

FORT KNOX

COMPATIBLE USE PLAN

Regional – Collaborative

Planning

18 May 2023



**American Planning Association
Kentucky Chapter
Spring 2023 Conference**



RANGE OVERFLIGHT 3 NOVEMBER 2022



Image courtesy of Fort Knox Public Affairs Office.

RANGE OVERFLIGHT 3 NOVEMBER 2022



Image courtesy of Fort Knox Public Affairs Office.

RANGE OVERFLIGHT 3 NOVEMBER 2022



Image courtesy of Fort Knox Public Affairs Office.

RANGE OVERFLIGHT 3 NOVEMBER 2022



Image courtesy of Fort Knox Public Affairs Office.

RANGE OVERFLIGHT 3 NOVEMBER 2022



Image courtesy of Fort Knox Public Affairs Office.

FORT KNOX



WHAT IS IT?

Gold Vault

mission
KNOX CUP
missionknox.org



Movie Studio

mission
KNOX  **CUP**
missionknox.org



Movie Studio



Image Credit - Columbia Pictures, "Stripes", 1981



Image Credit - Columbia Pictures, "Stripes", 1981



Image Credit - Columbia Pictures, "Stripes", 1981



Human Resources Command



Image courtesy of Fort Knox Public Affairs Office.

FT KNOX BACKGROUND -RANGES

Fort Knox is home to possibly the PREMIER training range complex in the Department of Defense



Images courtesy of Fort Knox Public Affairs Office.

FT KNOX BACKGROUND - TRAINING

TRAINING THROUGHPUT



10,000 Cadets, 100 Days

ECONOMICS – DoD FY2020

#16
\$12.6 B SPENT IN
STATE

#8
5.8% OF STATE GDP

2.1%
OF TOTAL U.S.
DEFENSE SPENDING

\$2,804
PER RESIDENT

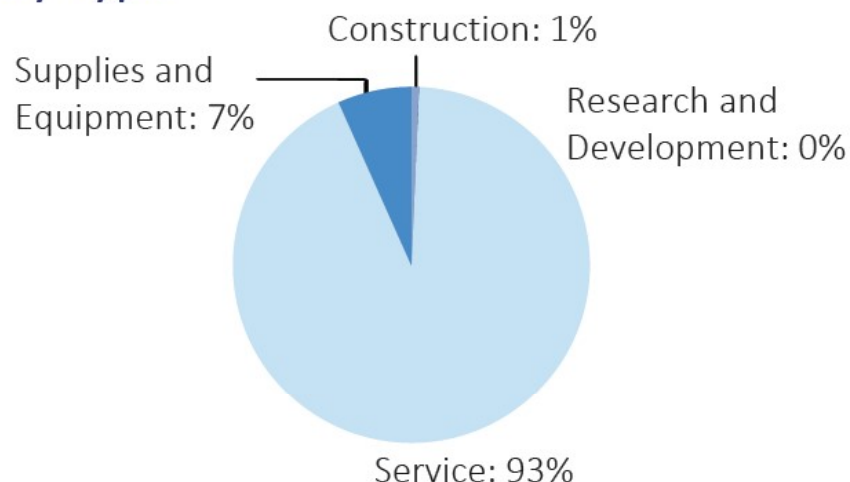
#13
\$9.5 B CONTRACT
SPENDING

#17
56,441 NUMBER OF
PERSONNEL

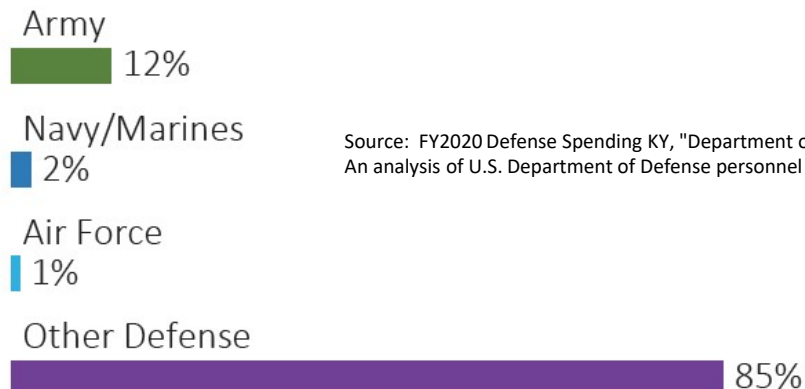
#14
\$3.0 B PERSONNEL
SPENDING

DEFENSE CONTRACTS - KENTUCKY

By Type



By Service



Source: FY2020 Defense Spending KY, "Department of Defense, Office of Local Defense and Community Cooperation"
An analysis of U.S. Department of Defense personnel and contract spending across the 50 states and Washington, DC in FY 2020

Top Defense Contractors

(M = millions, B = billions)

Humana	\$6.9 B
Lockheed Martin	\$837.5 M
Bechtel Parsons Blue Grass, JV	\$262.1 M
Raytheon	\$172.0 M
United Parcel Service Co.	\$79.1 M
Global Asset Technologies	\$64.2 M
Patriot Industries Inc.	\$59.0 M
SourceAmerica	\$41.7 M
Perspecta	\$33.6 M
Boneal Inc.	\$30.8 M

Contract Awards Performed

(By Fiscal Year, billions)



ECONOMICS – DoD FY2020

TOP DEFENSE CONTRACT SPENDING LOCATIONS

(M = millions, B = billions)

Jefferson
\$7.3 B

Fayette
\$942.4 M

Hardin
\$423.5 M

Madison
\$292.9 M

Christian
\$206.8 M

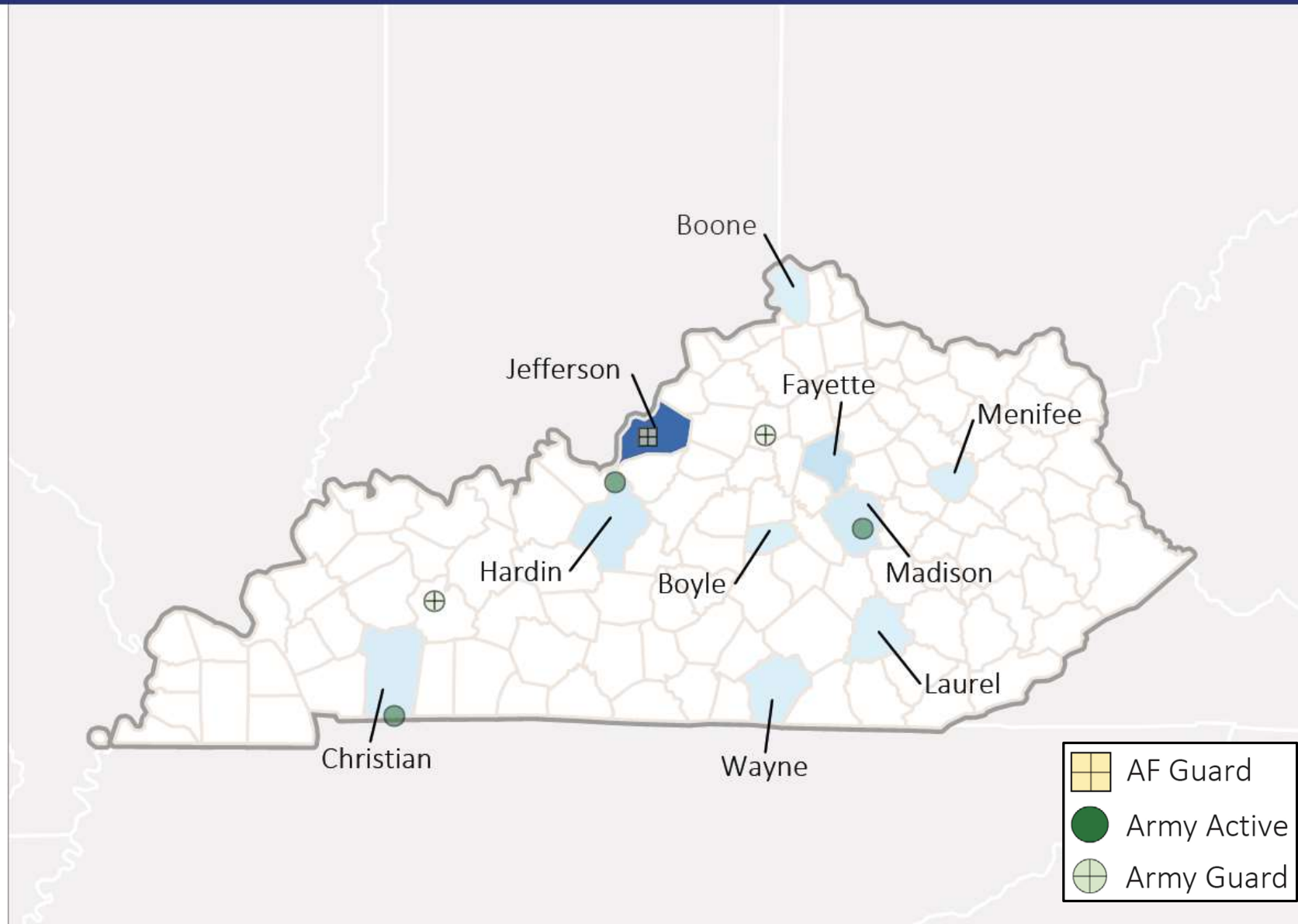
Wayne
\$67.5 M

Menifee
\$64.7 M

Boone
\$33.1 M

Laurel
\$27.2 M

Boyle
\$16.7 M

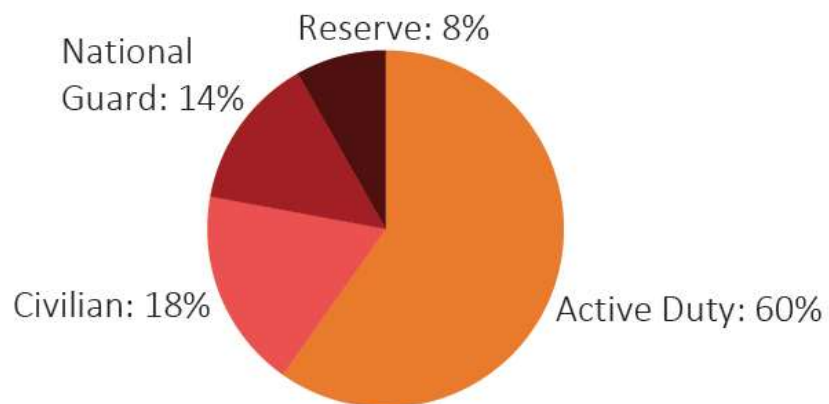


ECONOMICS – DoD FY2020



DEFENSE PERSONNEL - KENTUCKY

Allocations, By Type



Allocations, By Service



\$3.0 BILLION
TOTAL PAYROLL

56,441
TOTAL PERSONNEL

Top Defense Personnel Locations

County	Active Duty	Civilian	National Guard	Reserve	Total
Christian	27,888	2,533	39	183	30,643
Hardin	5,563	4,420	77	2,461	12,521
Jefferson	136	1,232	1,890	666	3,924
Madison	ND	1,060	602	32	ND
Franklin	20	308	1,145	0	1,473
Fayette	70	114	285	540	1,009
Boone	29	22	623	ND	ND
Muhlenberg	0	81	364	0	445
Campbell	ND	37	0	376	ND
McCracken	ND	14	100	172	ND

