HEADQUARTERS  
C. ELLEN CONNALLY COUNCIL CHAMBERS – 4<sup>TH</sup> FLOOR  
1:00 PM

### 1. CALL TO ORDER

**Chairman Gallagher called the meeting to order at 1:02 p.m.**

### 2. ROLL CALL

**Mr. Gallagher asked Deputy Clerk Carter to call the roll. Committee members Gallagher and Tuma were in attendance and a quorum was not determined. A brief recess was taken by the Committee, after which, Mr. Gallagher then reconvened the meeting. Ms. Conwell entered the meeting after the meeting was reconvened and a quorum was then determined. Mr. Kelly was absent from the meeting. Ms. Simon entered the meeting sometime after the roll call was taken. Councilmembers Miller and Jones were also in attendance.**

### 3. PUBLIC COMMENT

**There were no public comments given.**

### 4. APPROVAL OF MINUTES FROM THE MAY 16, 2023 MEETING

**There was no action taken on the approval of the minutes from the May 16, 2023 meeting.**

### 5. MATTERS REFERRED TO COMMITTEE

- a) R2023-0161: A Resolution authorizing an amendment to a Master Contract with various providers for traditional residential treatment services for the period 2/1/2021 – 1/31/2023, to extend the time period to 12/31/2023, to revise the per diem rates, effective 2/1/2023 and for

additional funds in the amount not-to-exceed \$1,100,000.00; and declaring the necessity that this Resolution become immediately effective:

- i) Contract No. 3348 (fka 1164) with Applewood Centers, Inc. in an anticipated amount not-to-exceed \$20,952.39.
- ii) Contract No. 3310 (fka 1165) with Bellefaire Jewish Children's Bureau in an anticipated amount not-to-exceed \$20,952.39.
- iii) Contract No. 3311 (fka 1166) with The Cleveland Christian Home, Inc. in an anticipated amount not-to-exceed \$20,952.39.
- iv) Contract No. 3312 (fka 1167) with Community Specialists Corporation dba The Academy in an anticipated amount not-to-exceed \$20,952.39
- v) Contract No. 3313 (fka 1168) with The Cornell Abraxas Group, LLC in an anticipated amount not-to-exceed \$261,904.75
- vi) Contract No. 3314 (fka 1169) with George Junior Republic in PA in an anticipated amount not-to-exceed \$104,761.90.
- vii) Contract No. 3315 (fka 1170) with Keystone Richland Center, LLC dba Foundations for Living in an anticipated amount not-to-exceed \$157,142.85
- viii) Contract No. 3316 (fka 1171) with Crossroads Health dba New Directions in an anticipated amount not-to-exceed \$20,952.39.
- ix) Contract No. 3254 (fka 1172) with Summit School, Inc. dba Summit Academy in an anticipated amount not-to-exceed \$366,666.65.
- x) Contract No. 3317 (fka 1173) with The Village Network in an anticipated amount not-to-exceed \$104,761.90

**Ms. Sharon Allen, Contract Specialist for Juvenile Court; and Mr. Thomas Pipken, Director of Programming for Juvenile Court, addressed the Committee regarding Resolution No. R2023-0161. Discussion ensued.**

**Committee members and Councilmembers asked questions of Ms. Allen and Mr. Pipken pertaining to the item, which they answered accordingly.**

**On a motion by Mr. Gallagher with a second by Ms. Conwell, Resolution No. R2023-0161 was considered and approved by unanimous vote to be referred to the full Council agenda with a recommendation for passage under second reading suspension of the rules.**

- b) R2023-0162: A Resolution authorizing a master revenue generating agreement with various County Coroner's Offices in the anticipated amount of \$6,444,000.00 for performance of autopsies and other scientific testing services by the Cuyahoga County Medical Examiner's Office for the period 1/1/2023 – 12/31/2028; authorizing the County Executive to execute the agreements and all other documents consistent with this Resolution; and declaring the necessity that this Resolution become immediately effective:
- i) Agreement No. 3236 Ashtabula County in the anticipated amount of \$420,000.00.
  - ii) Agreement No. 3282 Carroll County in the anticipated amount of \$72,000.00.
  - iii) Agreement No. 3303 Columbiana County in the anticipated amount of \$348,000.00.
  - iv) Agreement No. 3295 Erie County PA in the anticipated amount of \$60,000.00.
  - v) Agreement No. 3297 Geauga County in the anticipated amount of \$660,000.00.
  - vi) Agreement No. 3398 Harrison County in the anticipated amount of \$120,000.00.
  - vii) Agreement No. 3393 Jefferson County in the anticipated amount of \$144,000.00.
  - viii) Agreement No. 3300 Lake County in the anticipated amount of \$720,000.00.
  - ix) Agreement No. 3301 Mahoning County in the

anticipated amount of \$1,920,000.00.

- x) Agreement No. 3346 Medina County in the anticipated amount of \$480,000.00.
- xi) Agreement No. 3305 Portage County in the anticipated amount of \$240,000.00.
- xii) Agreement No. 3306 Stark County in the anticipated amount of \$600,000.00
- xiii) Agreement No. 3307 Tuscarawas County in the anticipated amount of \$540,000.00.
- xiv) Agreement No. 3371 Wayne County in the anticipated amount of \$120,000.00.

**Dr. Thomas Gilson, Medical Examiner, addressed the Committee regarding Resolution No. R2023-0162. Discussion ensued.**

**Committee members and Councilmembers asked questions of Dr. Gilson pertaining to the item, which he answered accordingly.**

**On a motion by Mr. Gallagher with a second by Mr. Tuma, Resolution No. R2023-0162 was considered and approved by unanimous vote to be referred to the full Council agenda with a recommendation for passage under second reading suspension of the rules.**

## 6. DISCUSSION

- a) Emergency medical transports from County jail

**Mr. Joseph Greiner, Interim Sheriff, addressed the Committee regarding the number of inmates, overnight stays and assigned details relating to emergency medical transports from the County jail. Discussion ensued.**

**Committee members and Councilmembers asked questions of Sheriff Greiner pertaining to the item, which he answered accordingly.**

- b) Food services contract for County jail

**Sheriff Greiner and Ms. Ronda Gibson, Corrections Administrator, addressed the Committee regarding quality control measures and inmate workers relating to the food services contract for the County jail. Discussion ensued.**



**Committee members and Councilmembers asked questions of Sheriff Greiner and Ms. Gibson pertaining to the item, which they answered accordingly.**

**7. MISCELLANEOUS BUSINESS**

**There was no miscellaneous business.**

**8. ADJOURNMENT**

**With no further business to discuss, Chairman Gallagher adjourned the meeting at 1:27 p.m., without objection.**

# County Council of Cuyahoga County, Ohio

## Resolution No. R2023-0185

Sponsored by: <b>Councilmember Kelly</b>	<b>A Resolution</b> awarding a total sum, not to exceed \$9,998, to the City of Fairview Park for the Fairview Park Police Patrol Bicycle Project from the District 1 ARPA Community Grant Fund; and declaring the necessity that this Resolution become immediately effective.
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**WHEREAS**, Cuyahoga County received \$239,898,257 from the Federal Government through the American Rescue Plan Act (“ARPA”); and

**WHEREAS**, Cuyahoga County calculated 100% of the ARPA dollars as loss revenue under the U.S. Department of the Treasury Final Rule; and

**WHEREAS**, since all the ARPA dollars have been calculated as loss revenue, the ARPA dollars have been deposited in the County’s General Fund; and

**WHEREAS**, the County Executive and County Council have authorized \$86 million of the ARPA dollars for community grants to benefit the residents of Cuyahoga County (the “ARPA Community Grant Fund”); and

**WHEREAS**, of the \$86 million for community grants, \$66 million have been encumbered for equal distribution to each County Council District; and

**WHEREAS**, the Cuyahoga County Council desires to provide funding from the District 1 ARPA Community Grant Fund in the amount of \$9,998 to the City of Fairview Park for the Fairview Park Police Patrol Bicycle Project; and

**WHEREAS**, the City of Fairview Park estimates approximately 17,000-50,000 people will be served annually through this award; and

**WHEREAS**, the City of Fairview Park is estimating the start date of the project will be July 2023 and the project will be completed by September 2023; and

**WHEREAS**, the City of Fairview Park requested \$9,998 from the District 1 ARPA Community Grant Fund to complete this project; and

**WHEREAS**, the Cuyahoga County Council desires to provide funding in the amount of \$9,998 to the City of Fairview Park to ensure this project is completed; and

**WHEREAS**, this Council by a vote of at least eight (8) members determines that it is necessary that this Resolution become immediately effective in order that critical services provided by Cuyahoga County can continue to provide for the usually, daily operations of the County.

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COUNCIL OF CUYAHOGA COUNTY, OHIO:**

**SECTION 1.** That the Cuyahoga County Council hereby awards a not-to-exceed amount of \$9,998 to the City of Fairview Park from the General Fund made available by the American Rescue Plan Act revenue replacement provision for the Fairview Park Police Patrol Bicycle Project.

**SECTION 2.** If any specific appropriation is necessary to effectuate this agreement, the Director of the Office of Budget and Management is authorized to submit the requisite documentation to financial reporting to journalize the appropriation.

**SECTION 3.** That the County Council staff is authorized to prepare all documents to effectuate said award.

**SECTION 4.** That the County Executive is authorized to execute all necessary agreements and documents consistent with said award and this Resolution.

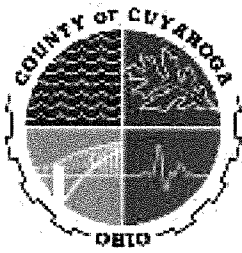
**SECTION 5.** If requested or necessary, the Agency of the Inspector General or Department of Internal Audit is authorized to investigate, audit, or review any part of this award.

**SECTION 6.** To the extent that any exemptions are necessary under the County Code and contracting procedures, they shall be deemed approved by the adoption of this Resolution.

**SECTION 7.** It is necessary that this Resolution become immediately effective for the usual daily operation of the County; the preservation of public peace, health or safety in the County; and any additional reasons set forth in the preamble. Provided that this Resolution receives the affirmative vote of at least eight members of Council, it shall take effect and be in force immediately upon the earliest occurrence of any of the following: (1) its approval by the County Executive through signature, (2) the expiration of the time during which it may be disapproved by the County Executive under Section 3.10(6) of the Cuyahoga County Charter, or (3) its passage by at least eight members of Council after disapproval pursuant to Section 3.10(7) of the Cuyahoga County Charter. Otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

**SECTION 8.** It is found and determined that all formal actions of this Council concerning and relating to the adoption of this Resolution were adopted in an open meeting of the Council, and that all deliberations of this Council and of any of its





## Cuyahoga County Council

2079 East 9<sup>th</sup> Street, 8<sup>th</sup> Floor • Cleveland Ohio 44115

(216) 698-2010

### COUNTY AMERICAN RESCUE PLAN ACT APPLICATION

<b>APPLICANT INFORMATION:</b>	
<b>Name of Requesting Entity (City, Business, Non-Profit, etc.):</b>  Fairview Park Police Department	
<b>Address of Requesting Entity:</b>  20777 Lorain Road, Fairview Park, Ohio 44126	
<b>County Council District # of Requesting Entity:</b>  Council District #1	
<b>Address or Location of Project if Different than Requesting Entity:</b>  	
<b>County Council District # of Address or Location of Project if Different than Requesting Entity:</b>  	
<b>Contact Name of Person Filling out This Request:</b>  Chief Paul Shepard	
<b>Contact Address if different than Requesting Entity:</b>  	
<b>Email:</b>  pshepard@fairviewpark.org	<b>Phone:</b>  440-356-4418

<b>Federal IRS Tax Exempt No.:</b> 34-6000988	<b>Date:</b> June 27, 2023
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**PROJECT DESCRIPTION**

**REQUEST DESCRIPTION (include the project name, a description of the project, why the project is important or needed, and timeline of milestones/tracking of the project):**

The Fairview Park Police Patrol Bicycle project:

The Fairview Park Police started its patrol bike program in 1996. It was started through donations from different entities. The program has been used to patrol the grounds our 6 public parks, 8 schools, 2 business districts and any other area of the nearly 5 square miles that make up the City of Fairview Park where police cruisers have difficulty getting to. In addition to general patrol the bikes have been used in parades and our annual Summerfest. We have found our officers on bicycles have positive public relations experience on the bikes due to them being out in public. We have also participated for more than a decade with the AAA helmet smart program and for the last three years the Kiwanis helmet safety program.

We have maintained our old bicycles as best we can but they have reached their service life. New bicycles designed for police service are nearly \$5000.00 a piece to replace. Our department budget cannot afford to purchase replacement bicycles because funds have been tied into our new body camera program and other service improvement projects.

We are respectfully asking for \$9,998.00 for two replacement bicycles to replace our aged bicycle fleet.

<b>Project Start Date:</b> July 15, 2023	<b>Project End Date:</b> September 30, 2023
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**IMPACT OF PROJECT:**

**Who will be served:**

Citizens and visitors of the City of Fairview Park

**How many people will be served annually:**

Between 17,000 and 50,000 people

**Will low/moderate income people be served; if so how:**

Increase police visibility and service

**How does the project fit with the community and with other ongoing projects:**

This program will assist with our ongoing community policing program

**If applicable, how many jobs will be created or retained (specify the number for each) and will the jobs be permanent or temporary:**

N/A

**If applicable, what environmental issues or benefits will there be:**

These bicycles will assist in reducing our departments carbon footprint

**If applicable, how does this project serve as a catalyst for future initiatives:**

N/A

**FINANCIAL INFORMATION:**

**Total Budget of Project:**

\$9,998.00

**Other Funding Sources of Project (list each source and dollar amount separately):**

N/A

**Total amount requested of County Council American Resource Act Dollars:**

\$9,998.00

**Since these are one-time dollars, how will the Project be sustained moving forward:**

Yes



**DISCLAIMER INFORMATION AND SIGNATURE:**

**Disclaimer:**

I HEREBY CERTIFY that I have the authority to apply for financial assistance on behalf of the entity described herein, and that the information contained herein and attached hereto is true, complete, and correct to the best of my knowledge.

I acknowledge and agree that all County contracts and programs are subject to Federal Guidelines and Regulations, the Ohio Revised Code, the Cuyahoga County Charter, and all County Ordinances including all information submitted as part of this application is a public record.

I understand that any willful misrepresentation on this application or on any of the attachments thereto could result in a fine and/or imprisonment under relevant local, state, and/or federal laws or guidelines.

I agree that at any time, any local, state, or federal governmental agency, or a private entity on behalf of any of these governmental agencies, can audit these dollars and projects.

**Printed Name:** Chief Paul D. Shepard

**Signature:**



**Date:** 6/27/2023

**Additional Documents**

**Are there additional documents or files as part of this application? Please list each documents name:**

Attached is a price quote for the replacement Bicycles



# QUOTATION

Quote Number: 4576  
 Quote Date: Jun 2, 2023  
 Page: 1



**Quoted To:**  
 Fairview Park Police Department  
 20777 Lorain Road  
 Cleveland, OH 44126

Customer ID	Good Thru	Payment Terms
FAIR0004	7/2/23	Net 30 Days

Quantity	Item	Description	Unit Price	Amount
2.00	B-INTERCEPTORBLK	Item: Interceptor Power Bike-Black/1,000 Mid-Driven Motor, Includes 48V 14.0 Ah Battery, Law Enforcement Model, 17" Frame.	3,895.00	7,790.00
2.00	A-MPOWERKIT4	Item: SoundOff mPower 4x2 Light and Siren Kit, Quad Upfit/ (4) Front, Back, Side Lights, Siren, Powered by Bike, Scene Lighting, 1,836 LM per Light.	999.00	1,998.00
2.00	A-POLICEBAG	Item: Police Bag	69.00	138.00
2.00	S-ASSEMBLY-TESTING	Assembly, Testing and Shipping or Delivery of Bikes (Per Bike)	36.00	72.00

**FOB: Fort Wayne, Indiana**

Unless otherwise stated, freight charges are not included. If you'd like to place an order, please contact Becca Warren at [admin@reconpowerbikes.com](mailto:admin@reconpowerbikes.com)

Subtotal	9,998.00
Sales Tax	
<b>TOTAL</b>	<b>9,998.00</b>

# County Council of Cuyahoga County, Ohio

## Resolution No. R2023-0186

<p>Sponsored by: <b>Councilmember Miller and County Executive Ronayne</b></p> <p>Co-sponsored by: <b>Councilmember Turner</b></p>	<p><b>A Resolution</b> awarding a total sum, not to exceed \$225,000, to Baldwin Wallace University for year 2 of the Northeast Ohio Flight Information Exchange (NEOFIX) Program from the District 2 ARPA Community Grant Fund and the Department of Development’s General Fund budget; and declaring the necessity that this Resolution become immediately effective.</p>
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**WHEREAS**, Cuyahoga County received \$239,898,257 from the Federal Government through the American Rescue Plan Act (“ARPA”); and

**WHEREAS**, Cuyahoga County calculated 100% of the ARPA dollars as loss revenue under the U.S. Department of the Treasury Final Rule; and

**WHEREAS**, since all the ARPA dollars have been calculated as loss revenue, the ARPA dollars have been deposited in the County’s General Fund; and

**WHEREAS**, the County Executive and County Council have authorized \$86 million of the ARPA dollars for community grants to benefit the residents of Cuyahoga County (the “ARPA Community Grant Fund”); and

**WHEREAS**, of the \$86 million for community grants, \$66 million have been encumbered for equal distribution to each County Council District; and

**WHEREAS**, the Cuyahoga County Council desires to provide funding from the District 2 ARPA Community Grant Fund in the amount of \$112,500 and from the Department of Development’s General Fund budget in the amount of \$112,500 for the total amount of \$225,000 to Baldwin Wallace University for year 2 of the Northeast Ohio Flight Information Exchange Program; and

**WHEREAS**, Baldwin Wallace University estimates approximately 18,000 people will be served annually through this award; and

**WHEREAS**, Baldwin Wallace University estimates approximately 20-25 permanent and temporary jobs will be created or retained through this project; and

**WHEREAS**, Baldwin Wallace University estimates the total cost of the project is \$274,500; and

**WHEREAS**, Baldwin Wallace University indicates the other funding source(s) for this project includes:

- A. \$27,985 from Non-County Governmental Funds
- B. \$15,000 from Commercial Funds
- C. \$10,500 from sponsorships
- D. \$18,512 from BW reinvestment into project
- E. \$50,000 from in-kind services ATA: and

**WHEREAS**, Baldwin Wallace University is estimating the start date of the project will be August 2022 and the project will be completed by July 2024; and

**WHEREAS**, Baldwin Wallace University requested \$450,000 from the District 2 ARPA Community Grant Fund to complete this project; and

**WHEREAS**, the Cuyahoga County Council desires to provide funding in the amount of \$225,000 to Baldwin Wallace University to ensure this project is completed; and

**WHEREAS**, this Council by a vote of at least eight (8) members determines that it is necessary that this Resolution become immediately effective in order that critical services provided by Cuyahoga County can continue to provide for the usually, daily operations of the County.

**NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COUNCIL OF CUYAHOGA COUNTY, OHIO:**

**SECTION 1.** That the Cuyahoga County Council hereby awards a total not-to-exceed amount of \$225,000 to Baldwin Wallace University from the General Fund made available by the American Rescue Plan Act revenue replacement provision and the Department of Development’s General Fund budget for year 2 of the Northeast Ohio Flight Information Exchange Program.

**SECTION 2.** If any specific appropriation is necessary to effectuate this agreement, the Director of the Office of Budget and Management is authorized to submit the requisite documentation to financial reporting to journalize the appropriation.

**SECTION 3.** That the County Council staff is authorized to prepare all documents to effectuate said award.

**SECTION 4.** That the County Executive is authorized to execute all necessary agreements and documents consistent with said award and this Resolution.

**SECTION 5.** If requested or necessary, the Agency of the Inspector General or Department of Internal Audit is authorized to investigate, audit, or review any part of this award.



First Reading/Referred to Committee: July 6, 2023  
Committee(s) Assigned: Public Safety & Justice Affairs

Additional Sponsorship Requested: July 6, 2023

Journal \_\_\_\_\_

\_\_\_\_\_, 20\_\_\_\_

June 10, 2022

TO: Trevor McAleer, Cuyahoga County Legislative Budget Advisor  
**tmcaleer@cuyahogacounty.us**

FROM: Jennifer Pitz, MPA, Director, Research and Sponsored Programs, Baldwin Wallace University



RE: Response to RFP: District-level American Rescue Plan Act Funds,  
Cuyahoga County Council District 2 issued May 11, 2022

Please find attached an application and proposal for District 2 ARPA funding. Baldwin Wallace University seeks \$450,000 to establish the Northeast Ohio Flight Information Exchange (NEOFIX). NEOFIX is a program for local government and public safety agencies to post information for each other and drone operators which keep the airspace open, secure, and safe. NEOFIX will use proven technology, successfully being utilized in the Commonwealth of Virginia, to inform drone operators of ground rules and conditions, local issues and events, public safety incidents, hazards, and sensitive and critical infrastructure. It allows information sharing in the most open way possible while also respecting operational security, privacy requirements, and public safety, enabling multiple ways to connect and share information via Internet and flight programs. This program is vital technology infrastructure necessary to promote a friendly setting for drone use, repair, manufacturing and assembly and jobs development.

Environmental benefits to this project are three-fold: i) creating the infrastructure for drone services to residents of Cuyahoga County reduces the need for use of larger surface transportation vehicles for deliveries or to access infrastructure; ii) drones themselves are powered by cleaner energy sources (electric or hydrogen); and iii) use of drone services, together with integrated sensor information, will make Cuyahoga County more resilient against severe weather or climate events.

NEOFIX will:

1. Set up Cuyahoga County for private investment in infrastructure, education, and jobs from drone industry as communities that have drone infrastructure first will get the lion's share of investments as the industry continues to grow
2. Support job growth and creation for industry related positions including remote pilots, flight operations personnel, data analysts, maintenance personnel, and drone manufacturing.
3. Position Cuyahoga County position to be one of the nation's leaders in aviation as it would one of the first utilizing this platform, ensuring the safety and efficiency of drones.

NEOFIX is supported by many local, state, and national entities who have provided letters of support for the project. Including:

- Aerozone Alliance
- ATA, LLC
- Baldwin Wallace office of the Provost
- Cleveland State University Center for Emergency Preparedness
- Connect-Tec Inc
- Crown Castle
- Drone Responders Public Safety Alliance
- Drone Up
- EHM Advisors
- Manufacturing Works (the former WireNet)
- NASA Glenn Research Center office of Technology Transfer
- Ohio Aerospace Institute
- Raytheon Collins Aerospace
- The TECHPARK (Paran Management)
- Unified Drone
- Woodlawn Fire Department

Cc: Stuart C Mendel, Ph.D., Affiliate Professor, Primary Investigator, and Project Director, BW Technology Partnership Initiative





## Cuyahoga County Council

2079 East 9<sup>th</sup> Street, 8<sup>th</sup> Floor • Cleveland Ohio 44115  
(216) 698-2010

### COUNTY AMERICAN RESCUE PLAN ACT APPLICATION

<b>APPLICANT INFORMATION:</b>	
<b>Name of Requesting Entity (City, Business, Non-Profit, etc.):</b> Baldwin Wallace University (non-profit)	
<b>Address of Requesting Entity:</b> 275 Eastland Rd., Berea, OH 44017	
<b>County Council District # of Requesting Entity:</b> District 5	
<b>Address or Location of Project if Different than Requesting Entity:</b> District 2 / Aerozone District	
<b>County Council District # of Address or Location of Project if Different than Requesting Entity:</b> District 2 / Aerozone District	
<b>Printed Name:</b> Jennifer Pitz, MPA, Director, Research and Sponsored Programs, Baldwin Wallace University Ph: 440-826-1350 Email: jpitz@bw.edu	
<b>Contact Address if different than Requesting Entity:</b> Same	
<b>Email:</b> jpitz@bw.edu	<b>Phone:</b> 440-826-3150 (office)
<b>Federal IRS Tax Exempt No.:</b>  <b>EIN: 34-0714629</b>	<b>Date:</b>  June 10, 2022

## PROJECT DESCRIPTION

**REQUEST DESCRIPTION (include the project name, a description of the project, why the project is important or needed, and timeline of milestones/tracking of the project):**

Baldwin Wallace University (BW) is proposing to make Cuyahoga County one of the leading counties for drone operations in the United States through its proposed project, **Northeast Ohio Flight Information Exchange (NEOFIX): Digital Infrastructure for Drone Services in Cuyahoga County District 2.**

NEOFIX is a program to create inexpensive digital infrastructure for local government and public safety agencies to post information for each other and drone operators which keep the airspace open, secure, and safe. The drone industry is one of the fastest growing industries in America, and NEOFIX will accelerate the integration of drones into Cuyahoga County communities, accelerating new resident services and growth of local high-tech companies and jobs. **NEOFIX is an exercise in place making focused on making Cuyahoga County one of the leading Drone Ready Communities in the United States. NEOFIX is based on an existing, successful program in Virginia that has over 50 participating agencies, half of the FAA USSes participating, and over 20,000 digital assets for the drone industry.** Cuyahoga County has many of the same underlying assets as Virginia and can therefore produce many of the same results. **NEOFIX leverages existing community investments in Cuyahoga County to create the initial digital infrastructure and make Cuyahoga County a leading site for the drone industry.**

**The digital infrastructure enabled by NEOFIX will make possible specific new drone-based resident services in public safety, retail delivery, and medical delivery that have the potential to improve public safety services, de-escalate violence, and potentially create dozens of jobs and serve tens of thousands of Cuyahoga County residents within two years. This project directly supports five aspects of the American Rescue Plan Act of 2021 (ARPA) goal to support the nation's public transportation and other infrastructure systems by enabling next generation delivery services, including medical services, to disadvantaged and underserved communities as they continue to respond to the COVID-19 pandemic. NEOFIX acts as a catalyst for long-term growth, attracting national industry that can leverage the aerospace and educational assets of Cuyahoga County by providing infrastructure that industry is actively seeking. The timing of this investment aligns to demand for new services in Cuyahoga County and demand for infrastructure from national drone industry.**

**The BW NEOFIX team is experienced in community development, stakeholder engagement, the drone industry, and technology deployment and includes the architects of the successful Virginia program. We can have NEOFIX established, up, and running within 90 days of funding.** As a result, BW's proposed NEOFIX enjoys extensive local and national support, including the Aerozone Alliance; Baldwin Wallace office of the Provost; Cleveland State University Center for Emergency Preparedness; Connect-Tec Inc.; DRONERESPONDERS Public Safety Alliance; Manufacturing Works (the former WireNet); NASA Glenn Research Center office of Technology Transfer; Ohio Aerospace Institute; The TECHPARK (Brook Park, Ohio); Unified Drone; Woodlawn Fire Department; Raytheon Collins; DroneUp; Crown Castle; Echodyne; AirMap; and Aloft; among others.

**Key Milestones for the project include:**

- Standup of regional stakeholder group (30 days)
- Initial NEOFIX website and technology services (90 days)
- Onboarding of initial national USS providers (90 days)
- Publish Cuyahoga County into the national UTM system (6 months)
- Commence discussions with national and local providers of drone services (6 months); demonstrate new services (12 months).

*[See Description, Impact, Proposal Specificity and Feasibility, and Project Readiness sections of full proposal]*

**Project Start Date:** 1 August 2022

**Project End Date:** 31 July 2024

**IMPACT OF PROJECT:**

**Who will be served:**

All of Cuyahoga County benefits. Drone public safety service benefits include the taxpayer (reduce unnecessary dispatches) and to underserved and marginalized communities (de-escalation). Underserved and marginalized communities benefit from drone delivery services enabling access to goods and services (especially medical services) where communities may not currently have access to physical shopping, distribution, and service points because of their neighborhoods or work schedules. Drone inspection services accrue benefits to property owners who can conduct inspections more frequently and inexpensively, and to tenants who will benefit from more proactive maintenance. *[See Impact Section of full proposal]*

**How many people will be served annually:**

Leveraging NEOFIX as a catalyst for new drone-based services, and modeling a modest operational fleet, 5 drones for retail delivery and 5 drones for medical delivery, industry standard in-service rates and 10 hour service days during the work week, this could support operations that could potentially provide over 28,000 deliveries to over 18,000 residents (assuming 1 in 3 residents repeat use) in one year (estimated) resulting in a Cuyahoga County investment cost per resident served of only approximately \$12.00, a cost that would continue to decline over time as the investment is amortized. *[See Impact Section of full proposal]*

**Will low/moderate income people be served; if so how:**

Underserved and marginalized communities will benefit especially from drone services in three ways: i) public safety drone services have consistently shown a reduction in dispatch of police units (Chula Vista has seen a 25% reduction) and de-escalation of police-suspect violence; ii) retail and medical delivery services will enable access to critical goods and services (especially medical services) where they may not currently have access due to the lack of physical shopping, distribution, and service point infrastructure, transportation, or work schedules that make obtaining services difficult; and iii) access to new, high paying technician jobs that require 3-6 months of technical education rather than 4 year degrees. *[See Impact Section of full proposal]*

**How does the project fit with the community and with other ongoing projects:**

NEOFIX creates the conditions for a public private partnership bringing together business and innovation assets to accelerate the drone industry and resident drone services in Cuyahoga County, initially and specifically in the region branded by the Aerozone District plan, issued in July 2021. This includes initially County districts 2 and 5 but also in sync with the Aerozone district plan, County districts 1, 3, 4, 6, 7 and then the contiguous region. Alignment with the community and other local and national projects and efforts has drawn the interest and support of 29 potential partners in Cuyahoga County (9 in District 2) and nationally. *[See Applicant Capability section of full proposal]*

**If applicable, how many jobs will be created or retained (specify the number for each) and will the jobs be permanent or temporary:**

We estimate creating approximately **20-25 technician jobs created directly as a result of the program** and additional technician personnel hired by a growing, accelerating, and healthy Cuyahoga County UAS industry. These would be permanent jobs, with salaries ranging from \$30,000 - \$135,000 per year. *[See Impact section of full proposal]*

**If applicable, what environmental issues or benefits will there be:**

Environmental benefits to this project are three-fold: i) creating the infrastructure for drone services to residents of Cuyahoga County reduces the need for use of larger surface transportation vehicles for deliveries or to access infrastructure; ii) drones themselves are powered by cleaner energy sources (electric or hydrogen); and iii) use of drone services, together with integrated sensor information, will make Cuyahoga County more resilient against severe weather or climate events. *[See Impact section of full proposal]*

**If applicable, how does this project serve as a catalyst for future initiatives:**

BW NEOFIX is a catalyst for future growth by attracting the high-growth drone industry to Cuyahoga County and accelerating the growth of that industry by: i) providing an inexpensive approach to infrastructure that supports the commercial viability of drone services, growth of the drone industry and creation of blue-collar technology jobs; ii) allowing local government to support services and jobs by defining how drones are integrated into their communities; iii) enabling safe integration for the space where drones operate (under 1,000 feet); iv) creating public data assets for drones that the FAA has already stated it will not provide; and v) relying on a proven model that accelerates services, industry, and jobs while minimizing cost and risk. *[See Impact section of full proposal]*

# FINANCIAL INFORMATION:

**Total Budget of Project: \$499,000 direct costs. County funding requested: \$450,000**

## Budget detail

Total Budget of Project: \$499,000						6/6/2022
BUDGET - SUMMARY						
	Year 1	Year 2	Year 3	Year 4		
<i>Sources - Revenue</i>						
County ARP Funds	\$225,000	\$225,000	\$0	\$0		
Non-County Governmental Funds	\$0	\$27,985	\$164,925	\$199,750	Grants and memberships	
Commercial Funds	\$0	\$15,000	\$85,000	\$145,000	Membership and user fees	
Sponsorships	\$500	\$10,500	\$16,000	\$27,500	Commercial sponsorships	
BW Reinvestment into project	\$15,140	\$18,512	\$16,826	\$23,570	20% of recovered IDC)	
In Kind Services ATA	\$50,000	\$50,000	\$0	\$0		
<b>Total</b>	<b>\$290,640</b>	<b>\$346,997</b>	<b>\$282,751</b>	<b>\$395,820</b>		
<i>Uses - Expenses</i>						
Program Development Expenses	\$105,000	\$105,000	\$105,000	\$105,000	Program management and overhead	
Technical / Software	\$75,000	\$75,000	\$75,000	\$75,000	Technical data interchange	
Stakeholder Outreach	\$19,500	\$19,500	\$19,500	\$19,500	Direct stakeholder engagement	
Data Governance	\$0	\$25,000	\$25,000	\$25,000	Helping stakeholders with data	
Use Case Development	\$25,000	\$50,000	\$25,000	\$125,000	Accelerate deployment of UAS services	
<b>Total Direct Costs</b>	<b>\$224,500</b>	<b>\$274,500</b>	<b>\$249,500</b>	<b>\$349,500</b>		
11000 Indirect Costs	\$75,701	\$92,561	\$84,131	\$117,851	(Federal MTDC Rate 33.72%)	
<b>Total Costs</b>	<b>\$300,201</b>	<b>\$367,061</b>	<b>\$333,631</b>	<b>\$467,351</b>		

Narrative: Initial revenue from Cuyahoga County ARPA is requested in the amount of \$450,000, of which the full \$450,000 is sought for the purpose of funding direct costs over the two-year budget horizon, with desired start date of August 1, 2022.

This request is necessary to seed the NEOFIX project and develop the NEOFIX infrastructure and create evidence of institutional support to draw private sector matching.

The leverage of County funds over two years begins with \$133,652 committed by the startup partners. The leverage is comprised of a reinvestment/waiver of indirect cost charges by BW totaling \$33,652 and in-kind contributed support from ATA totaling \$100,000. These two items are the signal to corporate participants that we are approaching that the project has institutional support which will incentivize funding from them. The arrangement forms the basis for how NEOFIX will be sustained beyond the grant period, beyond which further on-going support from Cuyahoga County will cease.

Start-up expenses will seed the NEOFIX project. The performance outcomes are: i) create the NEOFIX database and interactive web interface; ii) convene stakeholders identified in this proposal; iii) develop user policies for the NEOFIX data and establish governance over that data; and iv) test the models and promote them to the user community. Since the program design requires development of a world wide web site presence, accompanied by social media funnels to draw target stakeholders to the website, early outreach work will involve direct communications with stakeholders, building a NEOFIX dedicated MailChimp users list for dissemination of regular communications and knowledge sharing.

**Other Funding Sources of Project (list each source and dollar amount separately):**

- Private match dollars sought during budget year 2 through combined earned revenues various contracted services by private corporate members. \$ 53,485
- Baldwin Wallace University contributed overhead fee waiver for year 1 and 2 as university investment in project \$ 33,652
- ATA in-kind services back-office services @ \$50,000 for year 1 and 2 as private in-kind investment in project \$100,000

**Total amount requested of County Council American Resource Act Dollars:**

BW is requesting \$450,000 in direct cost start-up funding through the ARPA as necessary infrastructure underlying high paying jobs drawing on education, training, manufacturing and design, maintenance technologies, flight operations programs: and public policy development and discourse while also engaging students and faculty of BW. *[See Cost-Effectiveness and Leverage section of the full proposal]*

**Since these are one-time dollars, how will the Project be sustained moving forward:**

**This project is devised to be self-sustaining from the twenty-four-month mark of operations (starting from the receipt of funding).**

Sustainment is enabled through: i) the deliberate focus on data and information asset governance encouraging stakeholder collaboration and participation across public and private groups and ii) the focus on an “organic infrastructure” that has the potential to dramatically lower the costs of physical and digital infrastructure for communities across the nation.

