











# Welcome

WIFI: OKI-Guest

Pass: #R1verB0at























# Announcements

























## **How to Be Solar Smart**

APRIL 24 · 7:30-9:30 AM · Digital Futures Building

For registration & more information: greenumbrella.org







Registration & More information: greenumbrella.org

Attendees will learn how to:

- Assess whether a building is good for solar
- Reduce energy demand and costs
- Access available financial incentives
- Compare competing bids with confidence























# Strategies for Revitalizing Our Cities, Communities, Urban Districts: Cities are only as good as our

neighborhoods and urban districts





Thursday, April 24, 2025

5:30 PM 7:00 PM

Union Hall Classroom1311 Vine Street

























## Safe Streets and Roads For All Grants

Planning, Supplemental Planning, and Implementation grants available

- Planning award range \$100,000-\$5m
- Implementation award ranges \$2.5-25m

Local governments and transit authorities eligible

https://www.transportation.gov/grants/SS4A

Deadline: June 26<sup>th</sup> 80/20 split





















# AICP CM Credits 1.5 Credits

Go to your online CM Log
"APA Ohio Cincinnati Section"
"OKI Regional Planning Forum"













# greenspace ALLIANCE

A PROGRAM OF The Green Umbrella

AN
INTRODUCTION
TO THE
GREENSPACE
ALLIANCE



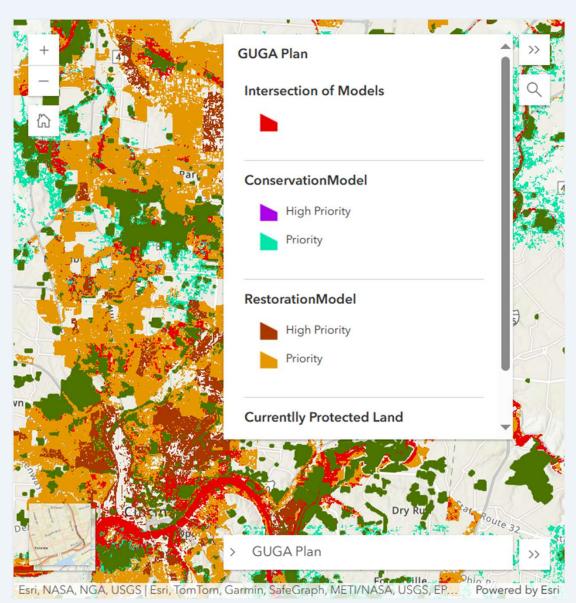
### WHAT IS THE GREENSPACE ALLIANCE?

- It is a collaborative
- Members include conservation districts, watershed groups, government agencies, large and small nonprofits, and more!
- Our work is focused on conserving greenspace

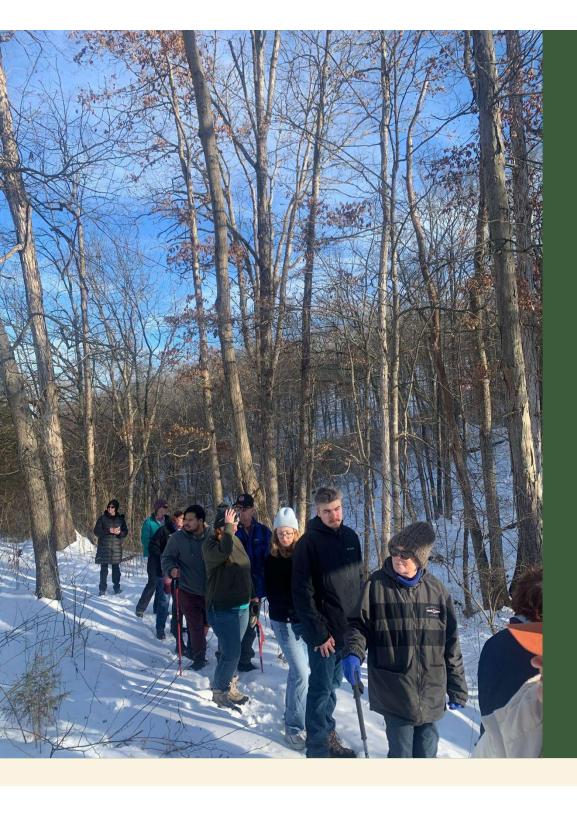




### **OUR REGIONAL PRIORITIZATION PLAN (RPP)**



- Outlines the areas in high need of conservation and restoration priorities
- Guides our collaborative work!



### **WORKING GROUPS**

Grants Working Group

Research and Implementation

RPP/Policy

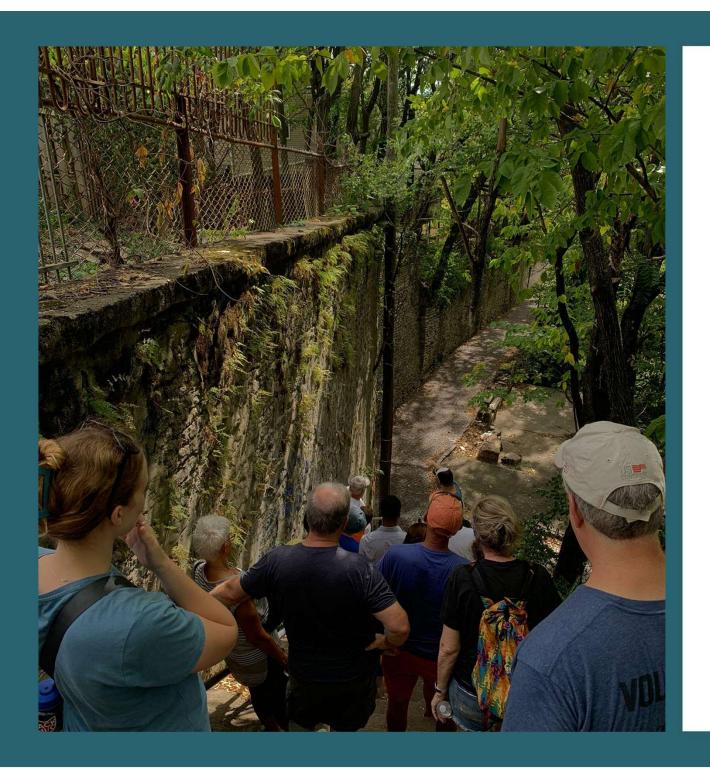
### RPP/POLICY WORKING GROUP



Get involved in comprehensive planning processes

Connect groups
to Greenspace
Alliance partners
and their
resources

Improve community member understanding of planning



### **WE WANT TO CONNECT WITH YOU!**

- Share our Regional Prioritization Plan (RPP)
- Share how the RPP can be used
- Connect you with conservation partners