Source: FY2020 Defense Spending KY, "Department of Defense, Office of Local Defense and Community Cooperation"
An analysis of U.S. Department of Defense personnel and contract spending across the 50 states and Washington, DC in FY 2020

ECONOMICS – DoD FY2020

TOP DEFENSE PERSONNEL SPENDING LOCATIONS

(M = millions, B = billions)

Christian
\$1.8 B

Hardin
\$780.1 M

Jefferson
\$176.4 M

Madison
\$83.0 M

Franklin
\$66.2 M

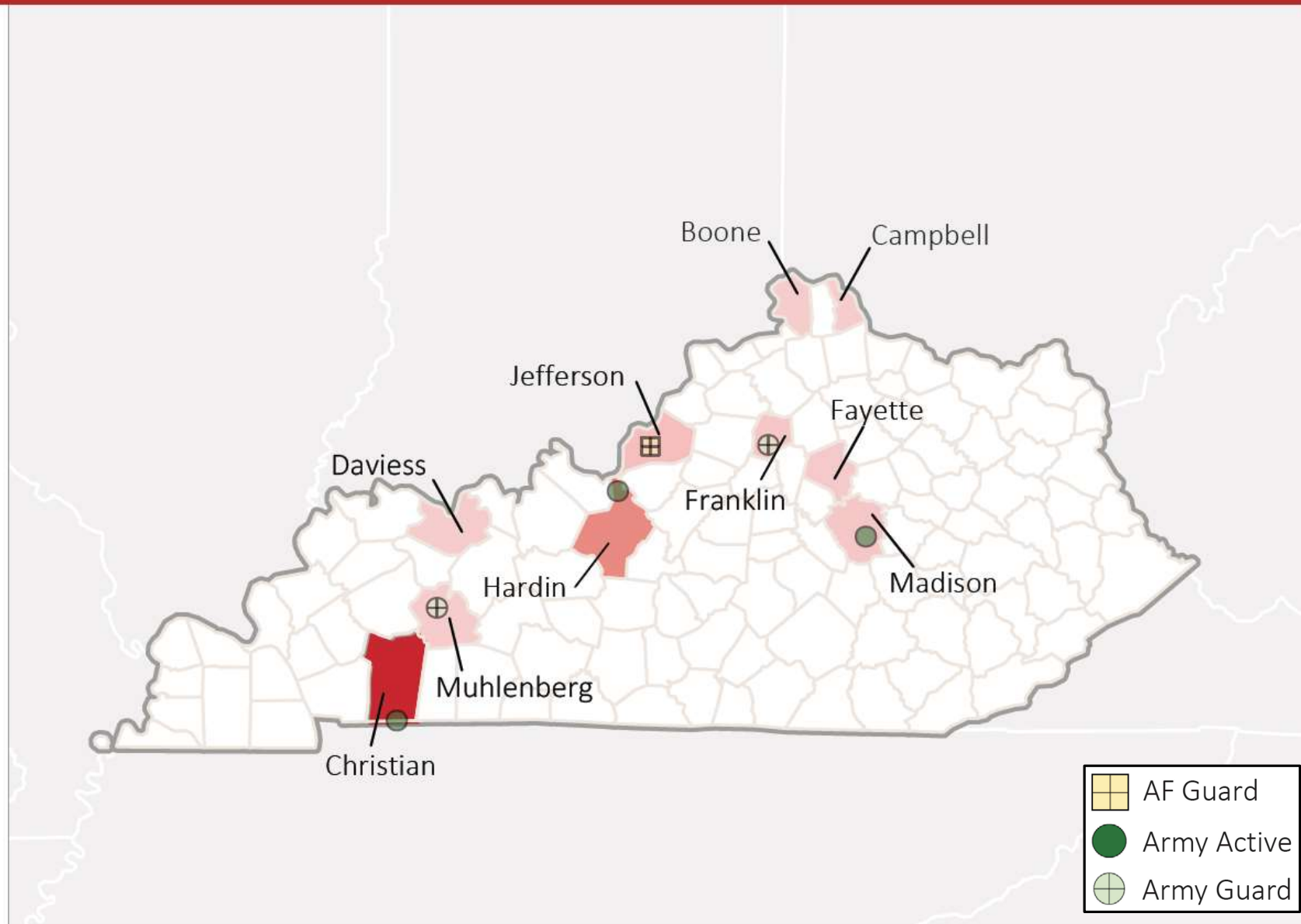
Fayette
\$29.9 M

Boone
\$16.3 M

Muhlenberg
\$11.5 M

Daviess
\$7.4 M

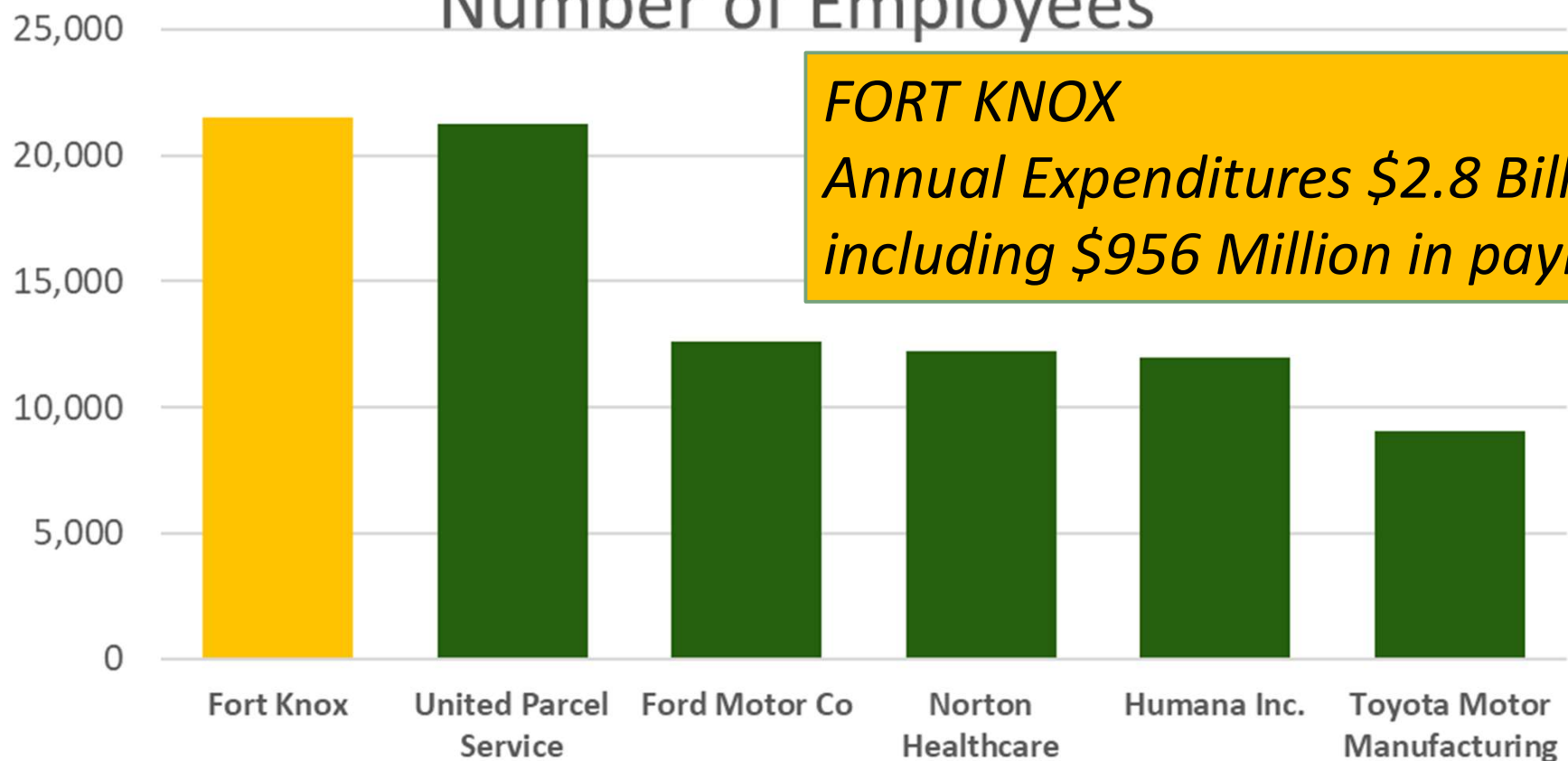
Campbell
\$6.6 M



Source: FY2020 Defense Spending KY, "Department of Defense, Office of Local Defense and Community Cooperation"
An analysis of U.S. Department of Defense personnel and contract spending across the 50 states and Washington, DC in FY 2020