As a result, NEOFIX can support viable commercial operations and program sustainment through:

- Locality memberships,;
- Commercial membership / sponsorship;
- Flow-through commercial data service subscriptions; and
- Access to Federal and State funding opportunities, and development of specific value-added services.

*[See Cost-Effectiveness and Leverage section of the full proposal]*

## DISCLAIMER INFORMATION AND SIGNATURE:

### Disclaimer:

I HEREBY CERTIFY that I have the authority to apply for financial assistance on behalf of the entity described herein, and that the information contained herein and attached hereto is true, complete, and correct to the best of my knowledge.

I acknowledge and agree that all County contracts and programs are subject to Federal Guidelines and Regulations, the Ohio Revised Code, the Cuyahoga County Charter, and all County Ordinances including all information submitted as part of this application is a public record.

I understand that any willful misrepresentation on this application or on any of the attachments thereto could result in a fine and/or imprisonment under relevant local, state, and/or federal laws or guidelines.

I agree that at any time, any local, state, or federal governmental agency, or a private entity on behalf of any of these governmental agencies, can audit these dollars and projects.

### Printed Name:

Jennifer Pitz, MPA, Director, Research and Sponsored Programs, Baldwin Wallace University  
Ph: 440-826-1350 Email: jpitz@bw.edu

### Signature:

### Date:

6/10/2022

## Additional Documents

### Are there additional documents or files as part of this application? Please list each documents name:

- A. Full proposal entitled: "BALDWIN WALLACE NEOFIX CUYAHOGA COUNTY AMERICAN RESCUE PLAN PROPOSAL"
- B. BW Board of Director roster
- C. 501 c3 affirmation letter
- D. Letters of support for this application
  - 1. Aerozone Alliance
  - 2. ATA, LLc
  - 3. Baldwin Wallace office of the Provost
  - 4. Cleveland State University Center for Emergency Preparedness
  - 5. Connect-Tec Inc
  - 6. Crown Castle
  - 7. Drone Responders Public Safety Alliance
  - 8. Drone Up
  - 9. EHM Advisors
  - 10. Manufacturing Works (the former WireNet)
  - 11. NASA Glenn Research Center office of Technology Transfer
  - 12. Ohio Aerospace Institute
  - 13. Raytheon Collins Aerospace
  - 14. The TECHPARK (Paran Management)
  - 15. Unified Drone
  - 16. Woodlawn Fire Department



**Northeast Ohio Flight Information Exchange (NEOFIX): Digital Infrastructure for Drone Services in Cuyahoga County District 2.**

“District 2 leads infrastructure for the whole county”

**Technology Partnership Initiative at Baldwin Wallace University**

Stuart C Mendel

Affiliate Professor, Project Director

Office: 440-826-2475 Cellular: 216-407-2673 Email: SMendel@BW.edu

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## Executive Summary (Project Description)

Baldwin Wallace University (BW) is proposing to make Cuyahoga County one of the leading counties for drone operations in the United States through its proposed project, **Northeast Ohio Flight Information Exchange (NEOFIX): Digital Infrastructure for Drone Services in Cuyahoga County District 2**. NEOFIX is a program to create inexpensive digital infrastructure for local government and public safety agencies to post information for each other and drone operators which keep the airspace open, secure, and safe. The proposed NEOFIX program will accelerate the integration of drones into Cuyahoga County communities, accelerating new resident services and growth of local high-tech companies and jobs.

**NEOFIX is an exercise in place making focused on making Cuyahoga County one of the leading Drone Ready Communities (DRC) in the United States. NEOFIX is based on an existing, successful program in Virginia that has over 50 participating agencies, half of the FAA USSes participating, and created over 20,000 digital assets for the drone industry.** Cuyahoga County as a large market and aeronautical space has many of the same underlying assets as Virginia and can therefore produce many of the same results. The timing of this investment aligns to demand for services in Cuyahoga County and demand for infrastructure from national drone industry.

NEOFIX is a public private partnership collaboration hosted by BW, in the Aerozone District, with initial work taking place specifically in the Cuyahoga County communities in and near the Aerospace Parkway Technology Park region adjacent to Cleveland Hopkins International Airport and NASA Glenn Research Center (GRC). BW's NEOFIX project involves place-making, economic development, and new social services through technical innovation and fulfills the promise and potential of "place" depicted in the **Aerozone District Plan** crafted in 2021 whose footprint centers and radiates outward from Cuyahoga County District 2. **The digital infrastructure enabled by NEOFIX will make possible specific new resident services that have the potential to improve public safety services, de-escalate violence, and potentially create dozens of jobs and serve tens of thousands of Cuyahoga County residents within two years.**

**This project directly supports five aspects of the American Rescue Plan Act of 2021 (ARPA)** goal to support the nation's public transportation and other infrastructure systems by enabling next generation delivery services, including medical services, to disadvantaged and underserved communities as they continue to respond to the COVID-19 pandemic. NEOFIX also acts as a catalyst for long-term growth, attracting national industry that can leverage the aerospace and educational assets of Cuyahoga County.

**NEOFIX leverages existing community investments in Cuyahoga County to create the initial digital infrastructure and make Cuyahoga County a leading site for the drone industry.** BW will organize stakeholders and establish the initial digital infrastructure necessary to create conditions that accelerate the adoption of drone technologies in Cuyahoga County; accelerate the growth and development of the drone industry in our community; and to foster, develop and deliver new services to District 2 and Cuyahoga County residents by drone.

**The BW NEOFIX team is experienced in community development, stakeholder engagement, the drone industry, and technology deployment and includes the architects of the successful Virginia program.**

**We can have NEOFIX established, up, and running within 90 days of funding.** As a result, BW's proposed NEOFIX enjoys extensive local and national support, including the Aerozone Alliance; Baldwin Wallace office of the Provost; Cleveland State University Center for Emergency Preparedness; Connect-Tec Inc.; DRONERESPONDERS Public Safety Alliance; Manufacturing Works (the former WireNet); NASA Glenn Research Center office of Technology Transfer; Ohio Aerospace Institute; The TECHPARK (Brook Park, Ohio); Unified Drone; Woodlawn Fire Department; Raytheon Collins; DroneUp; Crown Castle; Echodyne; AirMap; and Aloft; among others.

**BW is requesting \$450,000 in direct cost start-up funding** for a desired August 1, 2022 start-date through the ARPA as necessary infrastructure underlying high paying jobs drawing on education, training, manufacturing a design, maintenance technologies, flight operations programs: and public policy development and discourse while also engaging students and faculty of BW. The purpose of this project is to create the conditions for a public private partnership bringing together business and innovation assets of Cuyahoga County initially and specifically in the region branded by the Aerozone District plan, issued in July 2021. (<https://www.aerozonealliance.org/wp-content/uploads/2021/06/Aerozone-Strategic-Report-Chapter-1-Executive-Summary-May-1-2021.pdf>) This includes initially county districts 2 and 5 but also in sync with the Aerozone district plan, County districts 1, 3, 4, 6, 7 and then the contiguous region.

## Description

### What Is Northeast Ohio Flight Information Exchange?

**The Northeast Ohio Flight Information Exchange (NEOFIX) is a program to create inexpensive digital infrastructure for local government and public safety agencies to post information for each other and drone operators which keep the airspace open, secure, and safe.** The proposed NEOFIX program will accelerate the integration of drones into Cuyahoga County communities, accelerating new resident services and growth of local high-tech companies and jobs alongside. NEOFIX is digital infrastructure that makes Cuyahoga County a leader for public policy development, and drone use, repair, manufacturing and maintenance.

Drones are a \$3Bn industry forecast to grow to over \$10Bn in the next five years. You will see dramatic increases in local drone traffic over the next few years. The commercial and recreational drone market has grown to over 200,000 licensed pilots and 3 million drones in the last five years in the U.S. **By establishing NEOFIX in Cuyahoga County, the region will have one system accessible to all, with data accessible as a public asset.** Cuyahoga County will contribute to a multi-state collaboration in building the next generation of infrastructure by providing key information to drone operators that will expand services to residents in support of ARPA goals. The NEOFIX can expand throughout Ohio as a national leader in aviation, technology, and innovation with Cuyahoga County as the original center for commercial applications.

## How Does NEOFIX Support the Drone Industry?

NEOFIX will provide critical information to operators of drones, also known as Uncrewed Aerial Systems (UAS), and to UAS Service Suppliers (USSes) to safely integrate and manage drone operations with communities on the ground. NEOFIX informs drone operators of ground rules and conditions, local issues and events, public safety incidents, hazards, and sensitive and critical infrastructure. NEOFIX allows information sharing in the most open way possible for public safety, emergency preparedness, public works facilities and projects, aeronautical, corporate, commercial, and resident users while respecting security and privacy requirements, public safety needs, and enabling multiple ways to connect and share information via Internet and flight programs. NEOFIX is a key step toward the future of UAS Traffic Management (UTM) that also supports the broader concept of Advanced Aerial Mobility (AAM) by providing critical information about operations on the ground.

Summarized in Figure 1 is how NEOFIX supports UTM, AAM, and future aviation needs by providing infrastructure for operations below 400 feet above ground to set the stage for larger and commercial operations at higher altitudes. The UAS industry lacks the rich information services that traditional aviation takes for granted. The Federal Aviation Administration (FAA) identifies this need in the UTM ConOps through the “Supplemental Data Service Provider” (SDSP) concept. **Cuyahoga County, through NEOFIX, will fill this critical gap in how airspace is charted and managed for drone operations by allowing information sharing in the most transparent, open way possible: connecting government, the public, USSes, and UTM suppliers through Cuyahoga County public digital infrastructure.**

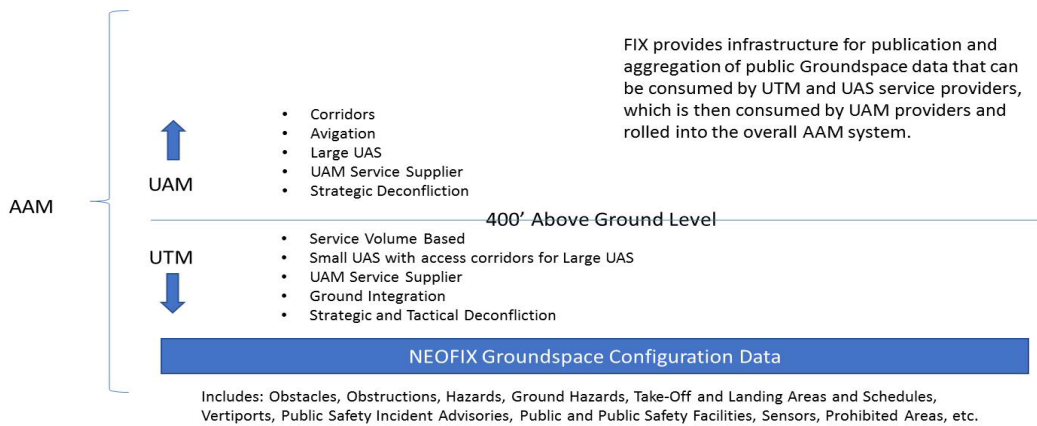


Figure 1: Summary of UTM Digital Infrastructure Provided by NEOFIX

One of the top factors holding back growth in the drone industry is lack of clarity – lack of clarity on the ground rules, local requirements, and airspace information. National industry is actively searching for places that provide this clarity through digital infrastructure: NEOFIX will provide this information to drone operators and, as a “place-making” effort transform Cuyahoga County into one of the most drone-friendly communities in the nation, attracting UAS operators, manufacturers, and researchers.

The NEOFIX effort builds on a model developed, tested and in operating in Virginia, allowing Cuyahoga County to leverage those lessons learned to lower cost, remove risk, and move quickly. The results of the place-making benefits of NEOFIX are illustrated in Figure 2 below. **Figure 2 describes the actual, running UAS digital infrastructure in Winchester, Virginia, a successful locality has attracted leading**

industry players (Raytheon Collins, DroneUp, Echodyne, AirMap, Aloft) and external investment to operate in their community by transforming themselves into a drone ready community using the same model as NEOFIX – providing digital infrastructure. BW NEOFIX will leverage and scale up the lessons learned of the successful Virginia program as well as the relationships developed in that program – the same players who have come to Winchester will come to Cuyahoga County.

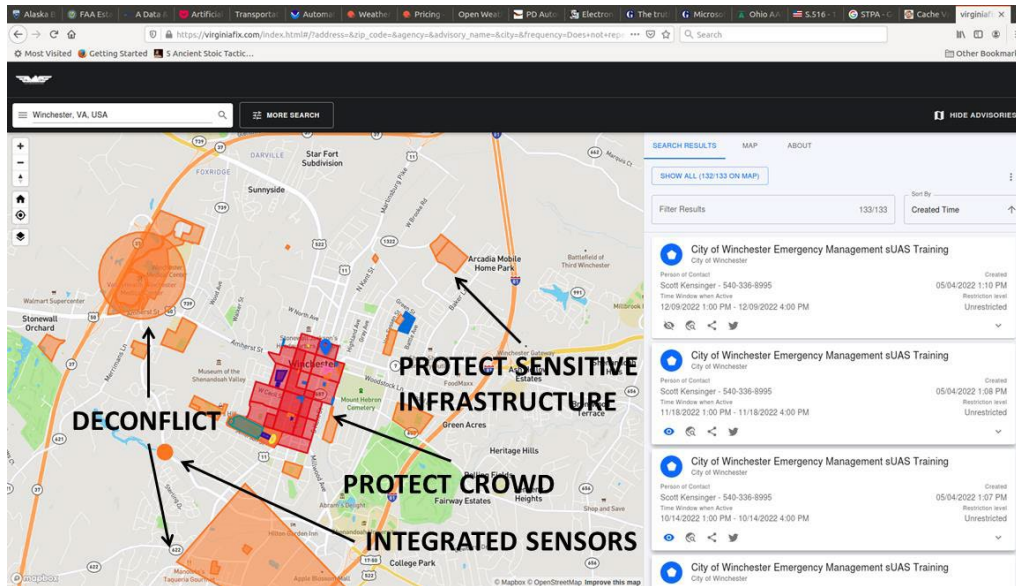


Figure 2: Asset Publication and Groundspace Configuration in Winchester, Virginia

## Digital Infrastructure for Cuyahoga County

In the proposed NEOFIX model, the focus in Cuyahoga County will be on supporting the discovery and publication of existing infrastructure that supports drone operations or can easily be repurposed for drone operations. The result will be hosted basic public information services by BW and local agencies; supporting basic, reusable integrations with UAS software and sensors that scale across drone vehicle platforms; and active support for turning up new drone-based resident services by commercial providers in partnership with local government. The NEOFIX project will work with Cuyahoga County stakeholders to identify existing infrastructure investments that can be configured and published for use by UAS in four key categories:

- **Physical infrastructure**, consisting of both public and private infrastructure, on- and off-airport, such as : take-off and landing areas owned by local government; existing private real-estate such as strip malls that can be repurposed as delivery hubs; transfer facilities that leverage under-used urban industrial space; existing medical treatment and services facilities that can extend services through drones; and maintenance and operations facilities that leverage Cuyahoga County’s skilled workforce;
- **Digital infrastructure** consisting of ground-based environmental and weather sensors already owned by local government; new commercial sensor investment for vehicle position and navigation; and new commercial investment for vehicle communications in partnership with NASA Glenn Research Center (GRC);

- **Policy infrastructure** consisting of convening stakeholders and local government in Cuyahoga County, together with the FAA and NASA clarifying basic operating rules on the ground, schedules, allowable supplemental rules, and common standards of use that make Cuyahoga County “Drone Ready” while also respecting community equities and input; and
- **Configuration infrastructure** that supports localities describing how Cuyahoga County’s existing physical infrastructure can be used in a manner consistent with local policy and provided as digital infrastructure through NEOFIX.

Critically, *much of the infrastructure listed above already exists in some form today* in Cuyahoga County. The key is to identify, organize, and publish it to the UAS industry: this project focuses on leveraging and realizing the promise of existing infrastructure investments by Cuyahoga County. Based on our team’s experience locally in Cuyahoga County, in the Commonwealth of Virginia, and elsewhere in the United States, the NEOFIX project will focus on four key activities:

- **Establish Asset Governance:** Establish a basic, minimum-necessary governance activity that brings together Cuyahoga County stakeholders in consistently discovering, describing, configuring, and publishing physical and digital assets into the UTM system;
- **Asset Discovery and Publication:** Through the Governance activity, work with state and local agencies to discover existing UAS-ready assets (e.g., take-off and landing areas, existing sensors) in Cuyahoga County that can be properly and consistently described and published into UTM;
- **Asset Integration:** Conduct basic data integration and asset publication through digital infrastructure (NEOFIX) for use by UAS operators and vehicles; and
- **Plan and Pilot Investment:** Work with commercial industry to identify targeted opportunities for external, commercial industry investment in specific physical, digital, policy, and configuration infrastructure through asset integration to demonstrate functionality and performance of UTM in Cuyahoga County in delivering new resident services.

**The result is that NEOFIX will create critical digital infrastructure that can move Cuyahoga County into the national spotlight and attract and grow the UAS industry in Cuyahoga County. By leveraging an existing proven method and tying into existing, FAA-approved tools and services, this digital infrastructure can get turned up quickly with low risk.** Because this digital infrastructure focuses on coordinating local stakeholders in identifying, configuring, and publishing primarily existing infrastructure, **the cost of establishing NEOFIX is low** but most importantly the cost of maintaining it is low which makes it easily sustainable through user and member fees and contributions.