# Applying Priority Maps to Conservation: a Land Trust Perspective

Jack Stenger
Director of Conservation
Cardinal Land Conservancy
jack@cardinallandconservancy.org

# Conservation Targets

- Significant Natural Areas:
  - Rare, Threatened, Endangered Species
  - Streams/Wetlands
  - Mature Forests
- Farmland Protection
- Community-centered Greenspace
  - Equitable access



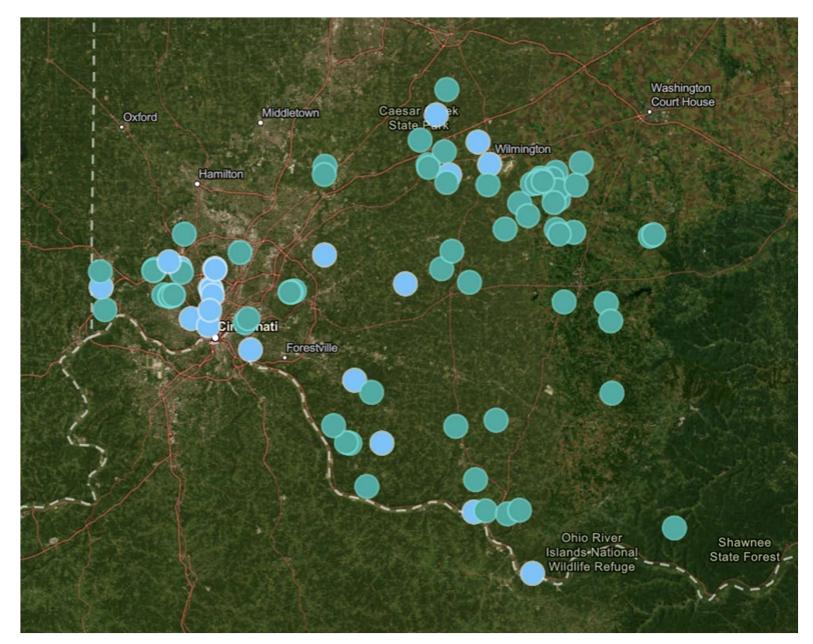


#### Progress to Date

- ~1,000 acres owned greenspace
- 9 preserves accessible
- ~9,000 acres agricultural easements

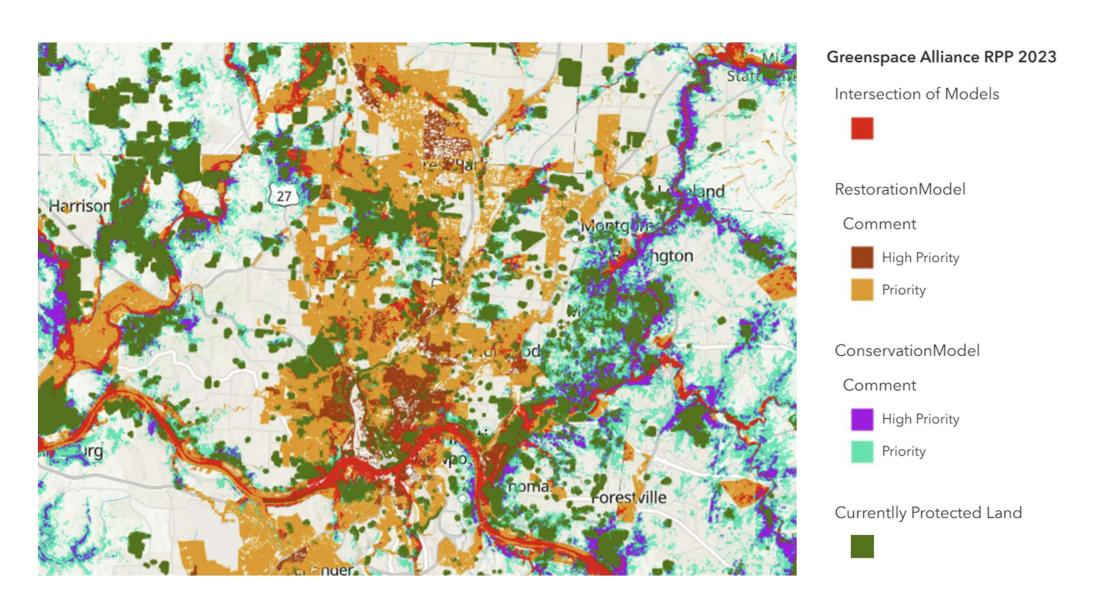
#### Key areas of expansion in 2025

- Urban Conservation Program
- Expansion to southeast Indiana
- Larger-scale conservation projects



Blue = nature preserves Green = easements

## Where does Cardinal focus resources?



# How do we create collaborative conservation?

- Interface with other planning efforts?
- Share goals/processes with stakeholders?
- Facilitate community support?
- Obtain funding project funding?
- Have 1,000 sets of eyes?



# Green Cincinnati Plan 🗱 2023



**FOCUS AREA** 

# Natural Environment

#### Strategy 1

Increase the quantity and quality of greenspaces in neighborhoods with low distribution of greenspaces.

#### **Priority Actions**

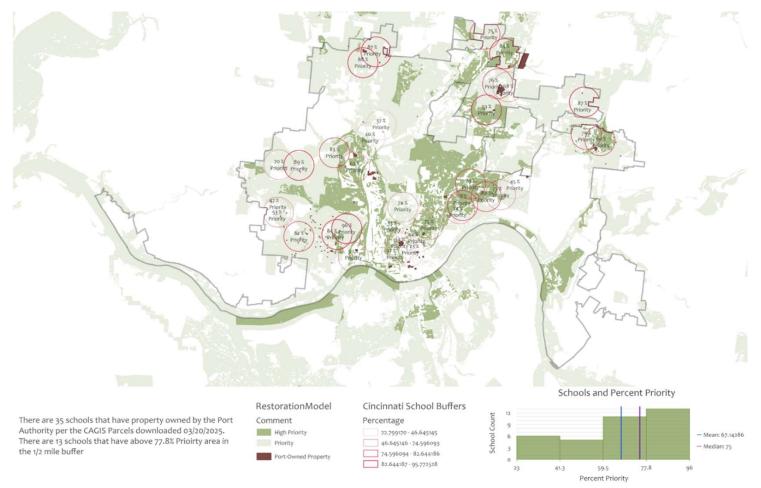
Create new greenspaces, including use of vacant properties and underused parking lots, ensuring that space will not be redeveloped

## Cincinnati Passes "Children's Outdoor **Bill of Rights" Resolution**

The City of Cincinnati passed a resolution supporting the Children's Outdoor Bill of Rights, guaranteeing that every child in the city has accessible pathways to experience and interact with nature throughout their childhood.