ECONOMICS – Employment

Kentucky's Largest Employers by
Number of Employees



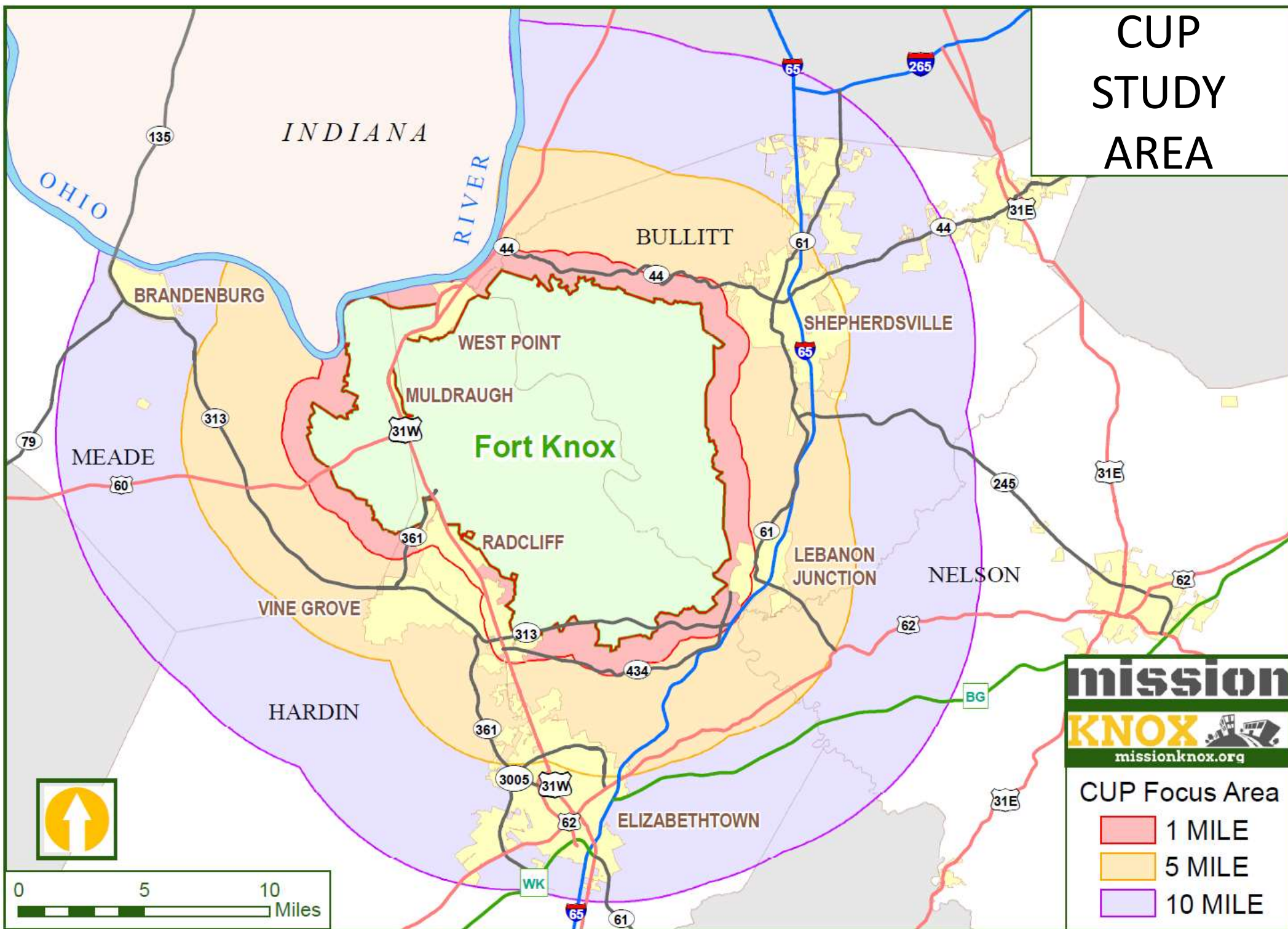
FORT KNOX

*Annual Expenditures \$2.8 Billion,
including \$956 Million in payroll.*

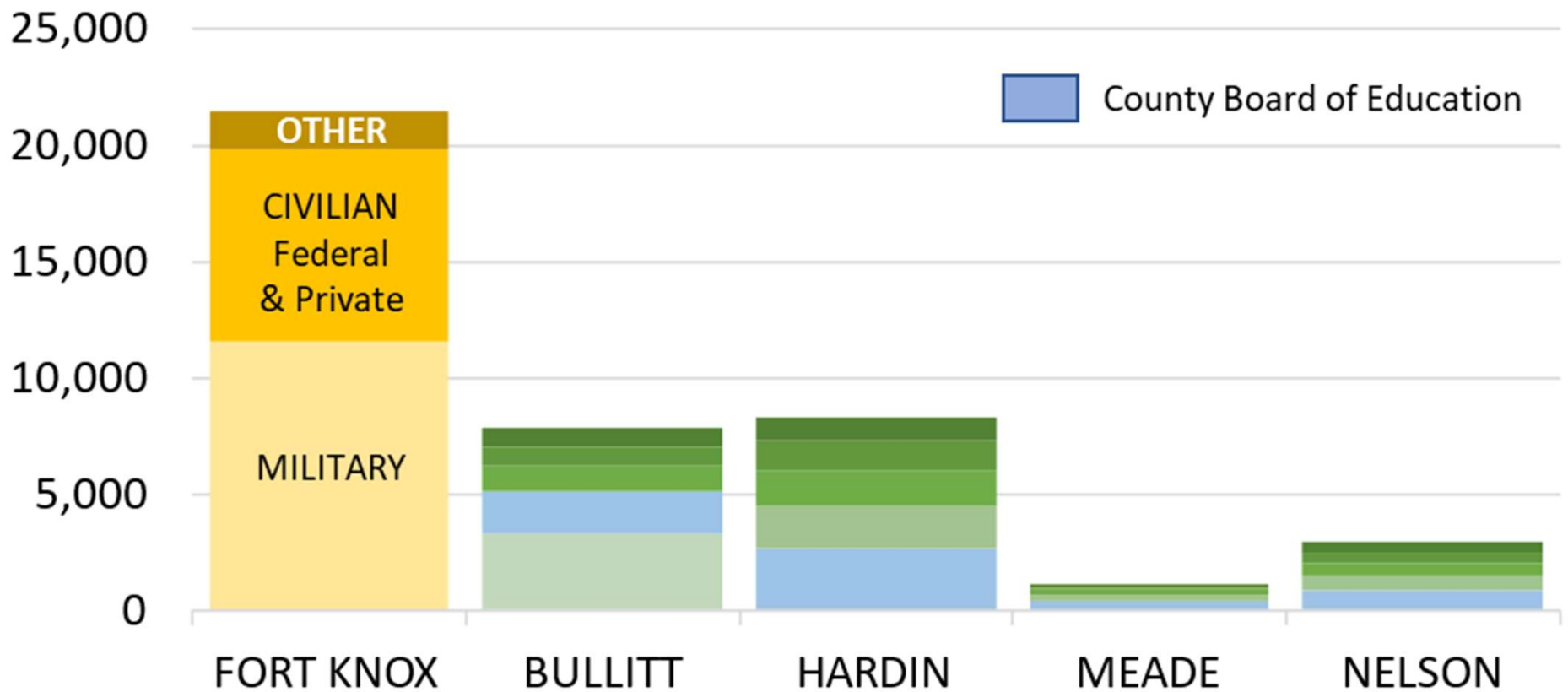
Excludes Education and Retail

Sources: KY Cabinet for Economic Development, Dun & Bradstreet, Greater Louisville Economic Development

CUP STUDY AREA

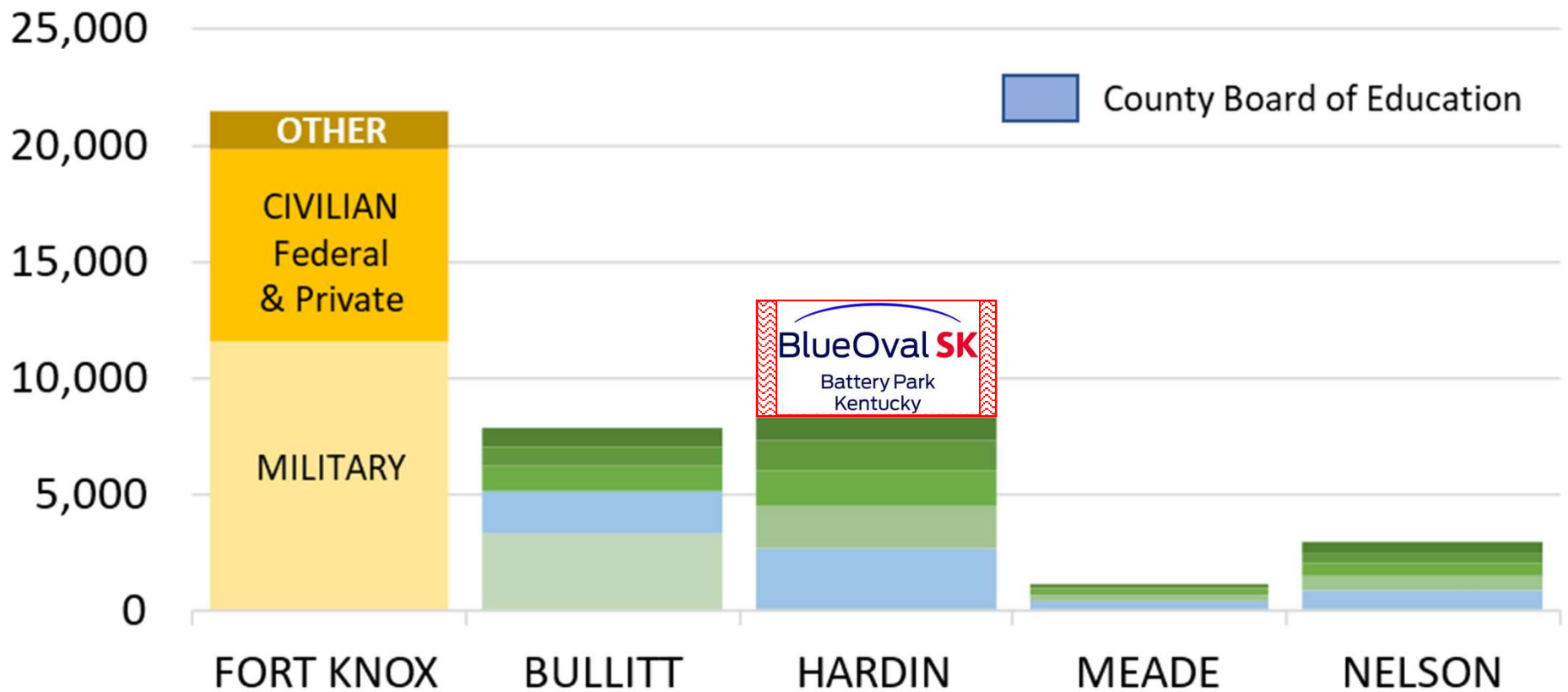


Number of Employees Top 5 Employers in Each County



Sources: KY Cabinet for Economic Development, Dun & Bradstreet,
Bullitt County Board of Education

Number of Employees Top 5 Employers in Each County



Sources: KY Cabinet for Economic Development, Dun & Bradstreet,
Bullitt County Board of Education

FORT KNOX ECONOMIC ENGINE

- PAYROLL/INVESTMENT

Expenditures - \$2.8 Billion annually
9,000 + Civilian Employees

- DAGIR (Digital Air-Ground Integration Range)

\$53 Million investment

- Population, KY's 17th largest City

Daytime population 26,000+

CHOICES

Work with Ft Knox to maintain its viability & mission.

OR

Ignore the biggest economic engine in the region.