## Impact

### Why is NEOFIX needed in Cuyahoga County?

**Just like the early days of the auto industry, the drone industry is growing fast, and key industry players are making decisions now about where to conduct commercial operations and develop the supporting infrastructure such as operations and maintenance centers.** NEOFIX will allow Cuyahoga County to define critical digital infrastructure at “just the right time” to accelerate the local UAS industry

and bring the industry to the County as a partner. NEOFIX gives Cuyahoga County an opportunity to inexpensively address key industry needs and concerns, accelerating the industry, helping define how these new technologies are integrated into the community, and growing the specialized technician jobs that accompany the industry.

Communities that have drone infrastructure first will get the lion's share of private investment in infrastructure, education, and jobs from industry. A safer airspace saves lives and supports public safety; more clarity grows drone operations resulting in more services and more jobs. These jobs include remote pilots, flight operations personnel, data analysts, maintenance personnel, and drone manufacturing. The UAS industry and user community requires and is actively looking for real, functional infrastructure for commercial drones now and looking for communities that are serious about enabling operations. **Cuyahoga County can be a leader in a new \$3Bn drone industry forecast to grow to over \$10Bn in five years.**

**One of the strengths of NEOFIX is that it is focused on leveraging assets that already exist in Cuyahoga County and making them usable to the new, high growth drone industry.** In addition to leveraging existing physical infrastructure investments like the Opportunity Corridor, NEOFIX directly leverages the strengths of Cuyahoga County toward the aerospace industry. For example, the existing aerospace manufacturing and research base will be able to expand into drone design, manufacturing, and maintenance services. Cuyahoga County's diverse metropolitan area creates an ideal collaboration environment for developing and deploying new drone-based resident services. Cuyahoga County's position as one of the busiest airspaces in the nation featuring a major airport with two additional County-located smaller airports makes Cuyahoga County an ideal real-world environment to demonstrate the safe integration of drones into local communities and the national airspace. Proximity to a port and international border allow for the development of potential new freight operations, supported by the local aerospace industry and NASA GRC technology transfer to private industry. Finally, as a leader in health sciences, Cuyahoga County can be a leader in developing the first generation of local, commercially viable drone medical services.

NEOFIX can be the catalyst for fully opening Cuyahoga County to the UAS industry while respecting the integrity and equity of our communities. NEOFIX shows industry that Cuyahoga County is making appropriate investments in digital infrastructure for UAS and that the county is "open for business" and making a meaningful contribution to the development of this next generation of the aerospace industry. The result is that Cuyahoga County can attract and grow industry jobs here, rather than being serviced by operators and manufacturers growing jobs elsewhere – building an industry cluster in drones the way Silicon Valley has built an industry cluster in software.

### **Community Impact and Benefit: Who Will be Served**

BW's vision is to set the conditions for drone manufacture, maintenance, and repair; attraction of technology supportive business and development; advance use of drones in service to public sector applications such as public safety and emergency preparedness; enable commercial flight operations; educate county residents; and engage the workforce through STEM program enrollees and jobs.

By developing affordable digital infrastructure through NEOFIX, Cuyahoga County will be able to create the conditions for a drone industry and operations supply chain. The NEOFIX is designed to keep user fees for operations in the county low, making it one of the most drone friendly, commercially viable drone markets in the United States. By demonstrating that services can be enabled at dramatically lower cost (we estimate 2 orders of magnitude lower than current models in New York and North Dakota) user fees and members contributions can be kept low, translating directly into stronger commercial viability for new resident services in Cuyahoga County. This, in turn, contributes directly to industry’s ability to support and provide new resident services in Cuyahoga County. The benefits to Cuyahoga County residents accrue in four major areas:

- **Safety:** Providing clarity and a common picture of the airspace allows UAS Operators to operate safely and clearly, improving safety for our community, safety for local manned aviation, and safety for UAS aviation. This clarity and safety allows Cuyahoga County to grow UAS services.
- **Services:** NEOFIX allows for better coordinated, more transparent Public Safety operations that can increase the scope and effectiveness of public safety UAS operations. NEOFIX provides clarity for commercial UAS operators and allows them to bring new services to your community such as delivery of medications and packages, aerial photography, and inspections.
- **Jobs:** The extension of public and private services mean jobs – roughly one new pilot job for each full-time drone deployed. In addition are allied jobs in maintenance, support and services.
- **Leadership:** Getting our infrastructure in place first brings the leading companies to our community. Like semiconductors and Silicon Valley and biotech and Boston Cuyahoga County can be a “center” for safe, effective UAS operations that will attract new companies and jobs.

One example of new services that can be enabled through NEOFIX are medical delivery and diagnostic services. For example, working poor frequently can’t access medical services. Drones offer the promise for medicine and diagnostic tests delivery to our underserved communities. The technical and regulatory framework to deliver medical services by drone exists today. With local actors Cleveland Clinic, MetroHealth, and University Hospitals, the base infrastructure of NEOFIX can enable service provision through this project as early as 2023. Table 1, below, describes some of the new services that NEOFIX can enable within the project period (next two years) and who will be served by these services.

New Service	Description	Who Is Served
Drone as a First Responder	Use of drones to augment first responder services such as police and fire; provides early awareness that helps dispatch to respond appropriately	All of Cuyahoga County benefits, however there are specific benefits to the taxpayer (reduce unnecessary dispatches) and to underserved and marginalized communities (de-escalation of dispatch through better information)
Resident Retail Package Deliveries	Use of small drones to deliver small, time sensitive retails goods (food, nutritional supplements, documents, electronics)	All of Cuyahoga County benefits, however there are specific benefits to underserved and marginalized communities who may not currently have access to physical shopping, distribution, and service points because of their neighborhoods or job schedules

New Service	Description	Who Is Served
Resident Pharmacy Deliveries	Use of small drones to deliver small, time sensitive medication and medical goods, such as AEDs, NARCAN, and EPI pens	All of Cuyahoga County benefits, however there are specific benefits to underserved and marginalized communities who may not currently have access to physical medical or pharmacy services because of their neighborhoods or job schedules
Resident Diagnostic Deliveries	Use of small drones to deliver and collect small, time sensitive diagnostic tests	All of Cuyahoga County benefits, however there are specific benefits to underserved and marginalized communities who may not currently have access to physical testing locations because of their neighborhoods or job schedules
Commercial Inspection Services	Use of small drones to conduct inspection of private commercial and residential properties	All of Cuyahoga County benefits, but specific benefits accrue to property owners who can conduct inspections more frequently and inexpensively, and to tenants who will benefit from more proactive maintenance
Public Inspection Services	Use of small drones to conduct inspection of public properties	All of Cuyahoga County benefits through the more effective and efficient use of public resources

*Table 1: Discussion of New Services Enabled and Who is Served*

Key to the benefits is to leverage existing infrastructure in Cuyahoga County, which means that now services and benefits will radiate outward from District 2 assets such as the Aerozone District, Tech Park, and NASA GRC. These services will link up with other Cuyahoga County assets, such as Cleveland Hopkins International Airport, Cuyahoga County Airport, and commercial property development and public property throughout the county. The provision of these services will, by necessity, create new high tech and high paying technician jobs, as discussed in Table 2 below. It is critical to note that most of these jobs will benefit high school and vocational school graduates, who typically hold “blue-collar” jobs in underserved neighborhoods.

Job	Description*	Who Will Benefit
Remote Pilot	FAA certified remote pilots, median salary approximately \$58,000 per year	Remote pilots are FAA certified after conducting flight training; the level of time and investment required is substantially less than for traditional pilots and is readily accessible to vocational school students
Operations Personnel	Technicians that help plan and support operations, annual salaries range from \$30,000 - \$60,000	The level of time and investment required for training is similar to current aviation operations personnel and easily open to high school graduates
Maintenance Personnel	Technicians that service and maintain drones to aviation standards, annual salaries range from \$34,000 - \$75,000	The level of time and investment required for training is similar to current aviation operations and is readily accessible to vocational school students



Big Data Analyst	Analysts responsible for analyzing drone payload and mission data using statistical tools, annual salaries range from \$80,000 - \$135,000	Technical skills include statistics and software coding and will support employment of local college and university graduates
Manufacturing Specialist	Specialized manufacturing personnel to manufacture vehicles, components, and accessories, annual salaries range from \$29,000 - \$49,000	Similar training to current technical manufacturing jobs, with an emphasis on composites, 3D printing, and electronics assembly, easily open to high school graduates
* Source: ZipRecruiter		

Table 2: Expected NEOFIX Job Creation Benefits

In addition to new resident services and job creation that benefit Cuyahoga County and specific underserved populations, NEOFIX will also bring other general benefits to Cuyahoga County. These benefits include being a catalyst for the addition of new smart cities infrastructure such as weather and environmental sensors and spurring commercial “ride along” investments in communications and sensing infrastructure. Finally, the proposed project and related drone-based resident services provide specific, ARPA-aligned benefits to Cuyahoga County and its residents, as described in Table 3 below.

ARPA Goal	NEOFIX Benefit
Support urgent COVID-19 response efforts to continue to decrease spread of the virus and bring the pandemic under control; Direct COVID-19 containment, testing, vaccination, mitigation, medical care and supplies, quarantine facilities, public health surveillance health communication and enforcement in hospitals, clinics, schools, clinics	NEOFIX provides basic infrastructure for flight planning and operations to support fast developing usage and efficiency for drone delivery of COVID-19 testing kits, medications and other urgent health and medical related transportation uses to underserved communities in Cuyahoga County.
Support immediate economic stabilization for households and businesses	NEOFIX infrastructure will accelerate development and use of drone services and related jobs as remote pilot, maintenance, and flight operations personnel for workers starting with secondary education. NEOFIX creates conditions for industry development; early adoption drone policy and education in professional and academic programming; technology innovation through research and development; and public-private partnership engagement
Address systemic public health and economic challenges that have contributed to the inequal impact of the pandemic	Using NEOFIX to develop infrastructure that supports drone delivery of medical services (such as testing and medication) that specifically benefit lower income communities that may not have access to transportation or work flexibility to easily access medical services.
Capital investments in facilities to achieve the above	NEOFIX will draw on existing “FIX” models to spur additional investment in infrastructure by private entities, including smart cities sensors and drone support facilities.
Water, sewer, and broadband expenditures	NEOFIX will spur additional investment in infrastructure by public utilities (Northeastern Ohio Regional Sewer District and the Cleveland Metroparks for example), and private entities (drone friendly and familiar business and nonprofit entities) familiar with smart cities sensors and drone support facilities.

Table 3: ARPA-Specific Benefits of the NEOFIX Project

## Specific Expected Benefits: Number Served and Catalyst for Future Growth

As discussed above, NEOFIX is based on a proven, successful model in the Commonwealth of Virginia, the Virginia Flight Information Exchange ([www.virginiafix.com](http://www.virginiafix.com), VA-FIX). Launched in August 2020, VA-FIX now has over 50 participating agencies, over 100 state users, eight USSes onboarded (AirMap, Aloft, AirSpaceLink, ATA, DroneUp, Skyward, Wing, and Skygrid), and has created over 20,000 NAVAIDS with approximately 800 active advisories / assets at any given time. **Virginia has been successful at attracting new companies, enterprises, and jobs by making targeted, appropriate investments in digital infrastructure. Companies attracted to Virginia for UAS work include Silent Falcon, Electra Aero, Raytheon Collins, Walmart, and others. Cuyahoga County has many of the same underlying assets that Virginia has and can leverage these assets in the same way to produce similar results – the timing and conditions are right.**

The digital infrastructure enabled by NEOFIX will enable, in concert with interested partners, the stand up of new drone-based resident services in Cuyahoga County. These services benefit all of Cuyahoga County and will originate in County District 2, follow the place-based footprint articulated in the Aerozone District plan communities, and gradually advancing to the rest of the region. Based on estimated service rates and partner knowledge of performance in other places, we estimate that public safety services could emulate the results of the Chula Vista Drone as a First Responder (<https://www.chulavistaca.gov/departments/police-department/programs/uas-drone-program>) program, dropping initial incident response times to under 100 seconds and avoiding patrol dispatch 25% of the time – **resulting in substantial improvements in services to residents and substantial de-escalation, a major benefit to underserved and minority communities.**

Modeling a modest operational fleet, 5 drones for retail delivery and 5 drones for medical delivery, industry standard in-service rates and 10 hour service days during the work week, this could support operations that could potentially provide over 28,000 deliveries to over 18,000 residents (assuming 1 in 3 residents repeat use of the service) in one year (estimated) resulting in a Cuyahoga County investment cost per resident served of only approximately \$12.00, a cost that would continue to decline over time as the investment is amortized.

These same fleets would also create direct jobs, as each drone in service would require remote pilots, data analysts, maintenance personnel, and operations personnel. We estimate, based on partner knowledge and experience, that each of the retail and medical fleets would create 10 specialty technician jobs to maintain commercial service. **These 20 technician jobs are direct jobs associated with commercial operations enabled by NEOFIX** and would be in addition to data management and technical personnel hired by the BW NEOFIX program and additional technician personnel hired by a growing and healthy Cuyahoga County UAS industry. A healthy, growing UAS industry supported by BW NEOFIX enables future growth opportunities through the development of new technologies, services, and businesses. These specific benefits include:

- An inexpensive approach to infrastructure supports the commercial viability of drone services, encouraging growth of the drone industry and creation of blue-collar technology jobs

- Allowing local government to support services and jobs by defining how drones are integrated into their communities
- Enabling safe integration for the space where drones operate (under 1,000 feet)
- Creating public data assets for drones providing Navigational Aids (NAVAIDS) that the FAA has already stated it will not provide
- Relying on a proven model that accelerates services, industry, and jobs while minimizing cost and risk
- Local and national stakeholder support attracting investment from national drone industry players – discussions already underway
- Phased project enabling a proven aviation sustainability model

County investment in drone digital infrastructure initiating a public private partnership will draw a near immediate onboarding of 3-5 national USS providers and other industry players coming to the region, which also creates infrastructure and jobs. This digital infrastructure enables a dialogue between these national providers, local public safety, and medical and health services providers in the region, allowing both local and national providers to identify and deploy cutting edge drone technology. An outcome of this project will place Cuyahoga County on track to foster the development of new high technology manufacturing and software businesses as a place of national leadership.

The combination of new services, national industry players, and regional universities create the opportunity for rapid development of a drone technology cluster in Cuyahoga County, making communities more sustainable and equitable through intentional and strategic deployment of dollars. **The digital infrastructure supported through BW NEOFIX in Cuyahoga County will boost productivity, support business growth, create jobs, provide a healthier environment, and improve opportunities for all of their residents.** Scholarly literature suggests that infrastructure is a public good and part of the community commons; consequently impact will occur over longer time horizons (<https://www.gradingstates.org/the-real-path-to-state-prosperity/investments-in-infrastructure-bring-high-returns/>). In this respect, BW NEOFIX is a targeted investment that fulfills the intents of ARPA to make strategic investments in long-lived assets, rebuild reserves to enhance financial stability, and cover temporary operating shortfalls until economic conditions and operations normalize.

## Applicant Capability

### NEOFIX Support, Community Fit, and Other Ongoing Projects

Once established this work has natural partners for growth in the Aerozone district. For example, regional users of drones and UAV include the Metroparks, Port Authority, Sewer District, and the Ohio Department of Transportation, Ohio EPA, and Ohio DNR. Others such as the Port Authority, Cleveland Hopkins International Airport and the Cuyahoga County Airport have offered interest in the regional economic development potential of the NEOFIX and the NASA GRC Technology Transfer. The North Coast Drone Alliance (NORCODA) an independent, nonprofit professional association in the Cleveland Ohio region which connect drone professionals in government, public safety, university, and commercial organizations is also interested in the project. As an early step of market sequencing, the initial

stakeholder market for the program will be to draw on the interests and experience of public safety officials and emergency preparedness officials, building quickly to other public sectors consumers of drone operations while also drawing in private industry.

**NEOFIX will join Cuyahoga County to a national group of states and localities making thoughtful, targeted, forward leaning investments in the infrastructure that will allow us to successfully respond not just to COVID, but to whatever the next crisis or opportunity may be. Cuyahoga will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community while growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation. As a result, NEOFIX has attracted the attention of national partners that are interested in bringing resources, expertise, and jobs to Cuyahoga County as a direct impact of this project.**

The network of local and national partners creates an extremely strong capability to execute the project and ensure that the full impact of NEOFIX is achieved in Cuyahoga County. Table 4 below details the list of potential project partners and private stakeholders from outside the region who have expressed interest in NEOFIX, including what their role in the project could be, and where they are located (either Cuyahoga County District or nationally). Those submitting letters of support for this project are noted below in the table in gray shading.