GCP PILLARS			ADDITIONAL PRIORITIES			
Sustainability	Equity	Resilience	Jobs	Investment	Health	Feasibility
•	•	•	•		•	

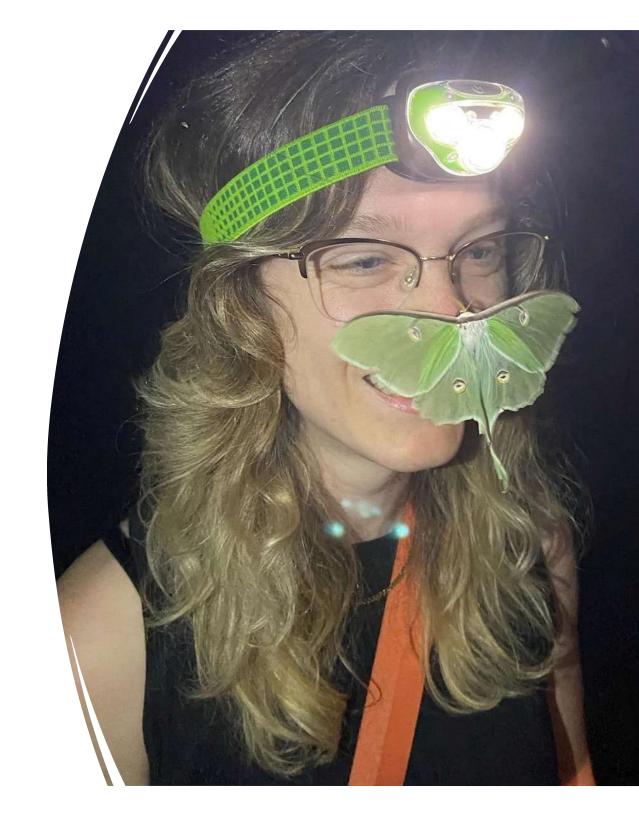
## How to prioritize urban land protection?



Prepared by Ohio-Kentucky-Indiana Regional Council of Governments Senior Environmental Planner Margaret Minzer and interns from Northern Kentucky University. The map shows schools that are located within priority areas as defined by the Greenspace Alliance Regional Prioritization Plan. Red circles are half-mile buffers around schools. These are the areas where Cardinal will focus greenspace protection efforts.

Regional Planning is the foundation of collaboration.

Let Cardinal know how we can help your community!



## Thank you!



jack@cardinallandconservancy.org





Matt Wooten, Director

## Conservation Districts in Kentucky

- Established via KRS 262.020 in 1942
  - ► Special Purpose Government Entity

- Every County
- ► General Purpose:

"Conserve and develop all renewable natural resources within the district"



### Introduction

► The Mission of the Kenton County Conservation District (KCCD) encourages the protection, conservation, and management of our county's natural resources





### KRS 262.020

► Authorizes the Conservation District to:

"to undertake, sponsor, or participate in projects and activities which promote the conservation, development, maintenance and use of the land, water, trees and other renewable natural resources of the district."





Such projects and activities shall include but not be limited to:

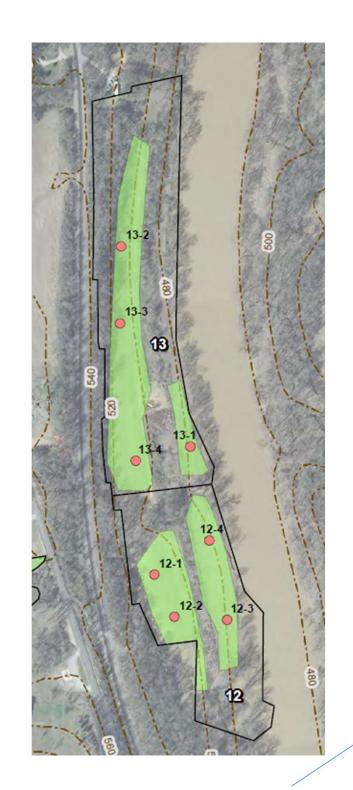
- conservation practices on agricultural lands
- the control of soil erosion

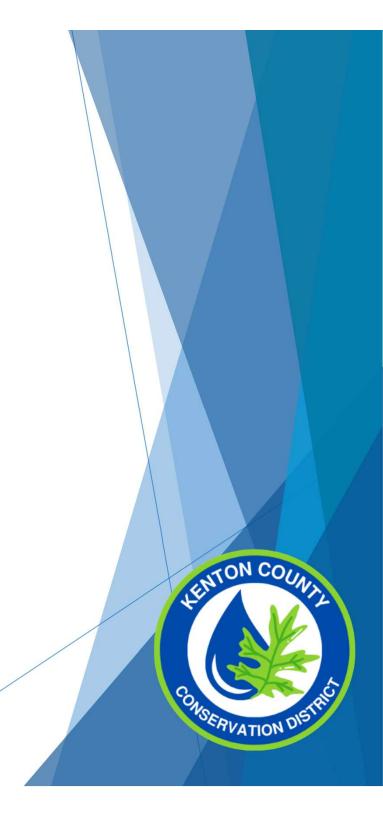




watershed stabilization

 avoidance sedimentation and pollution in streams and other bodies of water





forestation and reforestation

the establishment of parks and outdoor recreation areas

the protection of open space



greenbelt areas and scenery

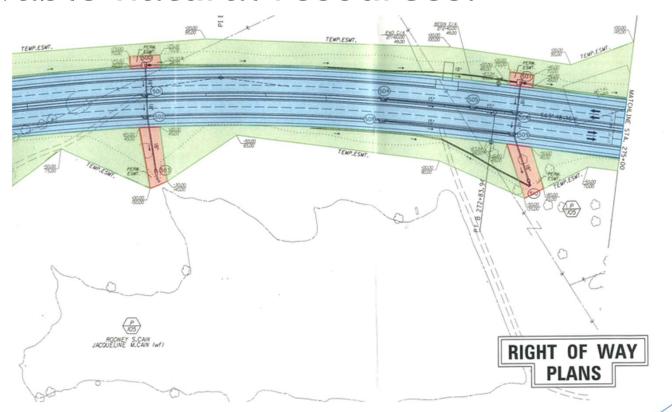
the preservation of wilderness areas

the protection of fish and wildlife





working for the location of highways, industries, housing developments, etc., will offer the least possible interference with the conservation and best multiple use of the renewable natural resources.