So,
Why would this be a problem?

Fort Knox's Primary Product



Sounds of Freedom!

Video Available at missionknox.org



Video Courtesy of DoD, Fort Knox Garrison Command, Public Affairs Office

Previous Efforts



Joint Land Use Study (JLUS) 1994 & 2008

Base Realignment & Closure (BRAC)

Army Compatible Use Buffer (ACUB) 2007-09

What is CUP?



CUP is a study that will result in an implementation plan to promote compatible civilian development surrounding Ft. Knox.

What is CUP?



CUP represents a planning process that **promotes open, continuous dialogue** among the Military, surrounding jurisdictions, and states to support long-term sustainability and operability of military missions

What is CUP?



CUP IS:

- a study that recommends appropriate actions for consideration.
- a collaborative effort with input from all parties.
- a compilation of data to assist in better decision making
unique to the needs of the communities surrounding Fort Knox.

CUP IS NOT:

- a regulatory document.
- an enforceable action.

Why CUP?



NOISE

HEALTH & SAFETY

ENCROACHMENT

LIGHT POLLUTION

NATURAL / ENVIRONMENTAL

HOUSING

TRAFFIC

VERTICAL OBSTRUCTIONS

FREQUENCY SPECTRUM

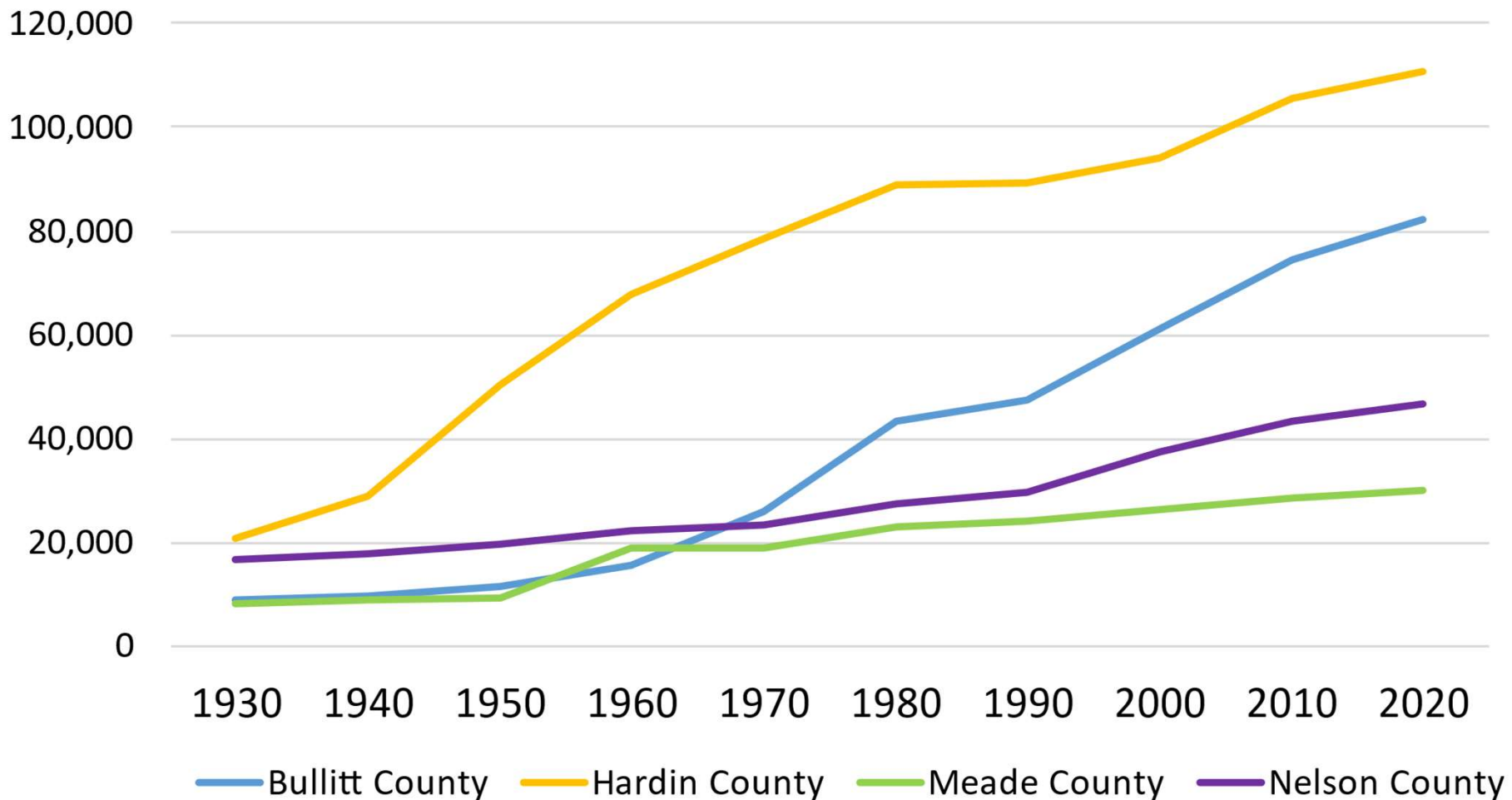
ANTI-TERRORISM/FORCE PROTECTION

CUP

WHY NOW?