Partner	Role	Location
Baldwin Wallace University	Program Management, Stakeholder Engagement, Subject Matter Expert	Cuyahoga County District 5
Aerozone Alliance	Stakeholder Engagement, Subject Matter Expert	Cuyahoga County District 2
ATA, LLC	Technology Provider, Data Management, Subject Matter Expert	Virginia
NASA Glenn Research Center	Technology Provider, Subject Matter Expert	Cuyahoga County District 2
DroneUp	UAS Operator, Subject Matter Expert	Virginia
North Coast Drone Alliance (NORCODA)	Stakeholder Engagement, Subject Matter Expert, UAS Operators	Cuyahoga County District 2
Cleveland Hopkins International Airport	Aviation Stakeholder and Subject Matter Expert	Cuyahoga County District 2
DRONERESPONDERS Public Safety Alliance	Public Safety Stakeholder Engagement, Subject Matter Expert	Virginia
Cleveland State University Center for Emergency Preparedness	User network access and expertise	Cuyahoga County District 7
The TECHPARK (Brook Park, Ohio) – Paran Management	Regional Stakeholder and Physical Infrastructure Provider	Cuyahoga County District 2
Aloft, Inc.	USS Provider	California
Unified Drone	UAS Operator, Subject Matter Expert	Cuyahoga County District 2

Partner	Role	Location
Ohio Aerospace Institute	Stakeholder Engagement and Subject Matter Expert	Cuyahoga County District 2
Connect-Tec Inc	Start-up aircraft technology maintenance Business	Cuyahoga County District 2
Manufacturing Works (the former WireNet)	Business incubation intermediary aligned with MAGNET and TeamNEO	Cuyahoga County District 2
Woodlawn Fire Department	Public Safety UAS Operator	Ohio
Cuyahoga County Port Authority	Regional Stakeholder and Physical Infrastructure Provider	Cuyahoga County District 7
Metroparks	Regional Stakeholder and Physical Infrastructure Provider	Cuyahoga County – All
EHM Advisors	Technology Business development	Cuyahoga County - All
Cuyahoga County Office of Sustainability	Regional Stakeholder, Subject Matter Expert	Cuyahoga County – All
Mayors and Managers Association	Regional Stakeholder Outreach	Cuyahoga County – All
OneSky	UTM Service Provider	Pennsylvania
Crown Castle	Communications Provider, Subject Matter Expert	Pennsylvania
Intellisense	Sensor Provider, Subject Matter Expert	California
Raytheon Collins Aerospace	Sensor Provider, Subject Matter Expert	North Carolina
Fortem Technologies	Sensor Provider, Subject Matter Expert	Utah
Echodyne	Sensor Provider, Subject Matter Expert	Washington
Pierce Aviation	Sensor Provider, Subject Matter Expert	Indiana
TruWeather	Sensor and Weather Provider, Subject Matter Expert	Virginia
AirMap	USS Provider, UTM Service Provider	California

Table 4: NEOFIX Interested Partners

**Team Composition and Experience**

The BW NEOFIX execution team consists of BW and ATA, LLC (ATA). This team brings extensive local knowledge and experience in aerospace, UAS, and digital infrastructure. BW will assemble a start-up stakeholder advisory group of public and private partners and collaborators, initially drawing from ATA, Manufacturing Works, the Aerozone Alliance, the Ohio Aerospace Institute, Cleveland State University Center for Emergency Preparedness, North Coast Drone Alliance (NORCODA), NASA Glenn Research Center office of Technology Transfer, Cleveland Hopkins International Airport, city of Brook Park, Cuyahoga County (departments of planning and economic development), and private commercial operations such as DroneUp.

BW stands ready to initiate this project upon receipt of the County ARPA funds. This project fits within BW’s strategic values devising programming that is intentionally excellent, innovative, equitable and

inclusive. The NEOFIX is an exciting and valuable fit within BW's regional impact, awareness and reputation strategic initiative outputs. As a public private partnership the NEOFIX and the NASA GRC technology transfer partnership are necessary infrastructure underlying high paying jobs drawing on education, training, manufacturing a design, maintenance technologies, flight operations programs; and public policy development and discourse while also engaging students and faculty of BW.

- **Affiliate Professor, Primary Investigator and Technology Partnership Initiative Project Director, Stuart C Mendel** (<https://www.linkedin.com/in/stuart-c-mendel/>) , served as founding Executive Director and organizer of the Aerozone Alliance a 501c3 not for profit organizations (<https://www.aerozonealliance.org/founding-board/>) , under whose direction the Aerozone District plan was created and the concept Partnership Initiative at Baldwin Wallace University: Northeast Ohio Flight Information Exchange - Digital Infrastructure for Drone Services.
- **ATA is the Full Stack Data Science company** focused on the Design+Build of scalable, sustainable capabilities to improve organizational performance, optimize investments, reduce risk and use data as a strategic asset for sensemaking and higher quality decisions. ATA is our technology partner with expertise necessary to quickly establish the Flight data information exchange. ATA's aviation solutions are used by L3Harris, the FAA, and the Commonwealth of Virginia. With experience in data analysis, geospatial data processing, geospatial data analysis, and data governance, ATA brings their wealth of experience and relationships to NEOFIX. This includes ATA's geospatial data processing solutions, currently in use by over 50 state and local agencies and 40 airports nationwide. By way of example, as the technology partner of the Commonwealth of Virginia for VA-FIX, in less than two years, ATA has supported the growth of the program from less than 10 agencies and stakeholders to over 50, from 1 USS partner 8 (50% of USSes), to over 100 users and over 20,000 navigational aids as digital infrastructure. Further background and information is found here: <https://www.ata-llc.com/>.

## Proposal Specificity and Feasibility

### Objectives

This proposed project may be considered as a social enterprise in the respect that its overarching objectives are not solely monetary but reflect building of place and community capacity to support future services by creating information for communities as digital infrastructure, information governance, and place-making through collaboration. BW NEOFIX will act as a public-private partnership including Cuyahoga County, relevant municipalities, private business and nonprofit actors of the Aerospace Parkway Technology Park region adjacent to Cleveland Hopkins International Airport and NASA GRC. This digital infrastructure underlies high paying jobs as remote pilots, maintenance, analysts, and flight operations personnel; opportunities for professional development of students and faculty of BW; and public policy development and discourse while engaging the community.

Our vision is to set the conditions for drone manufacture, maintenance, and repair; attraction of technology supportive business and development; advancing use in service to public sector applications such as public safety officials; emergency preparedness officials; commercial flight operations;

education of county residents; engagement by STEM program enrollees and jobs. Several objectives will be achieved for each partner in BW NEFOIX, as discussed below.

**Objective 1: Create a prototype drone ready community drawing on local industry, communities, and public safety in Cuyahoga County, the region, and select national stakeholders.** The concept is portable regionally and throughout all of Ohio. The site is placed-based with a focus on the locality of Cuyahoga County District 2 drawing on the 2021 Aerozone District plan. A placed-based drone ready community provides the information and resources necessary for safe, efficient, and effective remote flight as a public service.

**Objective 2: Develop specific, new resident services that support public resilience in the face of pandemics like COVID-19 and address the public health and economic challenges that have contributed to the unequal impact of the pandemic.** NEOFIX creates the infrastructure, through public-private partnership, to support delivery of medical testing and medications through drones to socially disadvantaged populations who otherwise wouldn't have access to services. BW is working to establish collaboration with the MetroHealth Center redevelopment project and adjacent community for drone applications, and drawing Cleveland Clinic and University Hospitals into the partnership.

**Objective 3: Create a model drawing on regional expertise and proven experience to facilitate and develop private industry and manufacturing making use of public sector innovation, such as NASA GRC research technology transfer, and procurement funds to create a “drone cluster” that demonstrates maturity and attracts new, high growth industry entrants.**

**Objective 4: Work with industry to develop new resident services focused on underserved communities.** These generate high-quality jobs by tapping federal and private funding devoted to new product innovations to meet market needs, such as the development of new public safety capabilities, logistics services, and urban mobility along with the operations, maintenance, technical, and pilot personnel necessary to implement these services.

**Objective 5: Introduce the concept of community “facilitation” by BW of social enterprise outcomes that would not otherwise take place in the marketplace or public sector, such as:**

- Create innovation opportunities that will encourage collaboration and international trade and business development opportunities for the District 2 TECH PARK and local communities of the Aerozone District and Cuyahoga County;
- Apply these concepts across subject matter disciplines with BW academic departments and programs of applied practice including engineering, cyber security, management of big data, business management, and student enrichment and exposure to the work through innovative community development;
- Opportunities for the students, faculty, and key staff at BW that also draw upon public officials' focus on regulatory concerns, public safety, and emergency preparedness and public sector infrastructure. The melding of these stakeholders will lead to soft outcomes of common-goods nature while creating more measured outcomes for learning, business development experience, engineering, cyber security, and big-data problem solving;

- Engage faculty, students, and key staff at the intersection of emerging policy, planning and technical issues related to how unmanned systems are integrated with the local community allowing BW departments to collaborate on new, and integrative disciplines.

The underlying theory for this project was drawn from the following documentation, all contributing to the Aerozone District Plan of 2021: <https://www.aerozonealliance.org/the-district/district-plan/>.

Research sources:

- “Welcome to the “Drone Zone.” Pursuing growth in Unmanned Aerial Systems within the Aerozone: A Thought Paper.” Prepared for the Aerozone Alliance by Seth Young, PhD | May 18, 2021;
- “The Impact and Opportunities for Cleveland Hopkins International Airport on the Proposed District and Surrounding Regions.” Alexander Sekhniashvili, November 2020;
- What’s so great about an “aerotropolis” anyway? by David Sachs, Denverite | January 28, 2019;
- “Assessing the Feasibility of an Aerotropolis Around Cleveland Hopkins International Airport: Executive Report. Prepared for: Berea Community Development Corporation by: The Center for Public Management Maxine Goodman Levin College of Urban Affairs Cleveland State University August 2010;”
- Podcast | Connection, Community & Innovation: The Aerotropolis with Dr. Stuart C. Mendel, Evergreen: Big Audacious Idea | March 2021.

## Implementation Strategy

NEOFIX has natural partners for growth in the Aerozone district that include the North Coast Drone Alliance (<https://norcoda.org/>); Unified Drone (a collaboration of Drone companies under the Unified Drone "Drone Solutions Network" umbrella); additional relationships to involve public sector users to include the Metroparks, Port Authority, Sewer District, Ohio Department of Transportation; and regional economic development organizations such as OAI (<https://oai.org/>) and the Aerozone Alliance ([www.aerozonealliance.org](http://www.aerozonealliance.org)). The ramifications for this project will also be felt in regional trade with the global business and cargo and shipping in terms of drone development and usage for moving goods and services with greater Cleveland as a central node.

It is the intent of the NEOFIX program to leverage the playbook and technology already developed and proven in Virginia. The Commonwealth of Virginia uses ATA services as the backbone of the Virginia Flight Information Exchange ([www.virginiafix.com](http://www.virginiafix.com)), Virginia’s Authoritative SDSP (ASDSP), and the baseline for initial AAM asset governance. NEOFIX will leverage the same approach, allowing Cuyahoga County’s digital infrastructure for drones to be quickly and simply integrated into the UTM system.

Through the Virginia governance activity and the FIX User Group, our team has identified key information assets and policy clarifications that can be readily addressed with existing infrastructure in Cuyahoga County yet provide a substantial step forward toward UTM and AAM if configured and published. Examples of assets and integrations that support community drone readiness include:



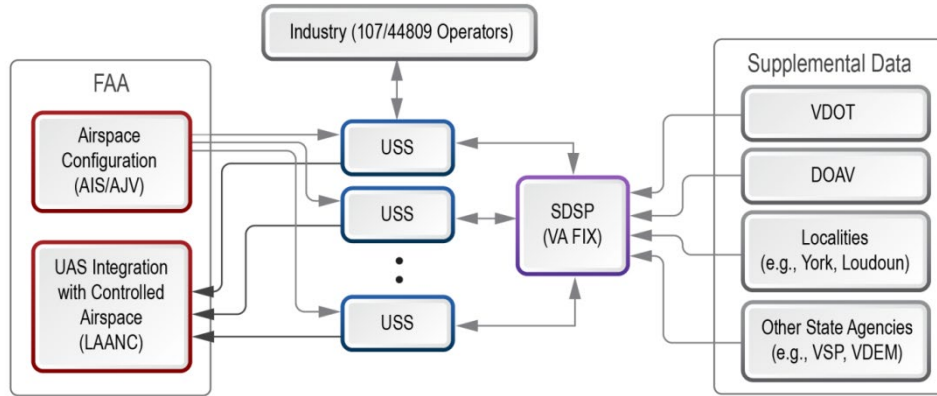


Figure 3: Role of the Flight Information Exchange as ASDSP in FAA UTM ConOps

- Groundspace configuration data such as hazards, obstacles, and obstructions;
- Public safety data such as operations and public safety sensitive or restricted areas;
- Take-off and landing area rules (preferred, notification required, permission required, and prohibited);
- Sensitive infrastructure (cell towers / power lines) to assist with safe flight operations and compliance with regulations;
- Hazardous ground conditions such as chemical and oil plants and storage facilities;
- Sensor data to provide situational awareness of environmental conditions; and
- Position information describing objects in the air, including crewed and uncrewed vehicles, and other relevant information, to assist USS/UTM providers managing airspace operations.

This data is entered into NEOFIX and managed by key local stakeholders, including local airports, public safety agencies, and zoning and planning officials for consumption by UAS pilots and operators (who may also be local government entities), industry service providers such as USS providers, and drone manufacturers that can build these data services into their platform safety features. Figure 4, below, identifies key stakeholders (both providers and consumers of data), examples of data, and describes why a given provider or consumer participates, based on experience with similar projects in other locations.

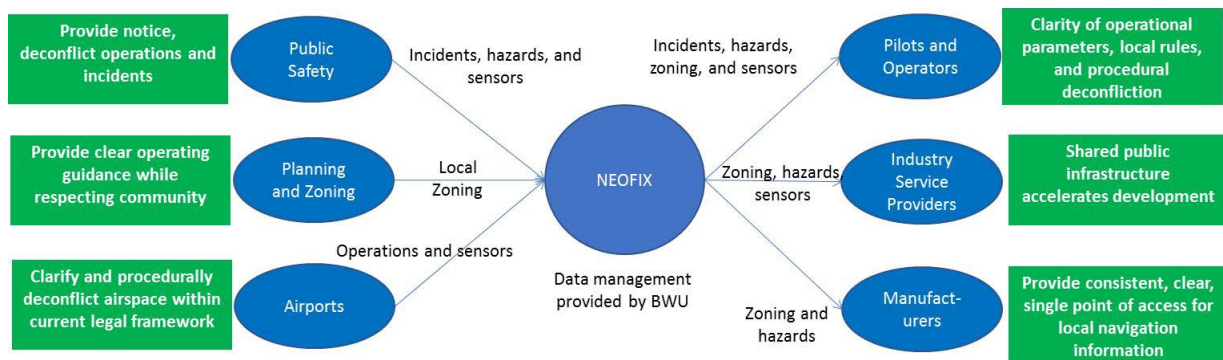


Figure 4: Example Stakeholders, Consumers, Users, and Uses of NEOFIX

**The early work of the project extending through the first 12 months from receipt of ARPA funding will set the conditions for BW to create a stakeholder affinity group that will allow for the transition of the project to a fully sustainable public-private enterprise in months 13-24 by concentrating on a dual track of establishing the NEOFIX system and engaging the following groups of stakeholders in a formal stakeholder advisory activity (the NEOFIX User Group), undertaking the following activities:**

- Engagement of local aviation stakeholders such as Cleveland Hopkins, NASA GRC, NORCODA and others to define how existing infrastructure should be used, configured, and published to yield the safest, most optimal airspace for drone operations;
- Involvement of community stakeholders and leadership in identifying how new drone services can be best integrated into the local community and defining the digital assets necessary;
- Involvement of Public Safety officials to identify and define the digital assets that both support public safety drone programs for the good of the community as well as ensure that drone operations are safe at the local level;
- Input from the local drone industry to ensure that the use of Cuyahoga County infrastructure and configuration of new digital infrastructure not only encourage safety but actually make it easier for industry to operate and grow in Cuyahoga County;
- Input from the national drone industry to ensure that the Cuyahoga County infrastructure being published into the UTM system as digital infrastructure is not only competitive with other sites in the United States but makes Cuyahoga County one of the leading sites;
- Engagement with local and regional offices of the Federal Government such as the FAA and NASA to support regulatory compliance, the use of innovative technology, and to ensure that Cuyahoga County's digital infrastructure is ready for the future;
- Developing additional support from national stakeholders to ensure that NEOFIX transitions into sustainable digital infrastructure for Cuyahoga County through user and membership fees; and
- Building relationships with local and regional economic development actors to ensure NEOFIX acts as a catalyst for future growth.

## **Benchmark Measures and Outcomes Measures**

The outputs and the outcomes of this project(s) are similar to those underlying infrastructure projects. Immediate tangible benefits of NEOFIX are digital infrastructure such as a web site and navigation and information services; social discourse to organize a drone community; and national UAS industry players establishing operations in Cuyahoga County. **Near term benefits include partnerships between local and national UAS industry players to establish new public safety and commercial drone services and infrastructure in Cuyahoga County that provide valuable services to underserved communities that begin to address the unequitable impact of the pandemic. Long term benefits include an innovation cluster centered around the Aerozone District and NASA GRC that will leverage innovation to create new businesses, new drone manufacturing and maintenance, new jobs and innovative new services such as cross-border freight services.** Specific measurements are discussed in Table 5, below.

	Near Term	Long Term
<b>Quantitative</b>	<ul style="list-style-type: none"> <li>Website traffic and traceable use and content downloads from the website</li> <li>National USS/UTM players integrating with NEOFIX and operating in Cuyahoga county</li> <li>New resident services enabled and number of residents served</li> <li>Stakeholder Advisory group (NEOFIX User Group) networks, meetings and participant participation levels</li> <li>New technologies identified at NASA GRC and tracked for test deployment in Cuyahoga County</li> <li>National UAS industry players engaging with NASA GRC</li> <li>Related jobs created</li> <li>Student engagement</li> <li>Drone policy recommendations, configuration of digital infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Increase in articulated partnership agreements as the project matures.</li> <li>Rising employment in the Aerozone District</li> <li>Leasing density in the Technology Park</li> <li>Location of businesses traceable to the public sector policies favorable to drone supply chain</li> <li>Private investment in the Aerozone District</li> <li>Next generation technology amenities available to residents of the district</li> <li>Longer term Stakeholder Advisory group (NEOFIX User Group) networks, meetings and participant participation levels</li> <li>Growth of website hits, use, and content</li> <li>Index of digital infrastructure (number of advisories, NAVAIDS, sensor feeds available to the UAS industry and the public</li> <li>Number of stakeholders engaged locally and nationally</li> <li>Number of local UAS businesses (operations, manufacturing, service and maintenance, sensors and related technologies)</li> </ul>
<b>Qualitative</b>	<ul style="list-style-type: none"> <li>Businesses making use of the NEOFIX digital infrastructure service</li> <li>Prompts from Drone stakeholders for additional NEOFIX functions and uses</li> <li>New industry cluster focused initially on the Technology Park in Cuyahoga County District 2 drawing on the successful work leading to the forming of the Aerozone district</li> </ul>	<ul style="list-style-type: none"> <li>Collaboration with local and national partners</li> <li>Related jobs created</li> <li>Student engagement</li> <li>SBIR proposals and business plans for new enterprises using relevant NASA GRC technology</li> <li>Traceable development of industry supply chain</li> </ul>

Table 5: Quantitative and Qualitative Near and Long Term Outcomes Benchmarks

## Project Readiness

### Existing Engagement

**The project can commence upon receipt of Cuyahoga County ARPA or other County project funds and NEOFIX will be up and running within 90 days of funding.** Among the first order of work efforts will be the development of the NEOFIX website and social media funnels devoted to the NEOFIX digital infrastructure initiative at BW. Because BW and its partner ATA have already been working on developing this project, the technology and roll out plans are already developed; initial content development can leverage existing templates; and project marketing to public safety officials, local

stakeholders, and national UAS participants are already underway, as described in Table 4 above. Further, BW’s team has access to other stakeholders using additional relationships, existing databases of email addresses, and those generated from research databases.