### Questions???

Matt Wooten, Director

Matt.wooten@kccdky.org

859-356-1019





Community Choices

OKI Tools to Support

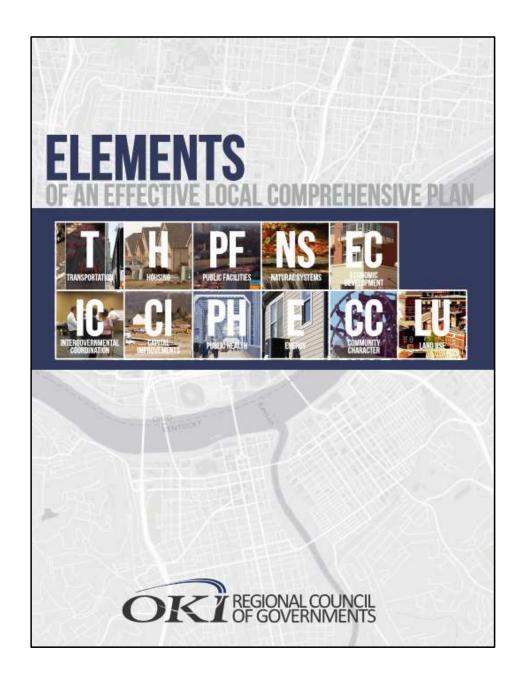
Community Planning

April 22, 2025

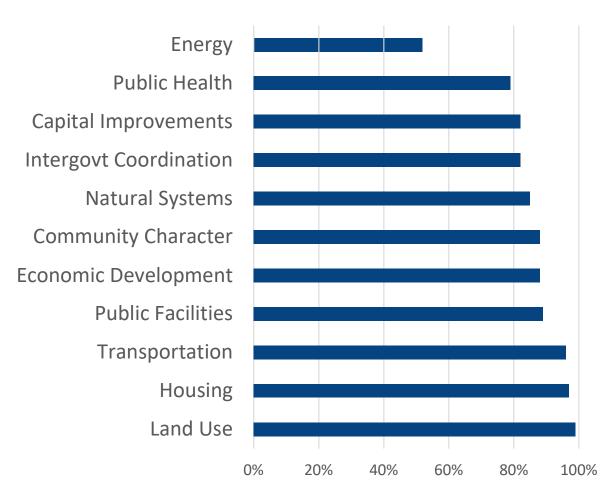








### **Elements Included**



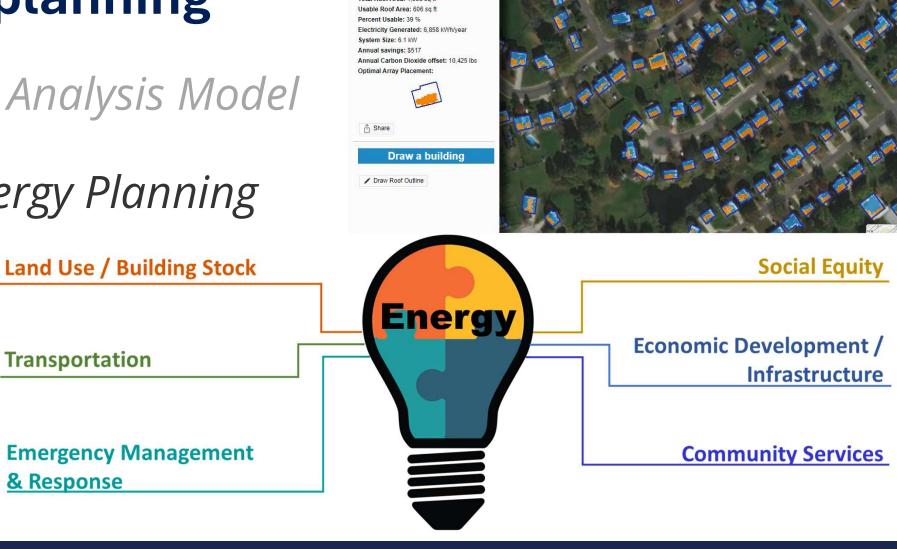
# Tools to support community planning

Fiscal Impact Analysis Model



# Tools to support community planning

- Fiscal Impact Analysis Model
- Solar and Energy Planning

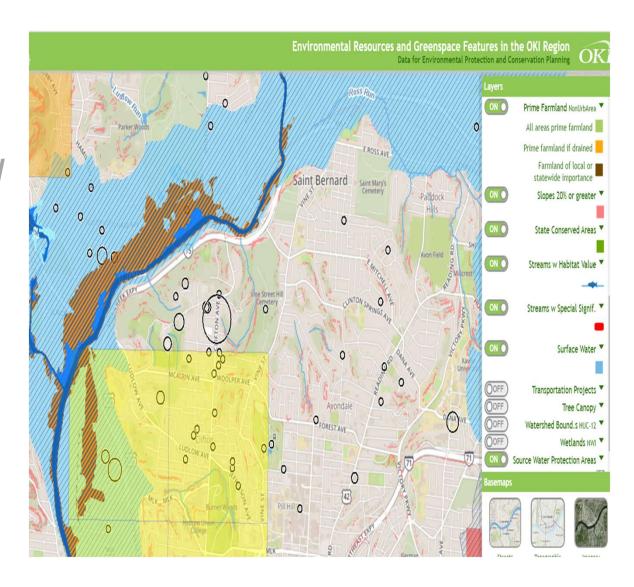


6225 Fox Run Ln

Roof good for solar, seek consul-

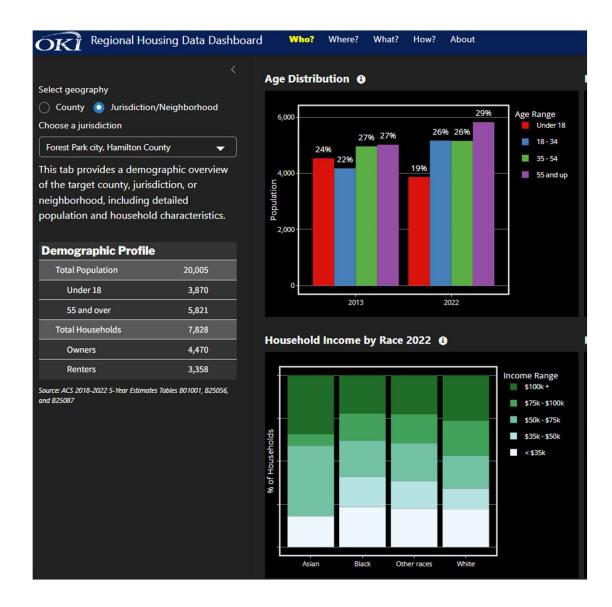
## Tools to support community planning

- Fiscal Impact Analysis Model
- Solar and Energy Planning
- Environmental Mitigation
   Suitability Modeler