POPULATION – Four County CUP Study

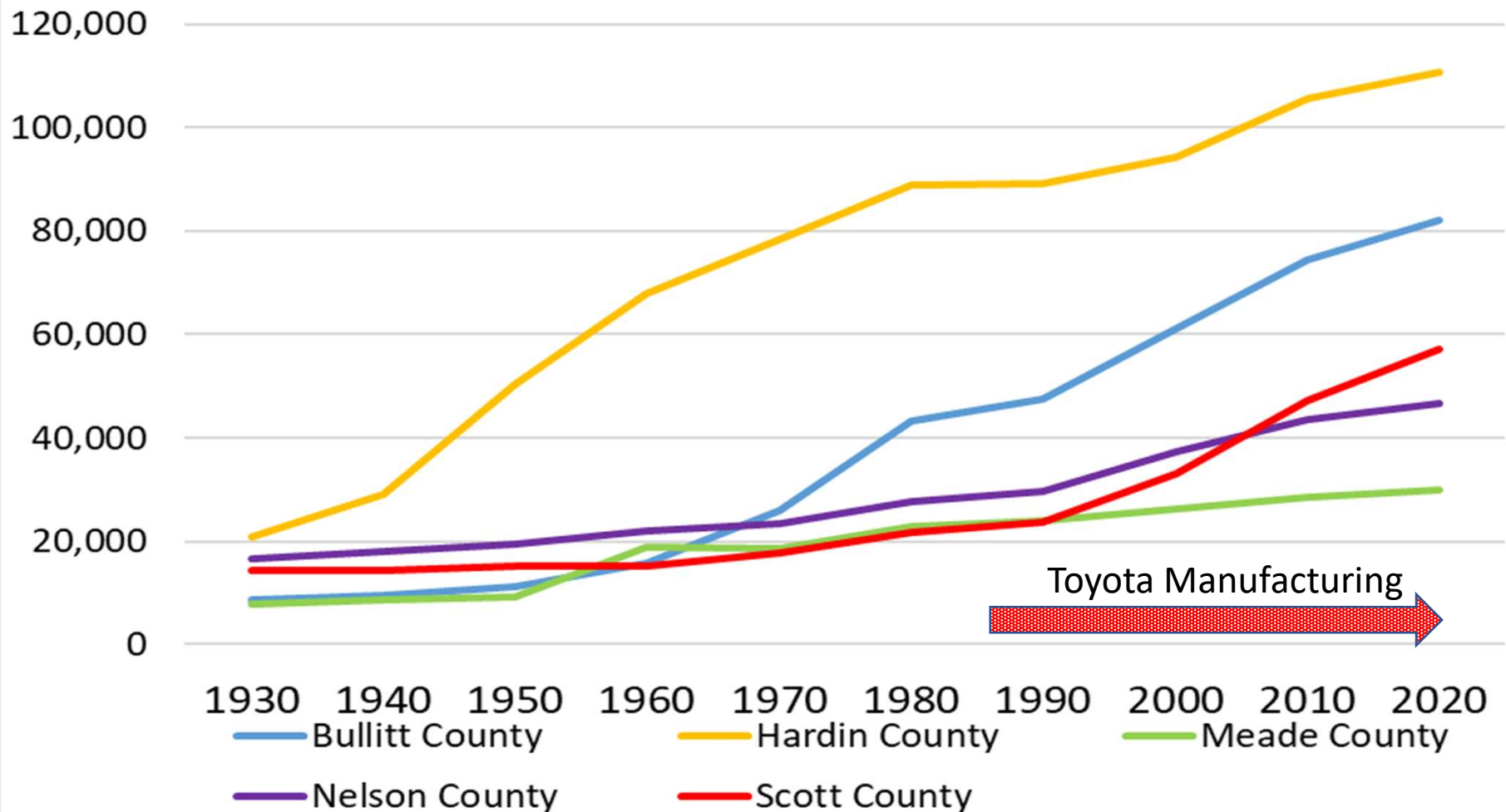
Population Growth Trend



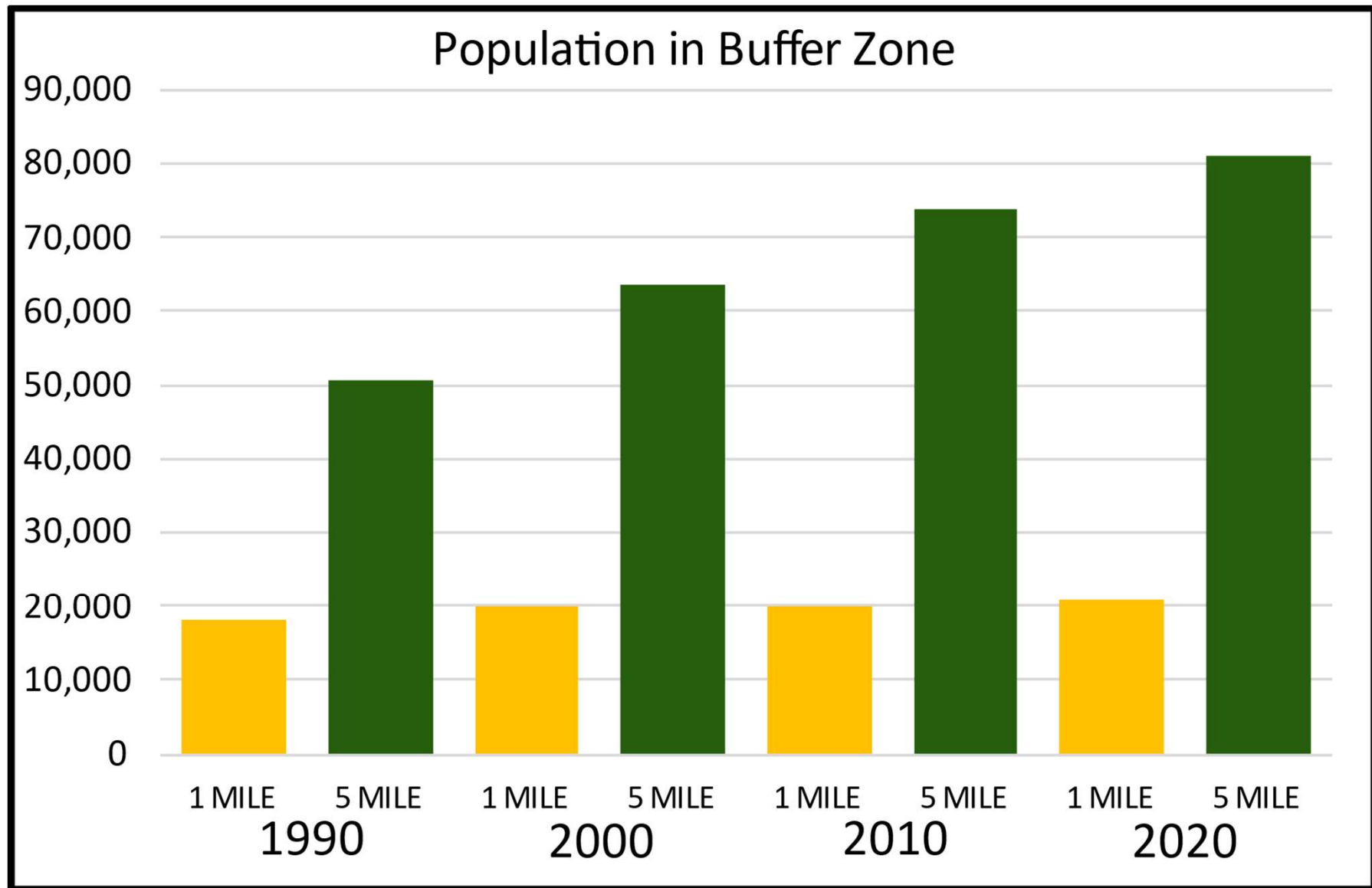
U.S. Census, Decennial Census

POPULATION – Four County CUP Study

Population Growth Trend