**The result is a that the proposed BW NEOFIX program is not only “shovel ready” but we have a substantial number of Cuyahoga County, Ohio, and national stakeholders ready to engage immediately upon initial funding, allowing the proposed project to undertake an aggressive schedule and start delivering benefit within 90 days, as discussed in our proposed schedule.**

## Schedule

Web content, data collection, social media connectivity, and stakeholder interactions will take place within 90 days of funding. Work will concentrate on public safety and emergency preparedness professionals to form a membership utilizing and participating in the NEOFIX in six major areas:

1. Rapid roll out of software, stakeholder integration, technology, and systems integration (BW, and ATA). **3 months**
2. Development of a website, populated by new content some which will be produced by the project, and some contributed by partners. **3 – 9 months**
3. Dissemination of regular communications. **Ongoing**
4. The opt in of individuals to our MailChimp database drawn from social media funnels notifications and discourse. **12 months**
5. Establishment and growth in number and diversity of organizations committed to participating in the advisory committee (NEOFIX User Group) and their involvement in subsequent working committees. **3 Months Setup, then Ongoing**
6. NASA GRC Technology Transfer Office collaboration will follow the academic calendar in the development of tech transfer business plans. **Ongoing.**

The initial project work involves the formation of a commercial drone user community and manufacturing supply chain coordinated by technology partnerships project of the Baldwin Wallace University. **This project will connect community stakeholders and Baldwin Wallace University human capital resources in engineering, computer and data science, cyber security, digital marketing, business management and entrepreneurship, and nursing administration with public and private stakeholders using the convening, organizing and intellectual power of the University.** In addition, the NEOFIX project involves collaboration with NASA GRC to identify and spin-out relevant UAS technologies, leading to related business development in the Technology business park directly adjacent to the GRC in the cities of Cleveland, Brook Park, and Berea. Table 6 below details BW’s NEOFIX work plan, based on similar experience of ATA in Virginia and other regions and states.

Period	Tasks
<b>Month 1</b>	Initial NEOFIX User Group Meeting Establish social media and newsletter Establish web discussions Establish NEOFIX User Group Being to inventory Data Assets Start web site and rollout of NEOFIX software
<b>Month 2</b>	Second NEOFIX User Group Meeting

Period	Tasks
	<ul style="list-style-type: none"> <li>Recruit additional stakeholders for NEOFIX User Group</li> <li>Initial NEOFIX System Standup for Testing</li> <li>Review Web interface Style and initial content</li> <li>Start collecting and mapping data assets</li> <li>Reach out to and start onboarding initial USS/UTM partners</li> <li>Initial NEOFIX data mappings and supplemental language</li> <li>Establish initial administrative accounts</li> <li>Establish data security model documentation</li> <li>Establish API credentials</li> </ul>
<b>Month 3</b>	<ul style="list-style-type: none"> <li>Third NEOFIX User Group Meeting</li> <li>Approve and Deploy Production NEOFIX</li> <li>Finalize and approve initial data mappings and supplemental language</li> <li>Guidance for identifying and describing data</li> <li>Guidance for data mapping, including supplemental language</li> <li>Templates for data preparation and loading</li> <li>Technical documentation to support data preparation</li> <li>Load initial production data</li> <li>Complete onboarding initial USS/UTM partners</li> <li>Initial data integrations to capture digital infrastructure data and sensor / tools integrations</li> <li>Initiate NASA GRC Technology Transfer Activities with NEOFIX User Group, BW faculty and researchers, and stakeholders</li> <li>Commence collaboration with interested partners to facilitate turn up and deployment of new public safety and commercial industry drone services for residents</li> </ul>
<b>Month 6</b>	<ul style="list-style-type: none"> <li>Establish initial MailChimp database drawn from social media funnels to broaden participation and start to build dues-paying membership</li> <li>Initiate industry discussions on NEOFIX sustainability funding to identify appropriate user-fee based services, the value proposition of the services, and appropriate fees</li> <li>Produce initial collaboration plans for new resident drone services</li> </ul>
<b>Monthly</b>	<ul style="list-style-type: none"> <li>Monthly User Group Meeting</li> <li>Agenda, materials, and demonstrations for the monthly NEOFIX User Group meeting</li> <li>NEOFIX User Group meeting minutes and documentation</li> <li>Newsletter and social media posts</li> <li>Ongoing Onboarding of USS/UTM Partners</li> <li>Ongoing onboarding of Aerozone Alliance partner agency systems</li> <li>Continued collection, mapping, and loading of data assets</li> <li>Review, extend, updated and maintain data mappings and supplemental language</li> <li>Ongoing integration of sensors and USS tools</li> <li>Maintenance of NEOFIX</li> <li>Maintenance of web site</li> <li>Support APIs to allow USS/UTM providers, critical infrastructure providers, sensor providers, and state or local agencies to access NEOFIX programmatically</li> <li>Support training of new users, as needed</li> <li>Provide technical troubleshooting for users, as needed</li> <li>NASA GRC Technology Transfer agendas, follow-ups with business development plan</li> <li>Provide ongoing digital infrastructure support for new resident drone services</li> </ul>
<b>Quarterly</b>	<ul style="list-style-type: none"> <li>System Maintenance and Ongoing Security Compliance</li> <li>Minimum quarterly release of updated application and new features</li> <li>BW NEOFIX Quarterly Program Review and Report</li> <li>Ensure NEOFIX maintains compliance with NIST 800-53 Moderate security controls baseline</li> <li>NASA GRC Technology Transfer opportunities posted to the public and website</li> </ul>

*Table 6: Work Plan: Progress Timeline (From Date of Funding Award)*

## Cost-Effectiveness and Leverage

### Budget

Total Budget of Project: \$499,000						6/6/2022
BUDGET - SUMMARY						
	Year 1	Year 2	Year 3	Year 4		
<i>Sources - Revenue</i>						
County ARP Funds	\$225,000	\$225,000	\$0	\$0		
Non-County Governmental Funds	\$0	\$27,985	\$164,925	\$199,750	Grants and memberships	
Commercial Funds	\$0	\$15,000	\$85,000	\$145,000	Membership and user fees	
Sponsorships	\$500	\$10,500	\$16,000	\$27,500	Commercial sponsorships	
BW Reinvestment into project	\$15,140	\$18,512	\$16,826	\$23,570	20% of recovered IDC)	
In Kind Services ATA	\$50,000	\$50,000	\$0	\$0		
<b>Total</b>	<b>\$290,640</b>	<b>\$346,997</b>	<b>\$282,751</b>	<b>\$395,820</b>		
<i>Uses - Expenses</i>						
Program Development Expenses	\$105,000	\$105,000	\$105,000	\$105,000	Program management and overhead	
Technical / Software	\$75,000	\$75,000	\$75,000	\$75,000	Technical data interchange	
Stakeholder Outreach	\$19,500	\$19,500	\$19,500	\$19,500	Direct stakeholder engagement	
Data Governance	\$0	\$25,000	\$25,000	\$25,000	Helping stakeholders with data	
Use Case Development	\$25,000	\$50,000	\$25,000	\$125,000	Accelerate deployment of UAS services	
<b>Total Direct Costs</b>	<b>\$224,500</b>	<b>\$274,500</b>	<b>\$249,500</b>	<b>\$349,500</b>		
11000 Indirect Costs	\$75,701	\$92,561	\$84,131	\$117,851	(Federal MTDC Rate 33.72%)	
<b>Total Costs</b>	<b>\$300,201</b>	<b>\$367,061</b>	<b>\$333,631</b>	<b>\$467,351</b>		

**Initial revenue from Cuyahoga County ARPA is requested in the amount of \$450,000, of which the full \$450,000 is sought for the purpose of funding direct costs over the two-year budget horizon. We have set August 1, 2022 as the start date assuming funding is awarded.** This request is necessary to seed the NEOFIX project and develop the NEOFIX infrastructure. The two-year leverage of these funds is \$168,262 comprised of a reinvestment/waiver of indirect cost charges by BW which total \$68,262 in the project and in-kind contributed support from AVA which total \$100,000. These two items are a leverage-match that will signal to corporate funders we are approaching that the project has institutional support which will incentivize funding from them. The arrangement forms the basis for how NEOFIX will be sustained beyond the grant period, without requiring further on-going support from Cuyahoga County.

Start-up expenses will develop the organization, create the NEOFIX database and interactive web interface; convene stakeholders identified in this proposal; develop user policies for the NEOFIX data and establish governance over that data; test the models and promote them to the user community. Since the program design requires development of a world wide web site presence, accompanied by social media funnels to draw target stakeholders to the website, early outreach work will involve direct communications with stakeholders, building a NEOFIX dedicated mailchimp users list for dissemination of regular communications and knowledge sharing.

### Plan for Sustainability

**This project is devised to be self-sustaining from the twenty-four-month mark of operations (starting from the receipt of funding).** Funding for sustainability of the NEOFIX at Baldwin Wallace University is

intended to be derived from user and membership fees. As part of the planned collaboration effort around NEOFIX, BW will explore models for sustainable infrastructure for UTM and AAM in Cuyahoga County. This exploration is informed by national discussions with other localities and with industry on how sustainability and shared costs might be achieved over the long term in a manner that can sustain infrastructure and promote the economic viability and prosperity of the drone industry. **NEOFIX will collaborate with local and national stakeholders to implement the following mechanisms for long-term sustainment of NEOFIX and the industry:**

- **Locality memberships**, at modest cost, to support and participate in the data governance, configuration, and syndication activities;
- **Commercial membership / sponsorship** for providers of value-added services to support infrastructure with commercial value-added services and shared services as directed / desired by the commercial stakeholders;
- **Establishment of flow-through commercial data service subscriptions** allowing NEOFIX to provide public and private option digital infrastructure and commercial data providers to provide value-added private commercial services on top of the public digital infrastructure;
- **Access to Federal and State funding opportunities** for drone infrastructure; and
- **Development of specific value-added services** that can provide sustainment through fee-based services.

The challenge of a sustainable drone industry is at the front of the agenda for the UAS industry – ensuring that vehicles and infrastructure lead to scalable, cost-effective operations and services are one of the hottest topics in the industry. BW’s proposed NEOFIX is deliberately designed to make progress against this issue through two key design decisions: i) the deliberate focus on data and information asset governance encouraging stakeholder collaboration and participation across public and private groups and ii) the focus on an “organic infrastructure” that has the potential to dramatically lower the costs of physical and digital infrastructure for communities.

For example, in our initial analysis, the infrastructure cost advantage of NEOFIX is potentially two orders of magnitude more affordable than existing efforts that are showing infrastructure enablement costs in excess of \$200,000 per square mile, while our modeling indicates likely enablement costs for drone infrastructure (leveraging the NEOFIX model) of \$2,500 - \$7,500 per square mile. The dramatic reduction in enabling infrastructure cost has the potential to actually make user fees for infrastructure feasible, because the fees that would be needed for infrastructure in Cuyahoga County would align to commercially viable operating costs. Further, the combination of usable infrastructure with affordable fees opens the door to constructive discussions with industry about how to fund these infrastructure projects sustainably while enabling commercial operations.

The commitment to affordable, sustainable infrastructure that NEOFIX enables allows for a constructive discussion with localities and industry on fee models for sustainable infrastructure. We estimate user fee revenue of over \$100,000 in Year 3 of the project and over \$200,000 in Year 4. It is critical to note that because of the organic nature of the NEOFIX rollout and reliance on extensive, multiple private-public partnerships; even these modest levels of user fees can easily sustain the NEOFIX program well into the future.

Stan Ball  
Susan Bixler  
Don Bogus  
Paul Carleton  
Paul Clark  
Pam Connolly  
Robin Cottingham  
Tim Cowen  
Ryan Cross  
Jim Davidson  
Rich Desich  
Agnes Dover  
Lutul Farrow  
Bennett Gaines  
Dan Hagen  
John Hoyt  
Dave Jenkins  
John Kropf

Debra Lyons  
Chris Lytle  
Dave Martin  
Wade Massad  
Ed Napoleon  
Peter Neffenger  
Vince Petrella  
Chuck Rotuno  
Malisse Sinito  
Kris Smeage  
Mark Summers  
Bill Summers  
Lee Thomas  
Floyd Trouten  
Tom Waltermire  
Susan Zanetti  
Chris Zito



P.O. Box 2508  
Cincinnati OH 45201

In reply refer to: 0248364843  
Oct. 09, 2012 LTR 4168C E0  
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00015468  
BODC: TE

BALDWIN WALLACE UNIVERSITY

275 EASTLAND RD  
BEREA OH 44017-2005

Employer Identification Number: 34-0714629  
Person to Contact: Ms. Osborne  
Toll Free Telephone Number: 1-877-829-5500

Dear Taxpayer:

This is in response to your Sep. 27, 2012, request for information regarding your tax-exempt status.

Our records indicate that you were recognized as exempt under section 501(c)(3) of the Internal Revenue Code in a determination letter issued in April 1954.

Our records also indicate that you are not a private foundation within the meaning of section 509(a) of the Code because you are described in section(s) 509(a)(1) and 170(b)(1)(A)(ii).

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for Federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

Please refer to our website [www.irs.gov/eo](http://www.irs.gov/eo) for information regarding filing requirements. Specifically, section 6033(j) of the Code provides that failure to file an annual information return for three consecutive years results in revocation of tax-exempt status as of the filing due date of the third return for organizations required to file. We will publish a list of organizations whose tax-exempt status was revoked under section 6033(j) of the Code on our website beginning in early 2011.

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Oct. 09, 2012 LTR 4168C E0  
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00015469

BALDWIN WALLACE UNIVERSITY

275 EASTLAND RD  
BEREA OH 44017-2005

If you have any questions, please call us at the telephone number shown in the heading of this letter.

Sincerely yours,

*Richard McKee*

Richard McKee, Department Manager  
Accounts Management Operations

March 7, 2022  
County Executive Armond Budish & Councilman Dale Miller  
Cuyahoga County Headquarters  
2079 East Ninth Street  
Cleveland, OH 44115

Dear County Executive Budish and Councilman Miller,

I am writing to express my support for the Northeast Ohio Flight Information Exchange (NEOFIX) and share why it is needed in Cuyahoga County. Adopting in the FIX model in Cuyahoga County would position the county to be one of the nation's leaders in aviation as it would one of the first utilizing this platform, ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS), and laying the groundwork for UAS Traffic Management and Advanced Air Mobility.

NEOFIX directly supports five aspects of the American Rescue Plan Act of 2021 (ARPA) goal to support the nation's public transportation and other infrastructure systems by enabling next generation delivery services, including medical services, to disadvantaged and underserved communities as they continue to respond to the COVID-19 pandemic. NEOFIX provides basic infrastructure for flight planning and operations to support fast developing usage of drone delivery for COVID-19 testing kits, medications and other urgent health and medical related transportation uses to underserved communities in Cuyahoga County as well as infrastructure to support Public Safety responses to emergencies. This infrastructure will accelerate development and use of drone services and related jobs as remote pilot, maintenance, and flight operations personnel for workers starting with secondary education.

Ohio is a leader in investing in the research and infrastructure needed to help transform industry and spur economic growth using Unmanned Aircraft Systems (UAS), however most of this work is being done outside of Northeast Ohio. NEOFIX gives Northeast Ohio the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. NEOFIX will provide Northeast Ohio with opportunities for drones to add value to government and commercial services to residents.

NEOFIX will be a platform for state and local government and public safety agencies (including first responders, law enforcement, and emergency management) to post advisory information for each other and drone operators that keep the airspace open, secure, and safe. FIX informs operators of ground rules and conditions, local issues and events, public safety incidents, hazards, and sensitive and critical infrastructure to avoid or consider before and while operating their drones thus providing clarifying information that assists UAS operators comply with federal and local rules. By bringing NEOFIX to Northeast Ohio, the region will have one system accessible to all, managed by local government with data as a public asset.

NEOFIX will join Cuyahoga County to a national group of states and localities making thoughtful, targeted, forward leaning investments in the infrastructure that will allow us to successfully respond not just to COVID, but to whatever the next crisis or opportunity may be. Cuyahoga will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community will growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation.

I strongly encourage your support in establishing the NEOFIX in Ohio. Please reach out to me with any questions you may have.

Sincerely,



March 7, 2022  
Hrishue Mahalaha  
Executive Director,  
Aerozone Alliance



John S. Eberhardt III  
Chief Technology Officer

ATA, LLC  
8521 Leesburg Pike  
Suite 310  
Vienna, VA 22182

Provost Stephen Stahl  
Baldwin Wallace University  
275 Eastland Rd.  
Berea, OH 44017

9 June 2022

Dear Provost Stahl:

I am writing to express ATA's commitment to support Baldwin Wallace University's (BW) proposed Northeast Ohio Flight Information Exchange (NEOFIX) should Cuyahoga County choose to fund the project. Adopting NEOFIX in Cuyahoga County would position the county to be one of the nation's leaders in aviation as it would be one of the early adopters ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS) and laying the groundwork for UAS Traffic Management and Advanced Aerial Mobility. As a LAANC USS and developer / implementer of Flight Information Exchange (FIX) in Virginia and California, ATA is excited to help BW and Cuyahoga County build a strong UAS community.