## Tools to support community planning

- Fiscal Impact Analysis Model
- Solar and Energy Planning
- Environmental Mitigation
   Suitability Modeler
- Housing Data Dashboard



# What should we focus on next?

ameyer@oki.org

Integrating AI into Regional and Urban Planning:

Opportunities, Challenges & First Steps

An Introduction for Urban/Regional Planners and Local Officials





#### Phil Russell:

- Cincinnati Al Catalyst Government Team lead and Warren County Liaison
- VP of Technical Solutions and Market Innovation at ID Privacy AI
- <a href="https://www.linkedin.com/">https://www.linkedin.com/</a> /in/philrussellohio/

#### **Jacob Matson:**

- Land Use Intern at OKI
- Masters of Environmental Science Student at Miami University
- https://www.linkedin.com/ /in/jacob-matson-11bb89260/

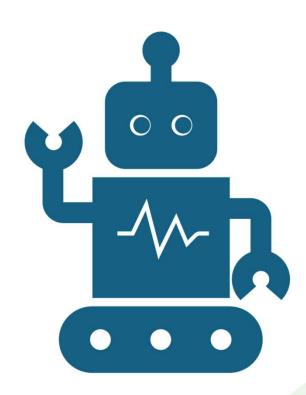






## Agenda

- 1. What is Al some basics
- 2. Al Applications in a Planning Offices (tools, benefits, show and tell)
- 3. Real-World case studies
- 4. Responsible Al Adoption
- 5. Cincinnati Al Catalyst





## What Is Artificial Intelligence (AI)?

The ability of a computer to do things that normally require human intelligence.

#### 1. Al is all around us and has been around for a long time.

a) 1997 – Supercomputer "Deep Blue" beat Garry Kasparov in chess – Simple brute force Al

#### 2. Real-world examples today

- a) Check deposit feature image recognition
- b) Self-driving cars automatic braking, lane assist, etc.
- c) Calling customer service and getting an automated attendant natural language processing



## Key Building Blocks of Modern Al

**Machine Learning (ML):** Algorithms that "learn" from data by detecting patterns, then use those patterns to make predictions or decisions

**Neural Networks (NN):** A type of ML inspired by the human brain's networks of neurons. NNs excel at handling complex, **non-linear relationships**Deep neural networks (with many layers, aka "deep learning") can recognize images, speech, etc., with high accuracy.

**Natural Language Processing (NLP):** All that understands and analyzes human language – text or speech. It enables computers to interpret written or spoken words (from emails, social media, meeting transcripts, etc.).

**Computer Vision:** All that enables computers to interpret visual information (images or video). It's like giving a machine eyes – and the ability to understand what it's seeing (to a degree)



#### What Is Generative AI?

AI has really taken off in the last 2+ years with the concept of generative AI.

- Generative AI creates new things like:
  - 1. Text
  - 2. Images
  - 3. Videos
  - 4. Code

#### **New Reality:**

"If YOU can learn it, AI can Generate IT"



That Is
Amazing. How
Does It Work?

"The sky is ..."



#### Data analysis and forecasting:

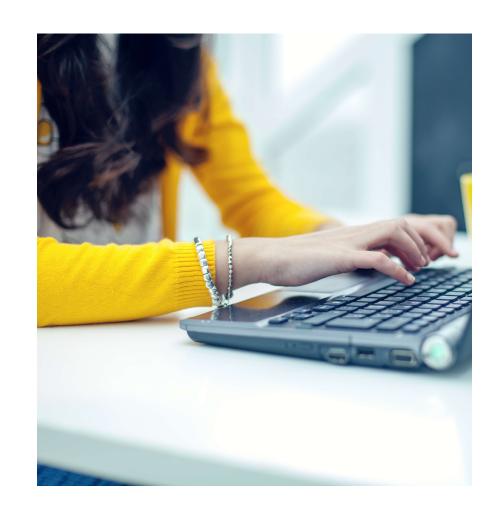
- Al for Land Use Prediction: Al analyzes current land cover data and learns from past patterns to predict future land use changes based on factors like population growth, infrastructure, and climate change.
- Combining Satellite & GIS Data: By merging satellite images and GIS data, AI can identify trends and project how land use will evolve over time, considering factors like development and zoning.
- **Example of Prediction**: If AI detects growing residential development in one area, it may predict that nearby vacant land will likely be developed into homes or apartments in the future.





#### Community engagement analysis:

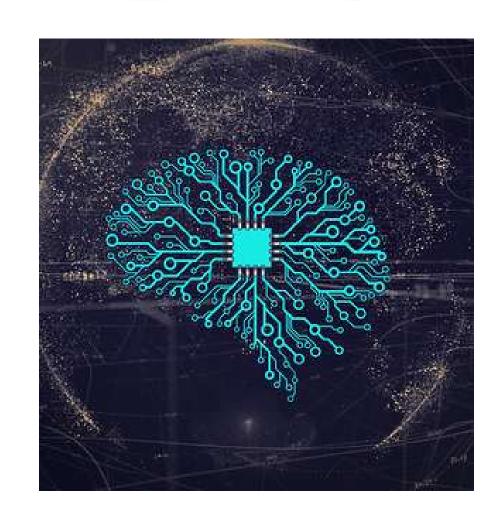
- Al for Sentiment Analysis: Al analyzes public input from social media and online comments to gauge whether feedback is positive or negative, helping cities understand community sentiment quickly.
- Improving Accessibility & Participation: All and digital platforms replace in-person meetings, allowing anyone with internet access to participate anytime, supporting underrepresented groups.
- **Example**: For a new park project, AI can analyze social media posts and online surveys to assess public opinion, helping the city adjust plans based on the feedback.





#### **Automating Routine Tasks:**

- Automating Administrative Tasks: All can handle tasks like zoning, permit processing, and construction code enforcement, reducing manual workload and increasing efficiency.
- Real-Time Optimization: All can optimize public transportation schedules/routes in real time, ensuring better service for citizens.
- Enhanced Citizen Services: All chatbots can answer inquiries, and data integration tools can visualize trends, helping cities identify key patterns and trends for informed decision-making.





#### **CV AI technologies:**

- Predictive Maintenance with Computer Vision: Al analyzes data from buildings, roads, and machinery to identify potential issues before they become critical.
- Al-Powered Early Detection: Al detects patterns in data (e.g., cracks in buildings or wear in roads) to predict when repairs are needed, preventing costly damage.
- Example: Bridge Monitoring: Drones capture data on a bridge's structural integrity, and AI predicts when repairs are needed, allowing the city to schedule maintenance proactively and save time and money.