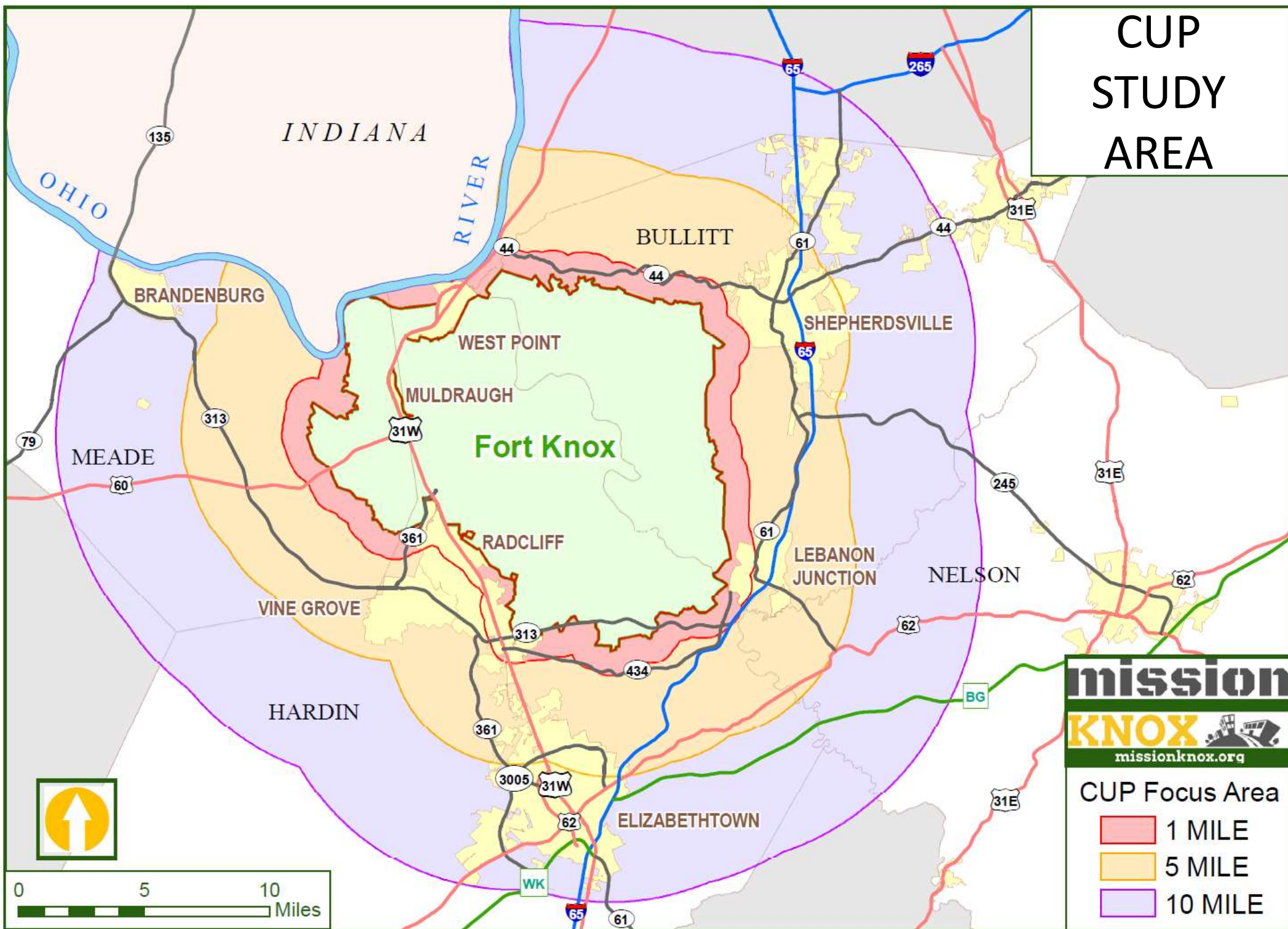


POPULATION – Proximity to Fort Knox

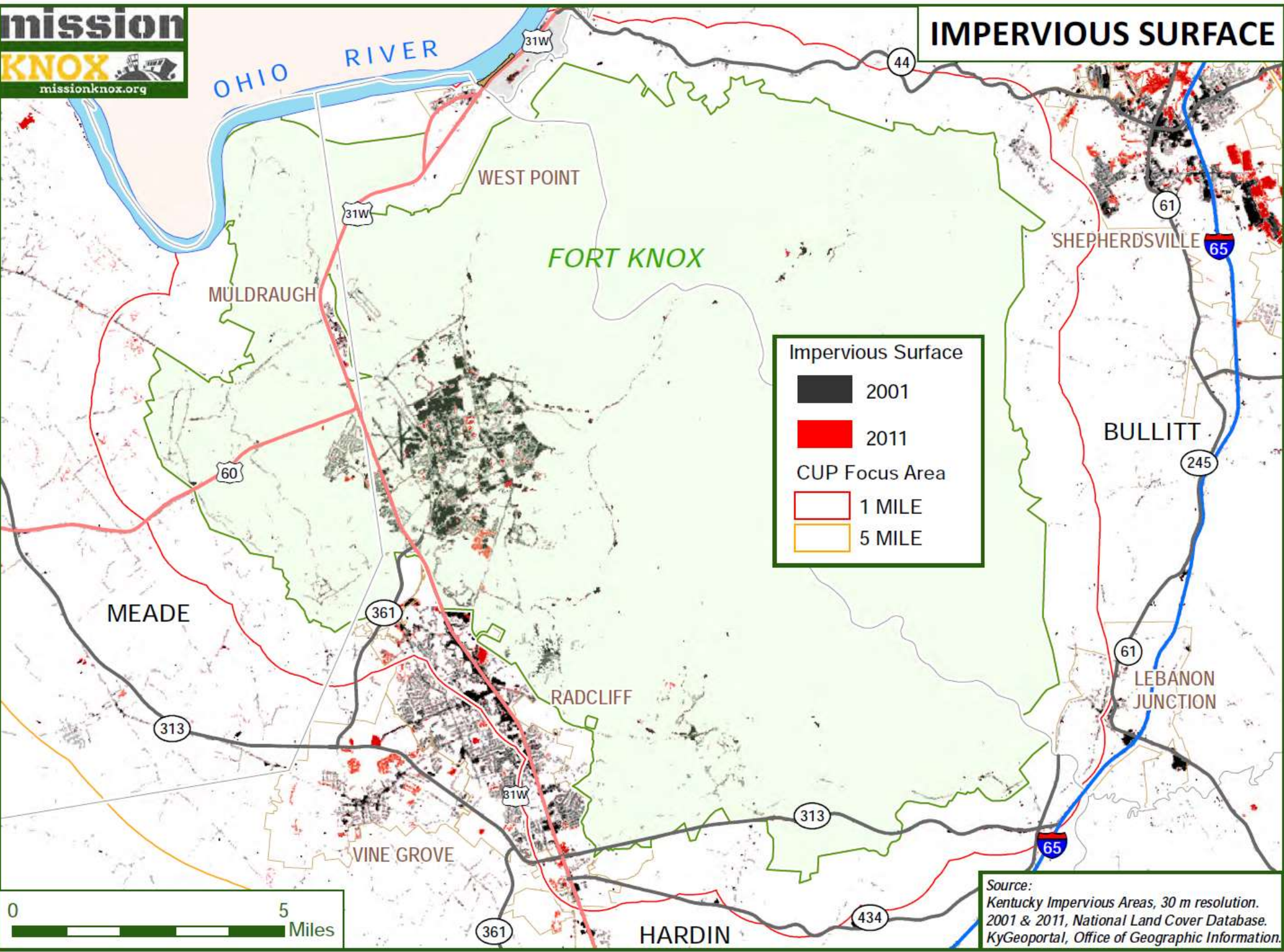


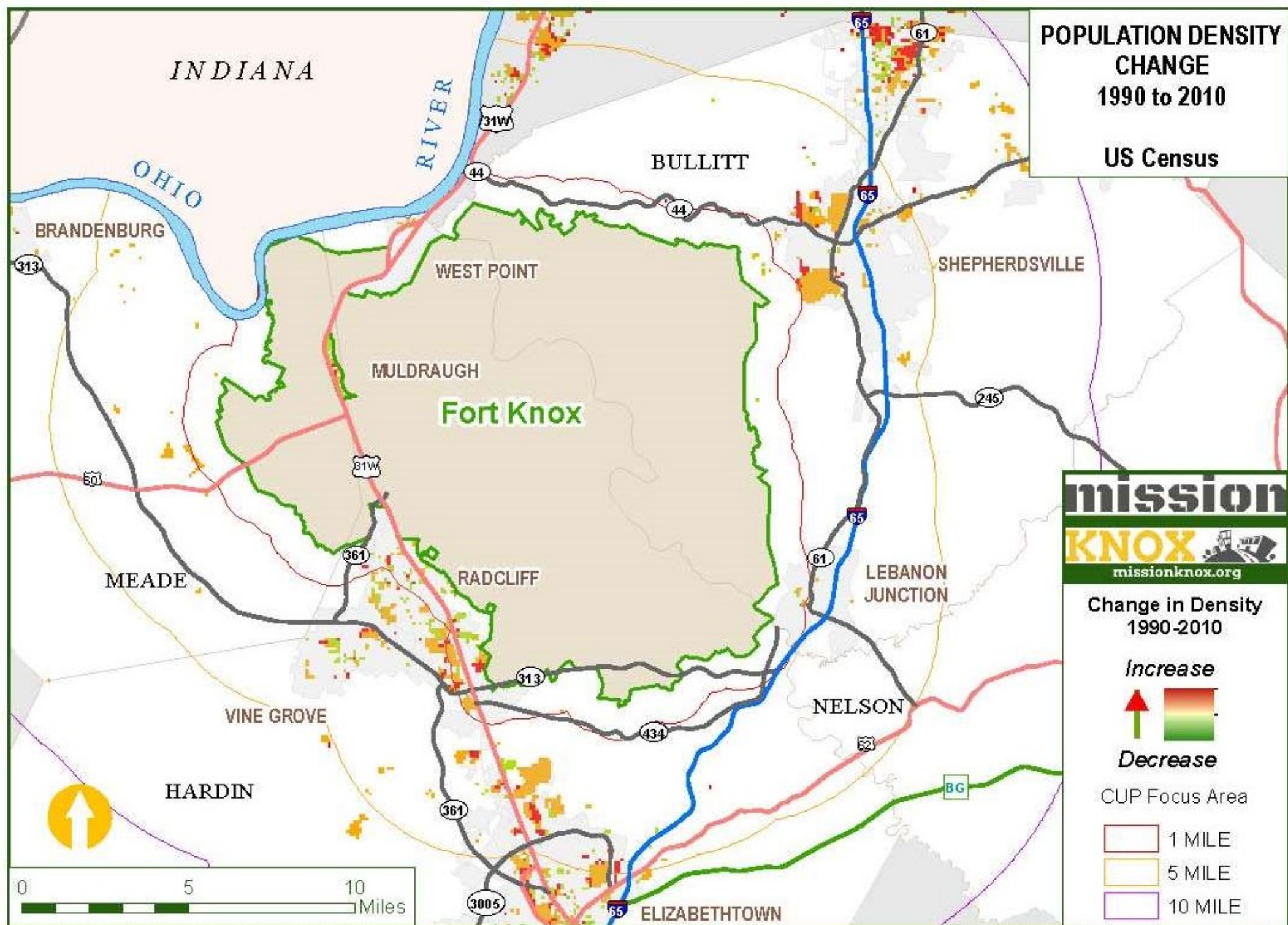
Source: U.S. Census, Decennial Census. Selection method block polygon centroid withing buffer zone.