Drones are a \$3B industry forecast to grow to over \$10B in the next five years. Your community will see dramatic increases in local drone traffic over the next few years. The commercial and recreational drone market has grown to over 200,000 licensed pilots and 3 million drones in the last five years in the U.S. By establishing NEOFIX in Cuyahoga County, the region will have one system accessible to all, with data accessible as a public asset. NEOFIX can expand throughout Ohio as a national leader in aviation, technology, and innovation with Cuyahoga County as the original center for commercial applications.

As one of 16 FAA-onboarded LAANC USSes and the technology partner of the Commonwealth of Virginia and University of California in implementing their FIXes, ATA brings substantial experience and expertise to BW's NEOFIX project. ATA will provide software and technical support services, data management support services, and experience in local UAS integration and state and local data integration and management. ATA is also providing in kind support through a reduction of software licensing and support fees totaling \$50,000 during the course of the project; \$50,000 of data management and integration support at no cost to BW, and it is ATA's intent to directly hire technical support staff in Cuyahoga County in conjunction with this project.

NEOFIX gives Cuyahoga County the opportunity to be involved in the fast-growing UAS arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy



discussions. Cuyahoga County will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community while growing resident services and high-paying jobs. NEOFIX will make Cuyahoga County a leader in this national conversation and will provide Cuyahoga County with opportunities for drones to add value to government and commercial services to residents.

We are excited to support BW in this exciting project and the roll out of commercial drone services in Cuyahoga County once initial funding is made available for the NEOFIX through Cuyahoga County.

Warmest regards,

A handwritten signature in black ink, appearing to read 'John Eberhardt', written in a cursive style.

John Eberhardt  
Chief Technology Officer  
ATA, LLC  
Email: [jeberhardt@ata-llc.com](mailto:jeberhardt@ata-llc.com)  
Mobile: 415-254-7996

March 16, 2022

County Executive Armond Budish & Councilman Dale Miller  
Cuyahoga County Headquarters  
2079 East Ninth Street  
Cleveland, OH 44115

Dear County Executive Budish and Councilman Miller:

I am writing on behalf of Baldwin Wallace University (BW), affirming our support as an institutional sponsor of the Northeast Ohio Flight Information Exchange (NEOFIX) initiative.

The NEOFIX fits within BW's strategic priorities in both the current and forthcoming five-year strategic plan.

Over the past ten years, BW has continued to evolve new initiatives to broaden our impact on our region. Among our values are programming that is intentionally excellent, promotive of innovation, equitable, and inclusive. As we seek to increase our contracted work drawing on the expertise of our faculty, staff, and students, we see the NEOFIX project as an exciting and valuable fit within our regional impact, awareness, and strategic initiative outputs.

We envision BW creating the conditions for the Flight Information Exchange, or "FIX," model in Cuyahoga County. This program will position the county to be one of the nation's leaders in aviation as it would be one of the first utilizing this platform, ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS) and laying the groundwork for UAS Traffic Management and Advanced Air Mobility.

NEOFIX directly supports five aspects of the American Rescue Plan Act of 2021 (ARPA) goal to support the nation's public transportation and other infrastructure systems by enabling next generation delivery services, including medical services, to disadvantaged and underserved communities as they continue to respond to the COVID-19 pandemic. NEOFIX provides basic infrastructure for flight planning and operations to support fast developing usage of drone delivery for COVID-19 testing kits, medications and other urgent health and medical related transportation uses to underserved communities in Cuyahoga County as well as infrastructure to support Public Safety responses to emergencies. This infrastructure will accelerate development and use of drone services and related jobs as remote pilot, maintenance, and flight operations personnel for workers starting with secondary education.

Ohio is a leader in investing in the research and infrastructure needed to help transform industry and spur economic growth using Unmanned Aircraft Systems (UAS), however most of this work is being done outside of Northeast Ohio. NEOFIX gives Northeast Ohio the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. NEOFIX will provide Northeast Ohio with opportunities for drones to add value to government and commercial services to residents.

NEOFIX will be a platform for state and local government and public safety agencies (including first responders, law enforcement, and emergency management) to post advisory information for each other and drone operators that keep the airspace open, secure, and safe. FIX informs operators of ground rules and conditions, local issues and events, public safety incidents, hazards, and sensitive and critical infrastructure to avoid or consider before and while operating their drones thus providing clarifying information that assists or drone operators comply with federal and local rules. By bringing NEOFIX to Northeast Ohio, the region will have one system accessible to all, managed by local government with data as a public asset.

NEOFIX will join Cuyahoga County to a national group of states and localities making thoughtful, targeted, forward leaning investments in the infrastructure that will allow us to successfully respond not just to COVID, but to whatever the next crisis or opportunity may be. Cuyahoga will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community while growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation.

I strongly encourage your support of our project in establishing the NEOFIX in Ohio. Please feel free to reach out to me with any questions you may have.

Sincerely,

A handwritten signature in black ink, appearing to read 'S Stahl', written in a cursive style.

Stephen Stahl  
Provost, Baldwin Wallace University

May 24, 2022

Stuart C Mendel, Ph.D.  
Affiliate Professor, Project Director  
Technology Partnership Initiative  
Office of the Provost, Baldwin Wallace University  
275 Eastland Road  
Berea, Ohio 44017

Subject: Letter of Support for the proposed "District 2 Technology Partnership Initiative at Baldwin Wallace University" project.

Dear Dr. Mendel,

Cleveland State University, Center for Emergency Preparedness is pleased to support the application by Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2. In our review of this proposal, we agree that supporting commercial drone infrastructure in terms of the Northeast Ohio (NEO) Flight Data Information Exchange is a prudent investment for Cuyahoga County and the local communities, particularly regarding uses and polices for public safety officials and public infrastructure.

Since our 1984 inception, Cleveland State University's Center for Emergency Preparedness has continuously provided outstanding programming to our customers. Our mission is to provide the highest quality hazardous material, homeland security and business continuity training, taught by professionals utilizing industry standards and best practices. This commercial drone infrastructure project aligns with our mission and values.

The mere use of drone technology has enhanced emergency service capabilities and I applaud you for this endeavor. Search and rescue missions require significant labor and resources to cover large areas in as little time as possible. With drones examining the ground from above with high-definition video and thermal imaging, the time it takes to locate and rescue a missing person is greatly reduced. In addition, drones are currently used as critical tools in disaster response and management. In such events, drones can be used to provide emergency surveillance, telecommunication services, and delivery of emergency supplies and aid in areas in which medical personnel are unable to safely reach.

Please feel free to contact me with any questions you may have regarding our support for this effort.

Sincerely,



Bernard W. Becker III; DBA  
Director, Center for Emergency Preparedness





Connect-Tec, Inc.

258 Atterbury Blvd Cleveland OH 44236

June 3, 2022

To Whom It May Concern:

We are writing in support of the application by Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2. In our review of this proposal, we agree that supporting drone infrastructure in terms of the NEO Flight Data Information Exchange is a wise investment for Cuyahoga County and the local communities particularly regarding uses and polices for public safety officials and public infrastructure. Like all public infrastructure, this endeavor will create the conditions essential for technology innovation, placing Cuyahoga County and its neighbors as a leading place in North America for the design, manufacture, and use of commercial drones. This project, along with the proposed NASA Technology Transfer office collaboration BW has also included will serve to connect the plentiful, but isolated drone and UAV ready assets and actors of the region together. The effort will signal to private industry who use or will use UAVs and seeking NASA derived transferable technology of the tangible attractiveness of this region by setting favorable conditions including new industry-specific public policy for drone knowledge, practices and development.

We also affirm that an academic institution such as Baldwin Wallace is an appropriate setting this project and its development. If invited, we will participate as advising stakeholders as the project moves forward.

Our support in the above endeavor will be providing expertise in research and development, engineering design, and production test capabilities of UAVs. We look forward to seeing this partnership moving ahead and our excited of all the possibilities it may bring to our region.

Regards,

Andrew J. Toth  
President and Founder  
Connect-Tec, Inc.  
258 Atterbury Blvd.  
Cleveland, Ohio 44236  
Ph: 216-712-5304  
Em: [Andrew.toth@connect-tec.us](mailto:Andrew.toth@connect-tec.us)  
Wb: <https://connect-tec.us/>

June 9, 2022

Provost Stephen Stahl  
Baldwin Wallace University  
275 Eastland Rd.  
Berea, OH 44017

Dear Provost Stahl,

I am writing to express my support for Baldwin Wallace University's (BW) proposed Northeast Ohio Flight Information Exchange (NEOFIX) and share our support for this project in working with BW should Cuyahoga County choose to fund the project. Adopting NEOFIX in Cuyahoga County would position the county to be one of the nation's leaders in aviation as it would be one of the early adopters ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS) and laying the groundwork for UAS Traffic Management and Advanced Aerial Mobility. Crown Castle Inc. seeks to invest in areas where the community is committed to supporting infrastructure, and to work collaboratively with, entities to build a strong UAS community.

Drones are a \$3B industry forecast to grow to over \$10B in the next five years. Your community will see dramatic increases in local drone traffic over the next few years. The commercial and recreational drone market has grown to over 200,000 licensed pilots and 3 million drones in the last five years in the U.S. By establishing NEOFIX in Cuyahoga County, the region will have one system accessible to all, with data accessible as a public asset. The NEOFIX can expand throughout Ohio as a national leader in aviation, technology, and innovation with Cuyahoga County as the original center for commercial applications.

Crown Castle is the country's leading provider of critical telecommunications infrastructure connecting cities and communities to essential data, technology, and wireless services. Our unmatched portfolio of assets includes over 40,000 towers, 80,000 small cell nodes, and 80,000 route miles of fiber. We have grown our investment in the state of Ohio over decades and today operate 1,685 towers, 1,340 small cells, and 3,150 fiber miles. Our network infrastructure spans 643 zoning and permitting jurisdictions and covers approximately 78% of Ohio's population. We see the NEOFIX project as a foundational first step towards enabling advanced drone aviation, public services, and commerce in Cuyahoga County and beyond. It will also open door for companies like Crown Castle to deploy our employees' talents, expertise, and infrastructure in bringing advanced drone solutions to Ohioans.

NEOFIX gives Cuyahoga County the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. Cuyahoga County will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community will growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation. NEOFIX will provide Cuyahoga County with opportunities for drones to add value to government and commercial services to residents.


We are excited to engage with BW and identify ways that we can collaborate and support the NEOFIX and the roll out of commercial drone services in Cuyahoga County once initial funding is made available for the NEOFIX through Cuyahoga County.

Sincerely,

*Sergio Amatangelo*

Sergio Amatangelo

Director – Strategic Accounts

	<p style="text-align: center;"><b>DRONERESPONDERS</b> Public Safety Alliance</p> <p style="text-align: center;"><i>“The leading nonprofit program supporting Public Safety UAS in the world.”</i></p> <p style="text-align: center;"><b>DRONERESPONDERS.ORG</b></p> <p><i>DRONERESPONDERS is the leading and award winning non-profit program within AIRT® (Airborne International Response Team) is a 501(c)3 non-profit organization that facilitates the advancement of public safety UAS for public safety and government operations to respond to daily incidents, complex emergencies and major disasters.</i></p>
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March 7, 2022

County Executive Armond Budish & Councilman Dale Miller  
 Cuyahoga County Headquarters  
 2079 East Ninth Street  
 Cleveland, OH 44115

Dear County Executive Budish and Councilman Miller,

I am writing to express my support for the Northeast Ohio Flight Information Exchange (NEOFIX) and share why it is needed in Cuyahoga County. Adopting in the FIX model in Cuyahoga County would position the county to be one of the nation’s leaders in aviation as it would one of the first utilizing this platform, ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS), and laying the groundwork for UAS Traffic Management and Advanced Air Mobility.

NEOFIX directly supports five aspects of the American Rescue Plan Act of 2021 (ARPA) goal to support the nation's public transportation and other infrastructure systems by enabling next generation delivery services, including medical services, to disadvantaged and underserved communities as they continue to respond to the COVID-19 pandemic. NEOFIX provides basic infrastructure for flight planning and operations to support fast developing usage of drone delivery for COVID-19 testing kits, medications and other urgent health and medical related transportation uses to underserved communities in Cuyahoga County as well as infrastructure to support Public Safety responses to emergencies. This infrastructure will accelerate development and use of drone services and related jobs as remote pilot, maintenance, and flight operations personnel for workers starting with secondary education.

Ohio is a leader in investing in the research and infrastructure needed to help transform industry and spur economic growth using Unmanned Aircraft Systems (UAS), however most of this work is being done outside of Northeast Ohio. NEOFIX gives Northeast Ohio the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. NEOFIX will provide Northeast Ohio with opportunities for drones to add value to government and commercial services to residents.

NEOFIX will be a platform for state and local government and public safety agencies (including first responders, law enforcement, and emergency management) to post advisory information for each other and drone operators that keep the airspace open, secure, and safe. FIX informs operators of ground rules and conditions, local issues and events, public safety incidents, hazards, and sensitive and critical infrastructure to avoid or consider before and while operating their drones thus providing clarifying information that assists UAS operators comply with federal and local rules. By bringing NEOFIX to Northeast Ohio, the region will have one system accessible to all, managed by local government with data as a public asset.

NEOFIX will join Cuyahoga County to a national group of states and localities making thoughtful, targeted, forward leaning investments in the infrastructure that will allow us to successfully respond not just to COVID, but to whatever the next crisis or opportunity may be. Cuyahoga will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community will growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation.

I strongly encourage your support in establishing the NEOFIX in Ohio. Please reach out to me with any questions you may have.

Sincerely,

A handwritten signature in black ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Chief Charles L. Werner (Ret.)

Director, DRONERESPONDERS Public Safety Alliance

Email: [Charles@DRONERESPONDERS.org](mailto:Charles@DRONERESPONDERS.org)

Mobile: 434.825.5402



8 June 2022

Matt Beatty  
DroneUp, LLC

160 NEWTOWN ROAD  
SUITE 500  
VIRGINIA BEACH VA 23462

Provost Stephen Stahl  
Baldwin Wallace University  
275 Eastland Rd.  
Berea, OH 44017  
11 May 2022

Dear Provost Stahl,

I am writing to express my support for Baldwin Wallace University's (BW) proposed Northeast Ohio Flight Information Exchange (NEOFIX) and share our support for this project interest in working with BW should Cuyahoga County choose to fund the project. Adopting NEOFIX in Cuyahoga County would position the county to be one of the nation's leaders in aviation as it would be one of the early adopters ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS) and laying the groundwork for UAS Traffic Management and Advanced Aerial Mobility. DroneUp seeks to invest in areas where the community is committed to supporting basic infrastructure and to work collaboratively with public and private entities to build a strong UAS community.

Drones are a \$3B industry forecast to grow to over \$10B in the next five years. Your community will see dramatic increases in local drone traffic over the next few years. The commercial and recreational drone market has grown to over 200,000 licensed pilots and 3 million drones in the last five years in the U.S. By establishing NEOFIX in Cuyahoga County, the region will have one system accessible to all, with data accessible as a public asset. The NEOFIX can expand throughout Ohio as a national leader in aviation, technology, and innovation with Cuyahoga County as the original center for commercial applications.

DroneUp is excited to support and partner with other project team members in the following roles and capabilities in support of this project:

- UAS Operators to fly cooperative public safety ISR and Delivery flights
- UAS Operator Airspace awareness, flight planning, registration of intent, and LAANC authorizations (via the AirMap UAS Traffic Management, USS platform and apps)
- Authority definitions of volume reservations, historical/current/planned cooperative UAS flights, real time crewed and uas common operational picture, and communication with UAS operators



NEOFIX gives Cuyahoga County the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. Cuyahoga County will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community will growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation. NEOFIX will provide Cuyahoga County with opportunities for drones to add value to government and commercial services to residents.

We are excited to engage with BW and identify ways that we can collaborate and support the NEOFIX and the roll out of commercial drone services in Cuyahoga County once initial funding is made available for the NEOFIX through Cuyahoga County.

Warmest regards,

A handwritten signature in blue ink, appearing to read "Matt Beatty".

Matt Beatty

Director of Business Development, Airspace Solutions

DroneUp, LLC

Email: [matt.beatty@droneup.com](mailto:matt.beatty@droneup.com)

Mobile: 707-774-5207

June 9, 2022

Stuart C Mendel, Ph.D.  
Affiliate Professor, Project Director  
Technology Partnership Initiative  
Office of the Provost  
Baldwin Wallace University

Re: Letter of Support for the proposed project titled District 2 Technology Partnership Initiative at Baldwin Wallace University

Stuart,

I am writing in support of the application by Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2. In our review of this proposal, we agree that supporting drone infrastructure in terms of the NEO Flight Data Information Exchange is a priority investment for Cuyahoga County and the local communities, particularly regarding uses and polices for public safety officials and public infrastructure. Like all public infrastructure, this endeavor will create the conditions essential for technology innovation, placing Cuyahoga County and its neighbors as a leading place in North America for the design, manufacture, and use of commercial drones. This project, along with the proposed NASA Technology Transfer office collaboration BW has also included, will serve to connect the plentiful, but isolated drone and UAV ready assets and actors of the region together. The effort will signal to private industry who use or will use UAVs and seeking NASA derived transferable technology of the tangible attractiveness of this region by setting favorable conditions including new industry-specific public policy for drone knowledge, practices and development.

I foresee over the next eighteen months that the State of Ohio, through Jobs Ohio will be laying a platform for a statewide urban air mobility strategy. Our collaborative efforts under the NEO Flight Data Information Exchange will give us a competitive edge towards the attraction of new companies in the UAV industry. With assets such as NASA Glenn Research Center, Coast Guard, OEMS, and airport facilities, we can coordinate and develop a national model for the UAV industry. I look forward to supporting this effort.