#### **Scenario Modeling:**

- Al-Driven Scenario Modeling: Al creates realistic models to predict future urban design, including city growth and infrastructure needs.
- Traffic Flow Predictions: All can simulate how new roads or infrastructure will affect traffic patterns and flow.
- **Population Impact Analysis**: Al models how population changes might influence city development and resource needs over time.

ML, NLP, and CV often work together, not alone, for "Smart City" solutions.





### Some AI Tools for Planners

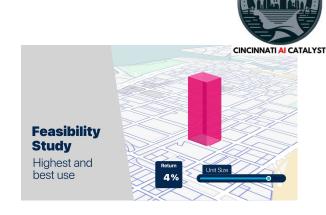
Deepblocks TestFit Luma Al Geomate

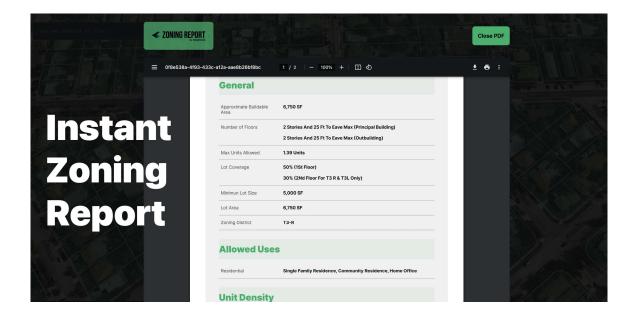
#### **Deepblocks**

#### ChatDB

- Al and CV to create graphs, maps, and tables through Census Data.
- Al generated response and takeaways based on trends/patterns in data
- \$29.99 Month for ChatDB.
- Site Evaluations
- Instant Zoning Reports





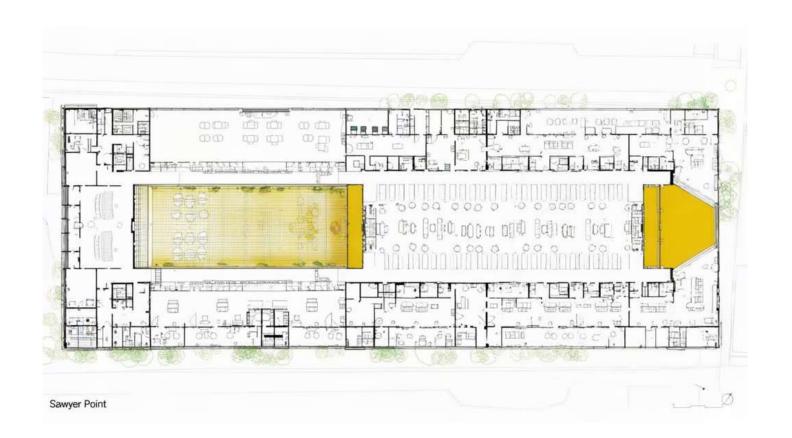






#### Luma Al

- Allows planners to visualize communities and project areas in 2D and 3D.
- Planners can input drawings or models into the AI to generate 3D animations quickly.
- Can improve presentations of projects to clients and stakeholders.
- \$20.99 per month for Luma AI Plus



#### **Geomate**

- Uses ML to analyze geospatial data, automate tasks, and generate actionable insights.
- High Definition Vector Maps using high resolution aerial imagery.
- Real-World Simulation Environment for AD and ADAS Simulation Testing.
- Precision data updated on a regular basis with scalable solution and flexible integration.
- Get a quote using <u>geoEstimate</u>





# Benefits of AI in Planning



### Key benefits:

- Efficiency in data processing
- Ability to uncover patterns/trends in big data
- Improved decision-making with data-driven insights
- Enhanced public service delivery (e.g., faster response to issues)
- Freeing staff for higher-level work



## Planners, Be Part of the Al Community

#### **Newsletters/Forums:**

- Planning Magazine
- Medium
  - UrbanistAl blog
  - HOME Insights & Updates UrbanistAl
- Smart Cities News | Smart Cities Dive
- Smart Cities World Latest news and case studies
- DEEP BLOG

# Case Study: OKI AI Traffic Counting



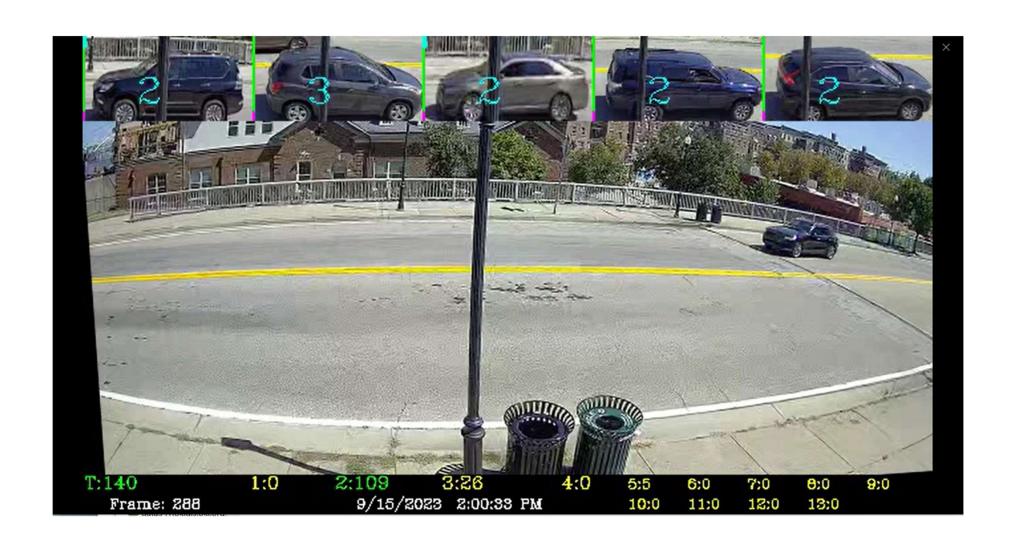
Al for Traffic Counting - Leetron Vision Al Demo used to count traffic volume at Roebling Bridge and Combs Hehl. Al Video Based System innovates from previous methods of monitoring traffic through visual based data collection with CV. Using CV minimizes occlusion issues, doesn't struggle with congestion and stop and go, and makes data verifiable. Al uses millions of data points to count and classify vehicles, similar to how people visualize objects.

Key Points - Traffic counts in both low traffic and high traffic volume areas see more accurate data collection than previous methods. Al is capable of FHWA 13 class classification with over 95% accuracy, over 98% for traffic volume count. Leetron missed less than 1% of traffic counts in low traffic areas, and 3% in high traffic areas. Previous methods tend to undercount traffic counting.