CUP STUDY AREA

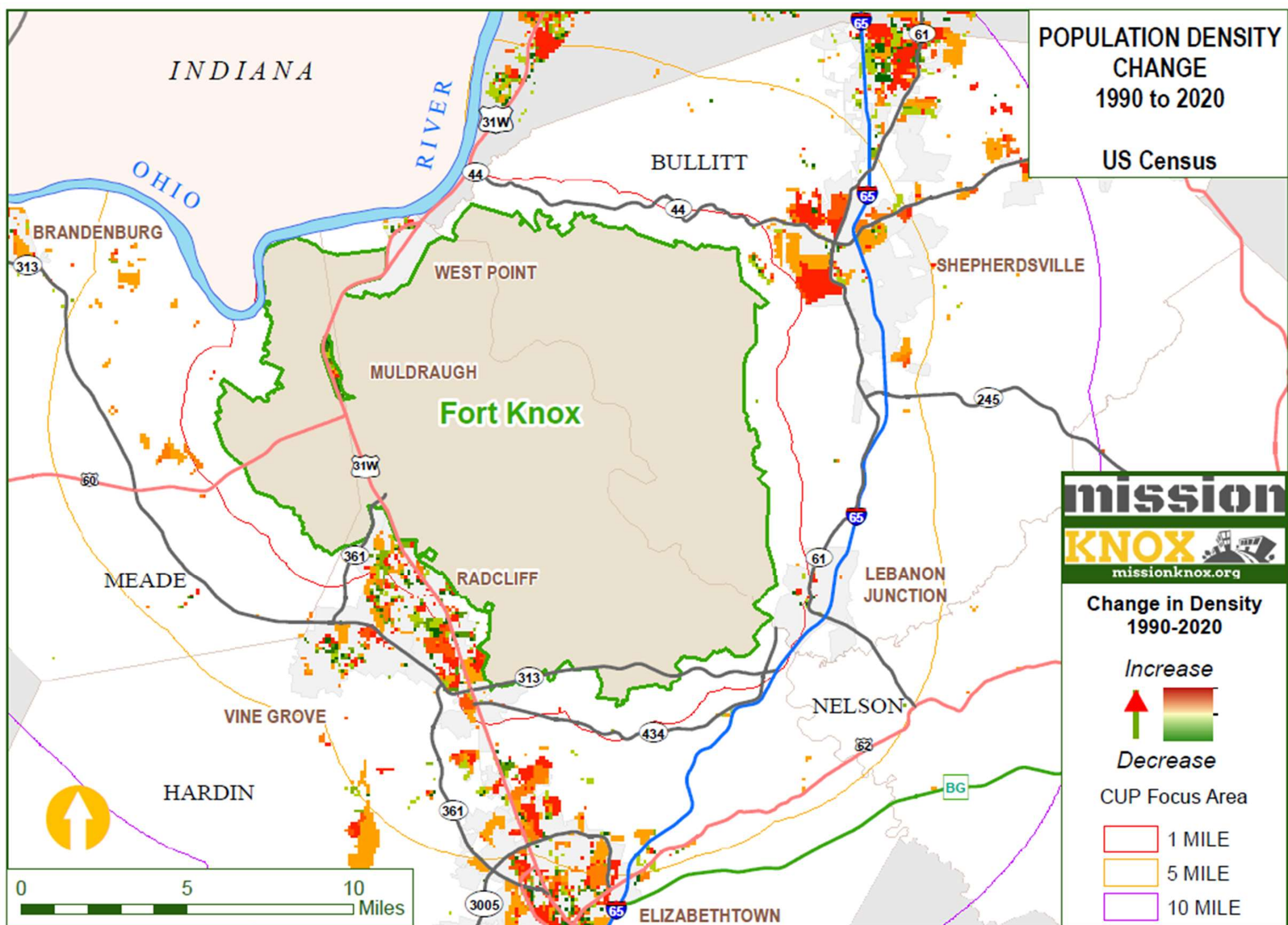


IMPERVIOUS SURFACE

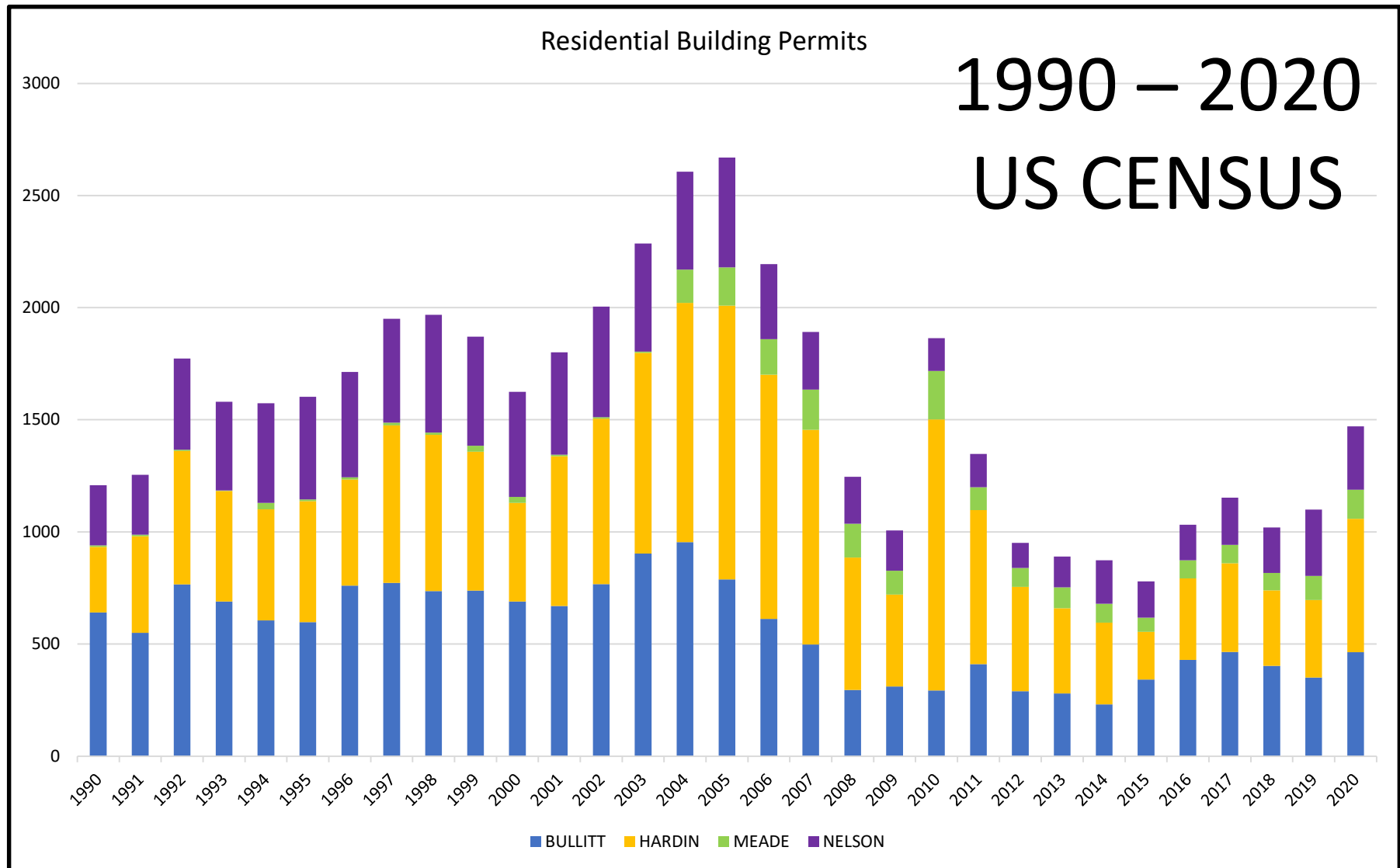




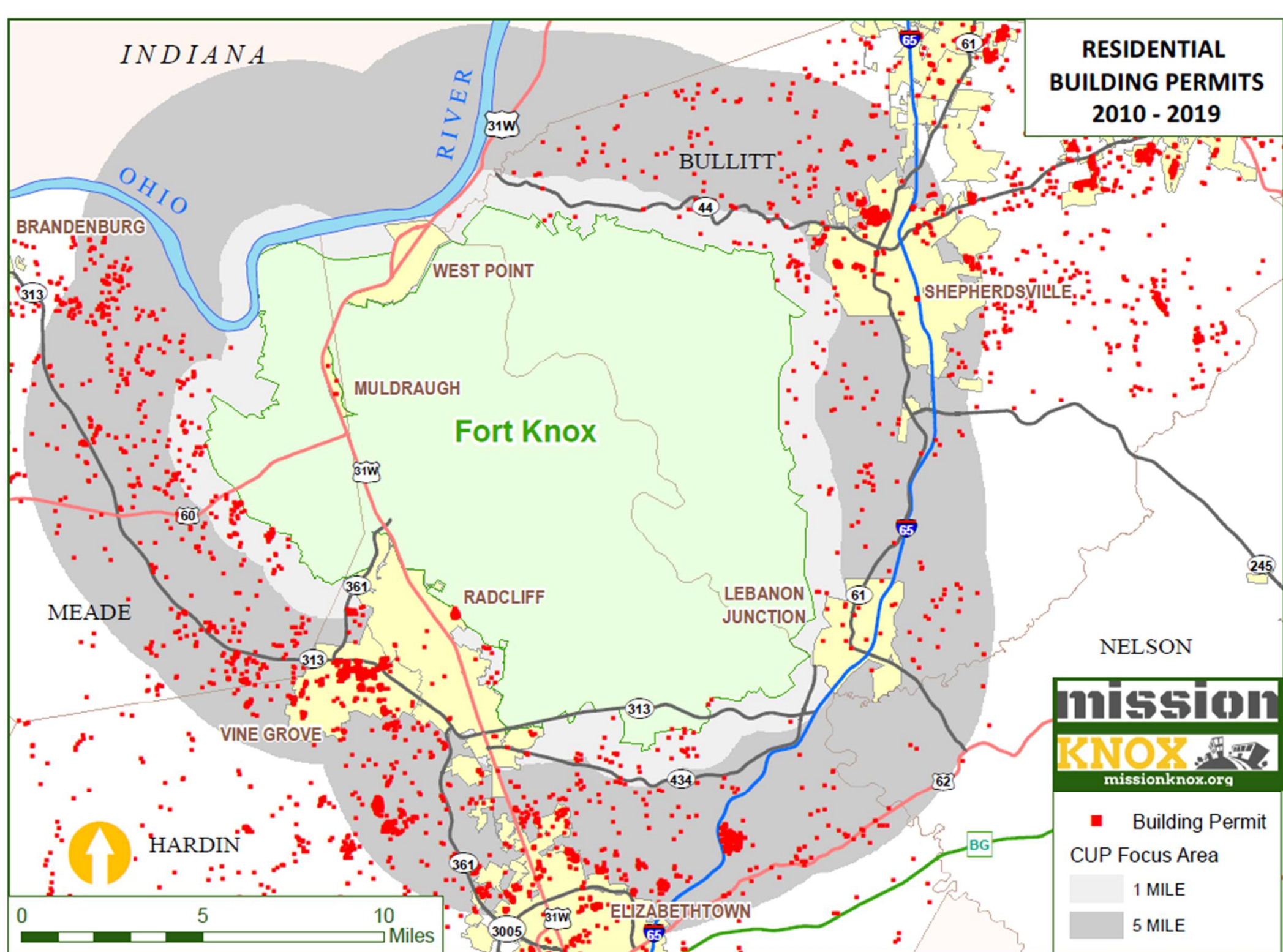
MAP 5A - POPULATION DENSITY CHANGE, 1990-2010



RESIDENTIAL HOUSING



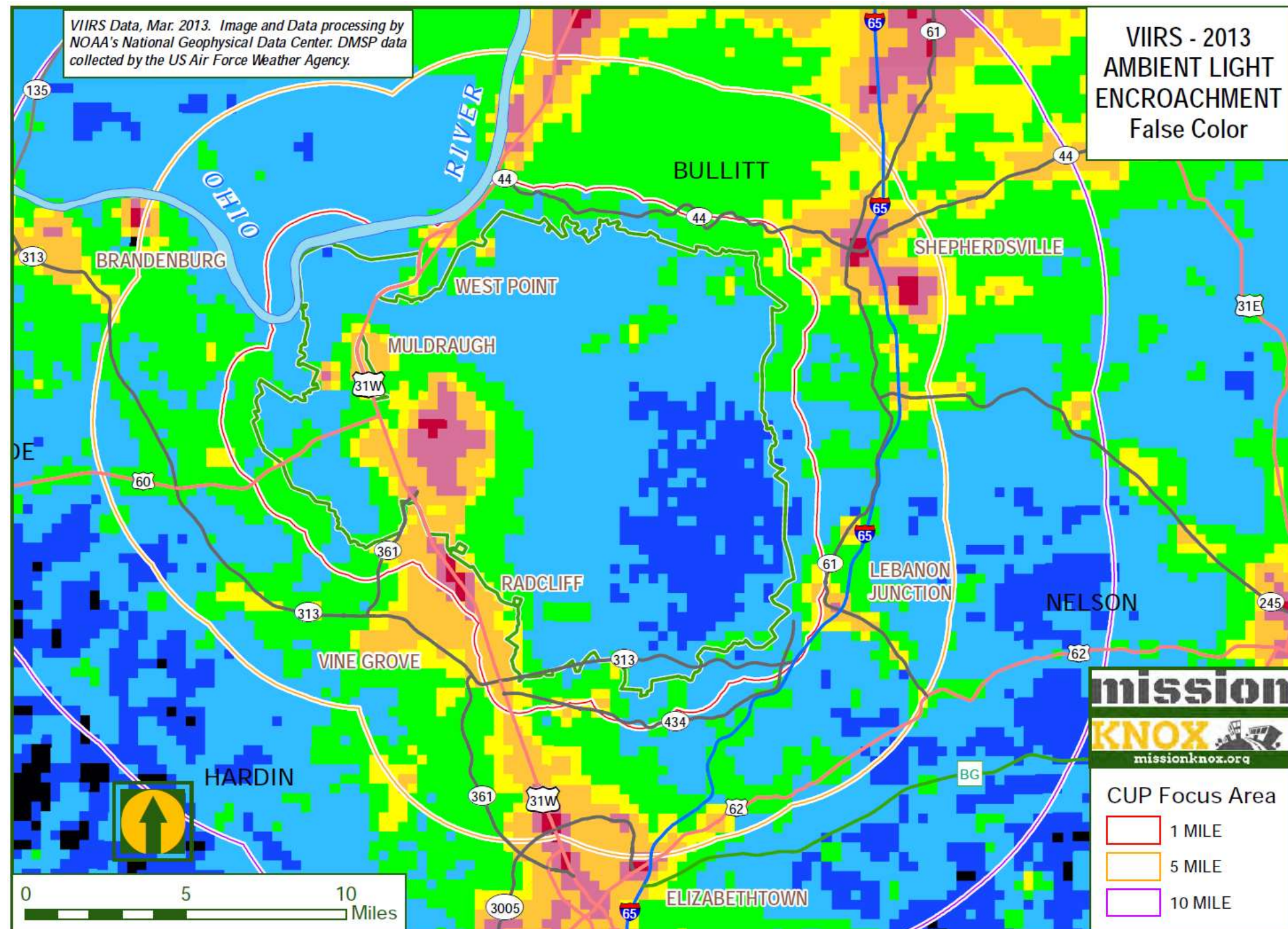
U.S. Census Bureau, New Private Housing Structures.