Howard Thompson, President

EHM Advisors



May 26, 2022

TO: Cuyahoga County Department of Development

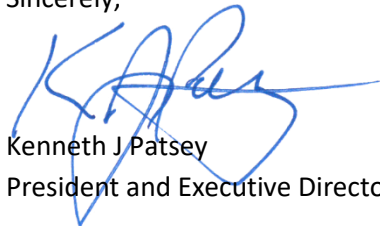
RE: Letter of Support Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2

On behalf of Manufacturing Works, I submit this letter of support for Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2. Manufacturing Works will work in collaboration with the Partnership to support their work to assist in the development of the drone infrastructure.

In our review of this proposal, we agree that supporting drone infrastructure in terms of the NEO Flight Data Information Exchange is a wise investment for Cuyahoga County and the local communities particularly regarding uses and policies for public safety officials and public infrastructure. Like all public infrastructure, this endeavor will create the conditions essential for technology innovation, placing Cuyahoga County and its neighbors as a leading place in North America for the design, manufacture, and use of commercial drones. This project, along with the proposed NASA Technology Transfer office collaboration BW has also included will serve to connect the plentiful, but isolated drone and UAV ready assets and actors of the region together. The effort will signal to private industry who use or will use UAVs and seeking NASA derived transferable technology of the tangible attractiveness of this region by setting favorable conditions including new industry-specific public policy for drone knowledge, practices, and development.

We are currently partnering with the Ohio Aerospace Institute on an EDA-funded grant to for the Center for Advanced Air Mobility Initiative (CAAMI) designed to develop an effective supply chain in the region to support manufacturers and service companies engaged in the commercial drone industry with an emphasis on assisting Minority-led and Women-led Business Enterprises. Through their infrastructure project, the Baldwin Wallace Partnership will provide important leadership in support of our efforts. Baldwin Wallace is an excellent place to house this project and we will support their efforts in the work we do as well.

Sincerely,



Kenneth J Patsey  
President and Executive Director

**From:** harvey.l.schabes@nasa.gov,  
**To:** smendel@bw.edu,  
**Cc:** scmendel@cs.com,  
**Subject:** Re: [EXTERNAL] Letter of Support for the proposed project titled District 2 Technology Partnership Initiative  
**Date:** Wed, May 25, 2022 3:46 pm

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Hi Stuart

To follow up on our conversation and your email, I would like to express my support and interest in the idea you outlined regarding Baldwin Wallace working with the Office to collaborate regarding the development of business plans for our technologies in support of their commercialization.

As we have discussed, the idea is very intriguing and if you are successful in obtaining your funding, I look forward to future discussions as to how we could collaborate. I think the plan you have outlined would be a very wonderful opportunity to further our mutual desire to commercialize our technologies and help stimulate economic development in the region and optimize resources.

This nonexclusive email is not intended to be, and shall not constitute in any way, a binding or legal agreement, or impose any legal obligation or duty on either MAGNET or NASA GRC. This email does not serve as an endorsement nor does it serve as a commitment of NASA resources.

Stay safe and well and please feel free to reach out to me if you have any questions.

Harvey

\*\*\*\*\*

*Harvey L. Schabes*

216-433-5309 (voice)

216-903-5990 (cell)

Chief, Technology Transfer Office  
NASA Glenn Research Center at Lewis Field  
21000 Brookpark Rd.  
MS 77-5  
Cleveland, Ohio 44135  
email: [Harvey.L.Schabes@nasa.gov](mailto:Harvey.L.Schabes@nasa.gov)

\*\*\*\*\*

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**From:** Stuart Mendel <[smendel@bw.edu](mailto:smendel@bw.edu)>  
**Sent:** Monday, May 23, 2022 5:35 PM  
**To:** [hschabes@nasa.gov](mailto:hschabes@nasa.gov) <[hschabes@nasa.gov](mailto:hschabes@nasa.gov)>  
**Cc:** [scmendel@cs.com](mailto:scmendel@cs.com) <[scmendel@cs.com](mailto:scmendel@cs.com)>  
**Subject:** [EXTERNAL] Letter of Support for the proposed project titled District 2 Technology Partnership Initiative

Harvey,

I'm putting together the proposal for Council District 2 (Dale Miller) for ARPA funding to BW for both the Drone project and a NASA Tech Transfer project we've discussed in the past. I'd like to submit the letters of support

with the application before the end of May (this Friday), and wondering if you can help get one from your office?

I'm attaching the still rough/not-final proposal to the County for your reference.

The letter is not a commitment for funding by your org and is limited to support and participation as an advisor to the work we are planning. The letter need only say something like this (you are welcome to use all, some or none of the verbiage):

We are writing in support of the application by Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2.

In our review of this proposal, we agree that supporting this work is a wise investment for Cuyahoga County and the local communities particularly regarding uses and polices for public safety officials and public infrastructure. Like all public infrastructure, this endeavor will create the conditions essential for technology innovation for the design, manufacture, and use of commercial drones and other technologies such as those made available to the public by the NASA Technology Transfer Office. We also affirm that an academic institution such as Baldwin Wallace is an appropriate setting this project and its development.

If invited, we will participate as advising stakeholders as the project moves forward.

Stuart

Stuart C Mendel, Ph.D.  
Affiliate Professor, Project Director  
Technology Partnership Initiative  
Office of the Provost  
Baldwin Wallace University

May 19, 2022

Stuart C Mendel, Ph.D.  
Affiliate Professor, Project Director  
Technology Partnership Initiative  
Office of the Provost  
Baldwin Wallace University

**Subject:** Letter of Support for the proposed project titled *District 2 Technology Partnership Initiative at Baldwin Wallace University*

Dear Dr. Mendel,

The Ohio Aerospace Institute (OAI) is pleased to support the application by Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2. In our review of this proposal, we agree that supporting commercial drone infrastructure in terms of the Northeast Ohio (NEO) Flight Data Information Exchange is a wise investment for Cuyahoga County and the local communities, particularly regarding uses and polices for public safety officials and public infrastructure. This endeavor will create the conditions essential for technology innovation, thereby, establishing Cuyahoga County and its neighbors as a leading place in North America for the design, manufacture, and use of commercial drones. This project, along with the proposed BW-NASA Technology Transfer Office collaboration, will serve to bring-together the plentiful, but isolated drone and UAV ready assets and actors in the NEO region. The effort will signal to private industry, who use or will use UAVs and are seeking NASA derived transferable technology, of the tangible attractiveness of this region by setting favorable conditions including new industry-specific public policy for drone knowledge, practices and development. We also affirm that an academic institution, such as Baldwin Wallace, is an appropriate setting for this project. If invited, we will participate as advising stakeholders.

OAI is a 40-person non-profit research institution located in a Federal Opportunity Tax Credit Zone adjacent to the NASA Glenn Research Center in Cleveland, Ohio. It was formed in 1989 as a joint initiative of NASA GRC and the Air Force Research Laboratory at Wright-Patterson Air Force Base in Dayton, Ohio, with the aim of enhancing regional and domestic aerospace competitiveness through research and technology development; workforce preparedness; and engagement with global aerospace networks for innovation, advocacy, and commercialization. OAI addresses technical challenges by utilizing in-house scientists and by teaming federal laboratories with industry and academia as public-private-partnerships with OAI offering technical and programmatic oversight while also aiming to commercialize the researched technologies.

Please feel free to contact me with any questions you may have regarding our support for this effort.

Sincerely,



Dr. Andrew L. Gyekenyesi  
Director of Research/Chief Scientist  
Ohio Aerospace Institute  
22800 Cedar Point Road  
Brookpark, OH 44142  
AndrewGyekenyesi@oai.org

400 Collins Rd NE  
Cedar Rapids, IA 52411  
Phone: +1 319 295 6075  
Mobile: +1 319 431 1781  
Email: boe.svatek@collins.com  
www.collinsaerospace.com



Boe Svatek  
Strategic Programs UAS Airspace and Infrastructure  
Connected Aviation Solutions

June 9, 2022

Provost Stephen Stahl  
Baldwin Wallace University  
275 Eastland Rd.  
Berea, OH 44017

Dear Provost Stahl,

I am writing to express my support for Baldwin Wallace University's (BW) proposed Northeast Ohio Flight Information Exchange (NEOFIX) and share our support for this project interest in working with BW should Cuyahoga County choose to fund the project. Adopting NEOFIX in Cuyahoga County would position the county to be one of the nation's leaders in aviation as it would be one of the early adopters ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS) and laying the groundwork for UAS Traffic Management and Advanced Aerial Mobility. Collins Aerospace seeks to invest in areas where the community is committed to supporting basic infrastructure and to work collaboratively with public and private entities to build a strong UAS community.

Drones are a \$3B industry forecast to grow to over \$10B in the next five years. Your community will see dramatic increases in local drone traffic over the next few years. The commercial and recreational drone market has grown to over 200,000 licensed pilots and 3 million drones in the last five years in the U.S. By establishing NEOFIX in Cuyahoga County, the region will have one system accessible to all, with data accessible as a public asset. The NEOFIX can expand throughout Ohio as a national leader in aviation, technology, and innovation with Cuyahoga County as the original center for commercial applications.

Collins has interest in contributing some or all of our capabilities in the areas of C2, Surveillance, PSU/USS, Operations Center, FlightAware ADS-B, and backhaul connectivity and network management.

NEOFIX gives Cuyahoga County the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. Cuyahoga County will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community will growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation. NEOFIX will provide Cuyahoga County with opportunities for drones to add value to government and commercial services to residents.

We are excited to engage with BW and identify ways that we can collaborate and support the NEOFIX and the roll out of commercial drone services in Cuyahoga County once initial funding is made available for the NEOFIX through Cuyahoga County.

Sincerely,

A handwritten signature in black ink that reads "Boe Svatek".

Boe Svatek  
Strategic Programs: UAS Airspace and Infrastructure

May 25, 2022

Stuart C Mendel, Ph.D.  
Affiliate Professor, Project Director  
Technology Partnership Initiative  
Office of the Provost  
Baldwin Wallace University

**Re: Letter of Support for the proposed project titled *District 2 Technology Partnership Initiative at Baldwin Wallace University***

Stuart,

We are writing in support of the application by Baldwin Wallace University Technology Partnership for ARPA funding in Cuyahoga County District 2. In our review of this proposal, we agree that supporting drone infrastructure in terms of the NEO Flight Data Information Exchange is a wise investment for Cuyahoga County and the local communities, particularly regarding uses and polices for public safety officials and public infrastructure. Like all public infrastructure, this endeavor will create the conditions essential for technology innovation, placing Cuyahoga County and its neighbors as a leading place in North America for the design, manufacture, and use of commercial drones. This project, along with the proposed NASA Technology Transfer office collaboration BW has also included, will serve to connect the plentiful, but isolated drone and UAV ready assets and actors of the region together. The effort will signal to private industry who use or will use UAVs and seeking NASA derived transferable technology of the tangible attractiveness of this region by setting favorable conditions including new industry-specific public policy for drone knowledge, practices and development.

I was pleased to learn that the Tech Park falls within District 2 represented by Dale Miller on Cuyahoga County Council. Dale has been a vital advocate for the development of the Aerozone District on who's board I serve, and the Aerozone District plan for which these NEOFFIX and NASA Glenn Tech Transfer initiatives fit. We have been honored to support him for many years, and he has always maintained open, productive Advocacy. Drone technology was brought to the attention of our Board some years ago, and we have been pleased to witness real development and growth. Having helped to bring these technologies forward, it is now essential that the support base, public and private, be further cultivated and grown. Furthermore, the growing partnership with Baldwin Wallace establishes an important context for productive inquiry, further strengthening the project's capacity for growth.

We also affirm that an academic institution such as Baldwin Wallace is an appropriate setting for this project and its development. If invited, we will participate as advising stakeholders as the project moves forward.

Sincerely,  
Paran Management Company, Ltd.

*Joseph M. Shafran*  
Chairman and CEO

May 25, 2022

Stuart C Mendel, Ph.D.  
Affiliate Professor, Project Director  
Technology Partnership Initiative  
Office of the Provost  
Baldwin Wallace University

**Re: Letter of Support for the proposed project titled *District 2 Technology Partnership Initiative at Baldwin Wallace University***

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We also affirm that an academic institution such as Baldwin Wallace is an appropriate setting for this project and its development. If invited, we will participate as advising stakeholders as the project moves forward.

Sincerely,  
Paran Management Company, Ltd.

*Joseph M. Shafran*  
Chairman and CEO

Unified Drone, LLC, is thrilled to support Baldwin Wallace University and its application for America Rescue Plan Act (ARPA) funding in Cuyahoga County District 2. In our review of this proposal, we agree that supporting drone infrastructure in terms of the Northeast Ohio Flight Information Exchange (NEOFIX) is a wise investment for Cuyahoga County and the local communities, particularly regarding uses and policies for public safety officials and public infrastructure. We affirm that an academic institution, such as Baldwin Wallace, is an appropriate setting for this project and its development. If invited, we will participate as advising stakeholders as the project moves forward.

Unified Drone manages, owns, and operates drone companies with a national presence in Ohio, Arizona, Illinois, Wisconsin, Pennsylvania, and North Carolina. Like all public infrastructure, this endeavor will create the conditions essential for technology innovation, placing Cuyahoga County and its neighbors as a leading place in North America for the design, manufacture, and use of commercial drones.

This proposal is already aligned with our other projects, such as OIDRA, Baldwin Wallace Drone Stem Club, Drone Innovations Group, and Unified Drone Detection. Furthermore, another alignment is our drone manufacturing currently underway with a company in Atlanta, GA. The mission of the Drone Innovation Group is to lobby tech transfers while promoting and inspiring innovation through achievable milestones through the NASA Tech Exchange. The effort will signal to private industry, who use or will use Unmanned Aerial Systems (UAS) and are seeking NASA derived transferable technology, of the tangible attractiveness of this region by setting favorable conditions including new industry-specific public policy for drone knowledge, practices, and development.

Our goal in Northeast Ohio (NEO) is to set up multiple drone villages. Baldwin Wallace is being targeted as a main base for a UD Analytics drone village, flight enterprise resource planning (ERP) package, and big data analytics. The notion behind these academia-based villages is to promote symbiosis through private and commercial enterprises. Currently, we are finishing negotiations with Lorain County Community College (LCCC) with the first drone village on their campus.

We've created the entity and started the implementation of UD Analytics for the Unified Drone umbrella at Baldwin Wallace University.

Please feel free to contact me with any questions you may have.

Sincerely,

Devon Sheehy  
Operations & Sales Manager, Unified Drone  
dsheehy@tasdrones.com  
(516) 639-0306

OFFICE ADDRESS:  
c/o Ohio Aerospace Institute - Suite 2C203  
22800 Cedar Point Rd  
Cleveland, OH 44142  
330-620-2467  
info@tasdrones.com



County Executive Armond Budish & Councilman Dale Miller  
Cuyahoga County Headquarters  
2079 East Ninth Street  
Cleveland, OH 44115  
March 7<sup>th</sup>, 2022

Dear County Executive Budish and Councilman Miller,

I am writing to express my support for the Northeast Ohio Flight Information Exchange (NEOFIX) and share why it is needed in Cuyahoga County. Adopting in the FIX model in Cuyahoga County would position the county to be one of the nation's leaders in aviation as it would one of the first utilizing this platform, ensuring the safety and efficiency of Unmanned Aircraft Systems (UAS), and laying the groundwork for UAS Traffic Management and Advanced Air Mobility.

NEOFIX directly supports five aspects of the American Rescue Plan Act of 2021 (ARPA) goal to support the nation's public transportation and other infrastructure systems by enabling next generation delivery services, including medical services, to disadvantaged and underserved communities as they continue to respond to the COVID-19 pandemic. NEOFIX provides basic infrastructure for flight planning and operations to support fast developing usage of drone delivery for COVID-19 testing kits, medications and other urgent health and medical related transportation uses to underserved communities in Cuyahoga County as well as infrastructure to support Public Safety responses to emergencies. This infrastructure will accelerate development and use of drone services and related jobs as remote pilot, maintenance, and flight operations personnel for workers starting with secondary education.

Ohio is a leader in investing in the research and infrastructure needed to help transform industry and spur economic growth using Unmanned Aircraft Systems (UAS), however most of this work is being done outside of Northeast Ohio. NEOFIX gives Northeast Ohio the opportunity to be involved in this fast-growing arena by contributing to a national model that includes inter-state and inter-regional collaboration and policy discussions. NEOFIX will provide Northeast Ohio with opportunities for drones to add value to government and commercial services to residents.

NEOFIX will be a platform for state and local government and public safety agencies (including first responders, law enforcement, and emergency management) to post advisory information for each other and drone operators that keep the airspace open, secure, and safe. FIX informs operators of ground rules and conditions, local issues and events, public safety incidents, hazards, and sensitive and critical infrastructure to avoid or consider before and while operating their drones thus providing clarifying information that assists UAS operators comply with federal and local rules. By bringing NEOFIX to Northeast Ohio, the region will have one system accessible to all, managed by local government with data as a public asset.

NEOFIX will join Cuyahoga County to a national group of states and localities making thoughtful, targeted, forward leaning investments in the infrastructure that will allow us to successfully respond not just to COVID, but to whatever the next crisis or opportunity may be. Cuyahoga will be joining the forefront of a national effort to undertake this infrastructure in a cost-effective way that respects the equities and stakeholders of the local community will growing resident services and high-paying jobs. It will make Cuyahoga County a leader in this national conversation.

I strongly encourage your support in establishing the NEOFIX in Ohio. Please reach out to me with any questions you may have.

Sincerely,



Katie Thielmeyer  
Risk Reduction Officer  
513-659-0747  
kthielmeyer@beautifulwoodlawn.us