**Takeaway –** Al Video Based System optimizes traffic counting by providing accurate verifiable data, which can contribute to reductions in congestion. Enables rapid processing of traffic data for analysis. Real-time monitoring of traffic data through instantaneous traffic data updates and real-time video allows for proactive measures for traffic management.



## Example: Roebling Bridge



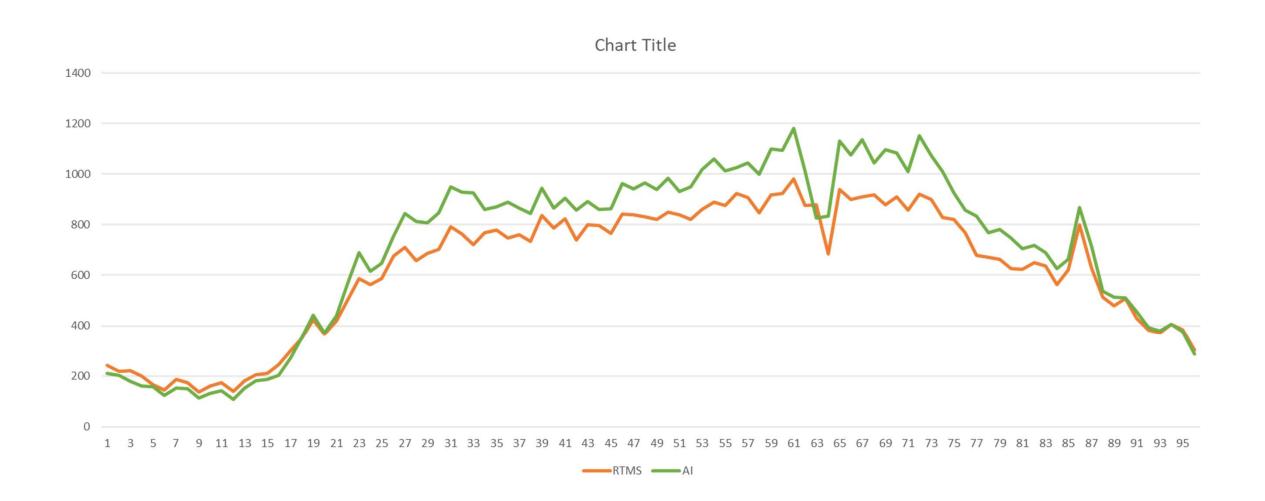


## Example: Combs Hehl





## OKI AI Traffic Counting Results



# Case Study: Al for Blight Detection

Tuscaloosa, AL – Al for Blight Detection – Use of Computer Vision. Tuscaloosa partnered with University of Alabama to mount smart cameras on garbage trucks that capture street images citywide. An ML model (trained on 4,000+ images of properties with and without code violations) analyzes these images to detect signs of blight – e.g., overgrown yards, boarded windows, junk, etc. – and generates a "blight score" for each property. Inspectors review AI-flagged properties for follow-up.

**Results:** This automated survey identified 270+ properties in one pilot area not meeting maintenance standards, leading to targeted clean-up efforts. It greatly expanded inspection coverage (entire city scanned weekly) while reducing personnel time and confrontations. The city also introduced *relative scoring* to compare a property to its neighbors, ensuring standards consider local context and improving equity in code enforcement.

**Takeaway:** CV allowed proactive, citywide blight monitoring, helping Tuscaloosa prioritize interventions and plan resources more efficiently and fairly. Ensuring more equitable enforcement, enabling proactive, efficient blight monitoring and resource planning





## Al Risks and Challenges

#### • Bias:

All can perpetuate and amplify existing biases in the data it is trained on.

#### Hallucination:

• Generative AI is inherently unpredictable, making evaluating and controlling the output difficult.

#### Privacy and Sensitive Data Disclosure:

Some models learn from your inputs and outputs; they are not private

#### Security:

Al systems can be targets for cyberattacks.

#### Legal issues:

- The Law is not settled on many issues, but clarity is coming, and regulations will follow.
- You cannot copyright material generated by AI, per the United States Copyright Office (USCO).
- You must have the right to your inputs.





#### **Transparency:**

- Ensure clear communication with citizens and staff (they may be scared) about AI goals, processes, and outcomes.
- Provide public access to AI-related policies and decision-making frameworks.

#### **Ethical Standards:**

- Uphold privacy, fairness, and equity.
- Avoid biases in AI algorithms that could marginalize groups or neighborhoods

#### **Accountability:**

- Implement measures to audit and monitor AI systems for compliance with ethical guidelines.
- All can assist but the HUMAN IS ACCOUNTABLE

#### **Education:**

- Engage in community outreach to demystify AI and gather citizen input.
- Publish project details and results

## Steps for Implementing AI in Local Government

#### Identify an overall AI Leader:

Engage an expert externally or internally to lead the initiative

#### 2. Leadership Education:

- Educate senior leaders (council and admin) on the basics of AI, benefits and risks.
- Define broad objectives and success metrics

#### 3. Area based SMEs (Subject Matter Experts):

- Identify Area SMEs to be AI experts and your AI champions across the org
- Educate SMEs, on AI in general and how to keep up on AI in their area

#### 4. Policy Creation and Launch:

- Craft AI Policies (internal & external) & basic tools approved with guidelines (prevent shadow IT). Review the policy with input from legal and technical experts.
- Launch policy to employees and VALIDATE learning (mandatory)
- Launch public policy to citizens

## Steps for Implementing AI in Local Government

#### 5. Use Case Identification and roadmap creation:

- Work with AI SMEs and stakeholders to identify use cases (needs and ideas)
- · Craft business cases for use cases and prioritize in a roadmap

#### 6. Stakeholder Involvement:

Engage citizens, employees, and external consultants.

#### 7. Pilot Programs:

• Start Small and build – partner with experts, educate staff and public, record and publish goals and results

#### 8. Capacity Building:

• Ongoing training of staff and leaders on AI literacy and operational integration.

#### 9. Evaluation and Scalability:

• Analyze results and scale successful initiatives.

#### 10. Ongoing Implementation:

- Continue to cycle through steps 5-9
- Deploy systems incrementally, monitor performance, and address issues.



#### **HERE TO HELP:**

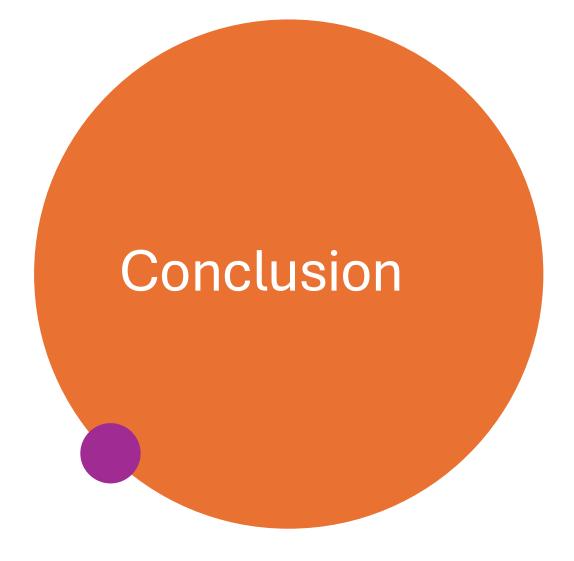
The Cincinnati AI Catalyst is a non-profit consortium of stakeholders from across the region working together to catalyze the adoption and use of inclusive, human-centered, responsible AI to improve the lives of people in the Cincinnati Region. The organization aims to make Cincinnati one of the top AI hubs in the United States and a global model for AI-driven prosperity.

ENGAGE, EDUCATE, ENABLE

https://cincycatalyst.ai/

https://www.linkedin.com/company/cincinnati-ai-catalyst





- Al presents transformative opportunities for planners and local governments to improve efficiency, equity, and transparency.
- Following a thoughtful, ethical, human centered, and inclusive approach, planners in the Cincinnati region can lead in responsible AI adoption.
- Engage the Cincinnati Al Catalyst. We are here to serve you.



# Q&A and useful links

- <u>CincyAl Week</u> (June 10-12 2025)
- What's the difference? *Automations,Al* workflows, *Al agents*
- Gen Al (LLM) Enterprise Use Case, And When Not To Use LLMs
- Strategies for spreading AI throughout local government
- Analytical AI: A Better Way to Identify the Right AI Projects



#### Philip Russell

VP of Technical Solutions and Market Innovation at...





**Jacob Matson** 

Masters of Environmental Science Student at Miami University





## Cincinnati Al Catalyst

#### **Our Vision:**

The Cincinnati region is among the top AI Hubs in the United States and is a model of prosperity and knowledge, where Artificial Intelligence enhances every life, expands every opportunity, and shapes a future built on inclusive, human-centered, responsible AI and responsible innovation.

#### **Our Mission:**

The Cincinnati Al Catalyst is a consortium focused on improving the lives of people in the Cincinnati Region by providing a coordinated, collective Artificial Intelligence capability, committed to inclusive, human-centered, responsible AI, that enables new products and services, attracts capital, creates/preserves jobs, develops/improves skills, enhances education and provides a trusted source of Al-related communication and expertise.

#### Cincinnati Al Catalyst



#### What We Do

**Driver of the Al Blueprint for the Cincinnati Region:** This blueprint was created by the Cincinnati Al Catalyst and is now being activated across the region via a monthly community forum as well as a series of activation events, including Cincy Al week.

**Projects:** Cincinnati Al Catalyst members have established projects in 4 critical areas to accelerate progress in the Cincinnati Region:

- 1. Al in Education (K-12 and vocational schools)
- 2. Al Risk Assessment
- 3. Al in Workforce Development and Inclusion
- 4. Al in Healthcare

**Network of Experts:** Many of our members are AI experts coming from startups, corporations, universities and IT service providers. These experts are well-known and regularly utilized as speakers, media contributors and technical advisors for AI topics at the local and regional levels, with several now contributing at the national and internation level. A large number of our members are also members/leaders of AI and/or technology-related associations, forums, networks, etc..



## Common Language for Use Case Categories

As we talk about AI it is important to have a common language and understand key elements of use cases. Different types carry different risks, approaches and efforts.

#### Data Type:

Public Data vs Private data

#### Al Type:

Generative AI vs Analytical AI

#### **User Type:**

Individual vs Organizational impact (productivity/efficiency)

#### **Tool Type:**

Automation vs AI workflow vs AI Agent

### Al Blueprint for the Cincinnati Region



#### 8 Key Elements:

- 1. Academic Institutions Enhancement
- 2. Business Community Development
- 3. Government Support
- 4. Infrastructure Improvement
- 5. Talent Pool Expansion
- 6. Networking and Collaboration
- 7. Healthcare Innovation
- 8. Non-Profit Community Development



## Case Study: Boston Survey tool

**Boston Al for Automation and Surveying –** Use of NLP and ML for creation of new technology through OpenAl. Allows workers to quickly review readily available massive amounts of data. Can be completed with a single prompt. Asked the Al to suggest interesting analyses with a specific dataset. It responded with a case time series analysis and a neighborhood comparative analysis. Chat GPT and Dall-E are examples of generative Al tools that can be trained and used by employees and planners even without any background in Al tools or codes.

**Key Points –** Tool can find patterns, make predictions, and identify norms in response to well framed questions. It can create various types of figures with a singular prompt in the tool. All can suggest interesting analyses when provided with datasets.

**Takeway –** OpenAI can be used to develop technology that can save time from employees completing analyses, giving more time to look into the patterns of discrepancy in service and drive better decision making.



## Machine Learning & Neural Networks

**Machine Learning (ML):** Algorithms that "learn" from data by detecting patterns, then use those patterns to make predictions or decisions

#### **How ML Works:**

Rather than following fixed rules, ML systems improve with experience.

They can be *supervised* (trained on labeled examples, e.g., past permits labeled "approved" or "denied") or *unsupervised* (finding patterns without explicit labels).

#### **Neural Networks (NN):**

A type of ML inspired by the human brain's networks of neurons.

NNs excel at handling complex, non-linear relationships

Deep neural networks (with many layers, aka "deep learning") can recognize images, speech, etc., with high accuracy.

**Planning Use Case:** Planners and researchers use ML/NN for things like predicting transit ridership, analyzing housing market trends, or optimizing land-use allocations



## Natural Language Processing (NLP)

Natural Language Processing (NLP) **AI that understands and analyzes human language** – text or speech. It enables computers to interpret written or spoken words (from emails, social media, meeting transcripts, etc.).

**Examples:** Chatbots (answering residents' questions), automatic transcription and analysis of public comments, sentiment analysis etc.

•



## Computer Vision (CV)

Al that enables computers to interpret visual information (images or video). It's like giving a machine eyes – and the ability to understand what it's seeing (to a degree)

**Examples:** Object detection (e.g., identify cars, people, trees in a photo), image classification (is this picture a street pothole or not?), and extracting information from satellite imagery (like land cover types or building footprints).













# Next Regional Planning Forum June 10, 2025

www.rpf.oki.org/