MAP 6 - RESIDENTIAL BUILDING PERMITS - 2010-2019

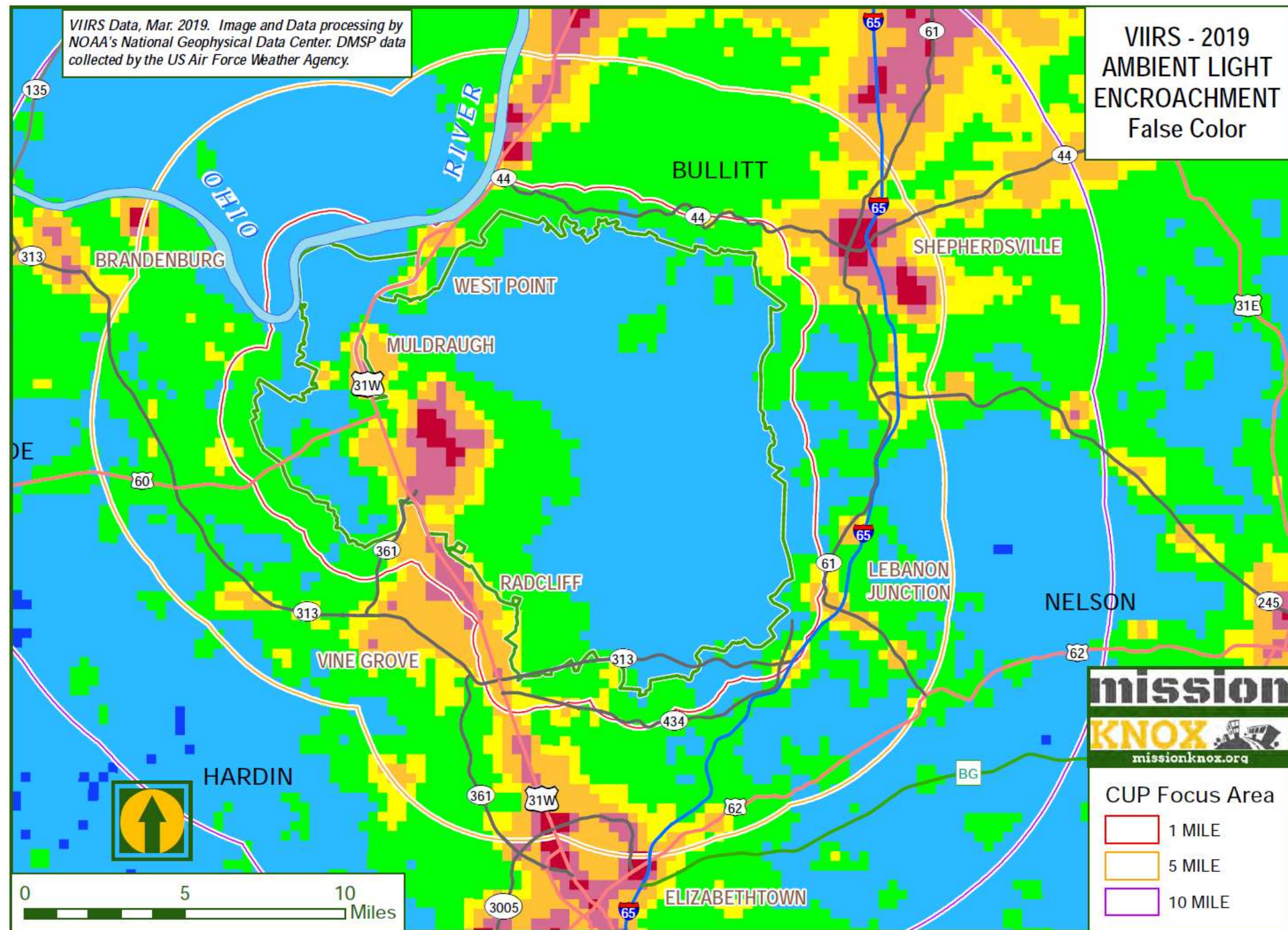
VIIRS Data, Mar. 2013. Image and Data processing by NOAA's National Geophysical Data Center. DMSP data collected by the US Air Force Weather Agency.

VIIRS - 2013 AMBIENT LIGHT ENCROACHMENT False Color



VIIRS Data, Mar. 2019. Image and Data processing by NOAA's National Geophysical Data Center. DMSP data collected by the US Air Force Weather Agency.

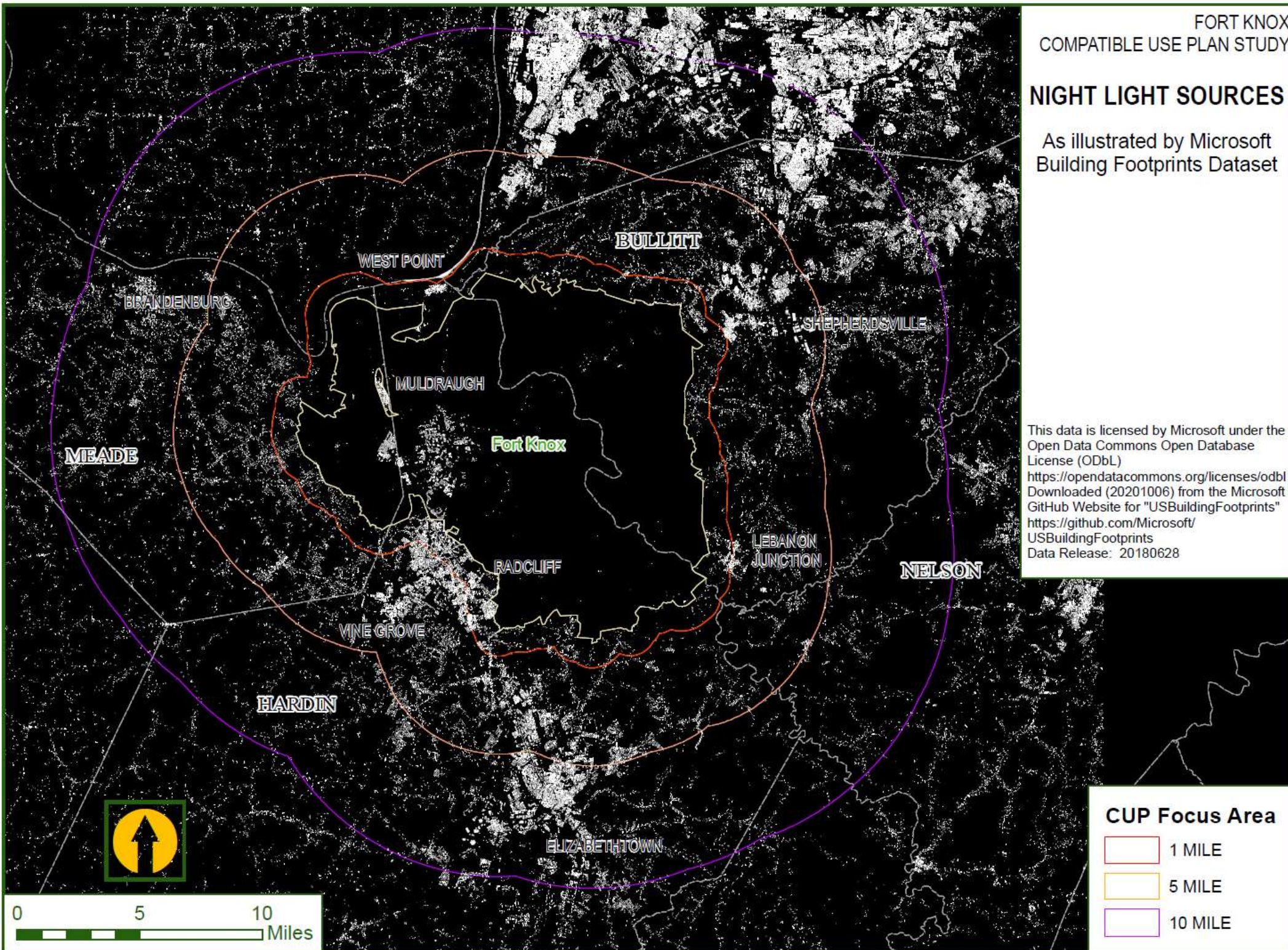
VIIRS - 2019 AMBIENT LIGHT ENCROACHMENT False Color



NIGHT LIGHT SOURCES

As illustrated by Microsoft
Building Footprints Dataset

This data is licensed by Microsoft under the
Open Data Commons Open Database
License (ODbL)
<https://opendatacommons.org/licenses/odbl>
Downloaded (20201006) from the Microsoft
GitHub Website for "USBuildingFootprints"
<https://github.com/Microsoft/USBuildingFootprints>
Data Release: 20180628

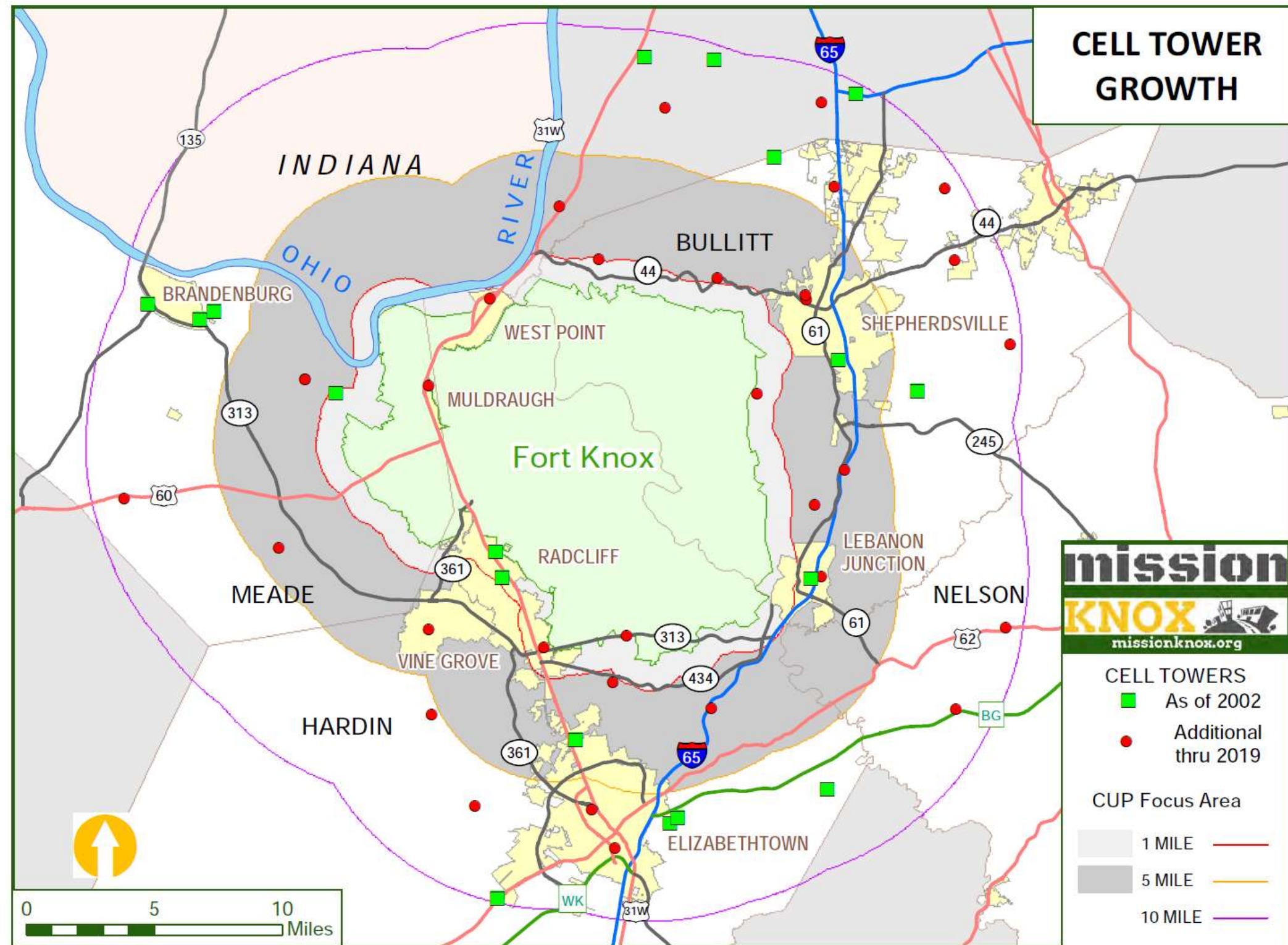


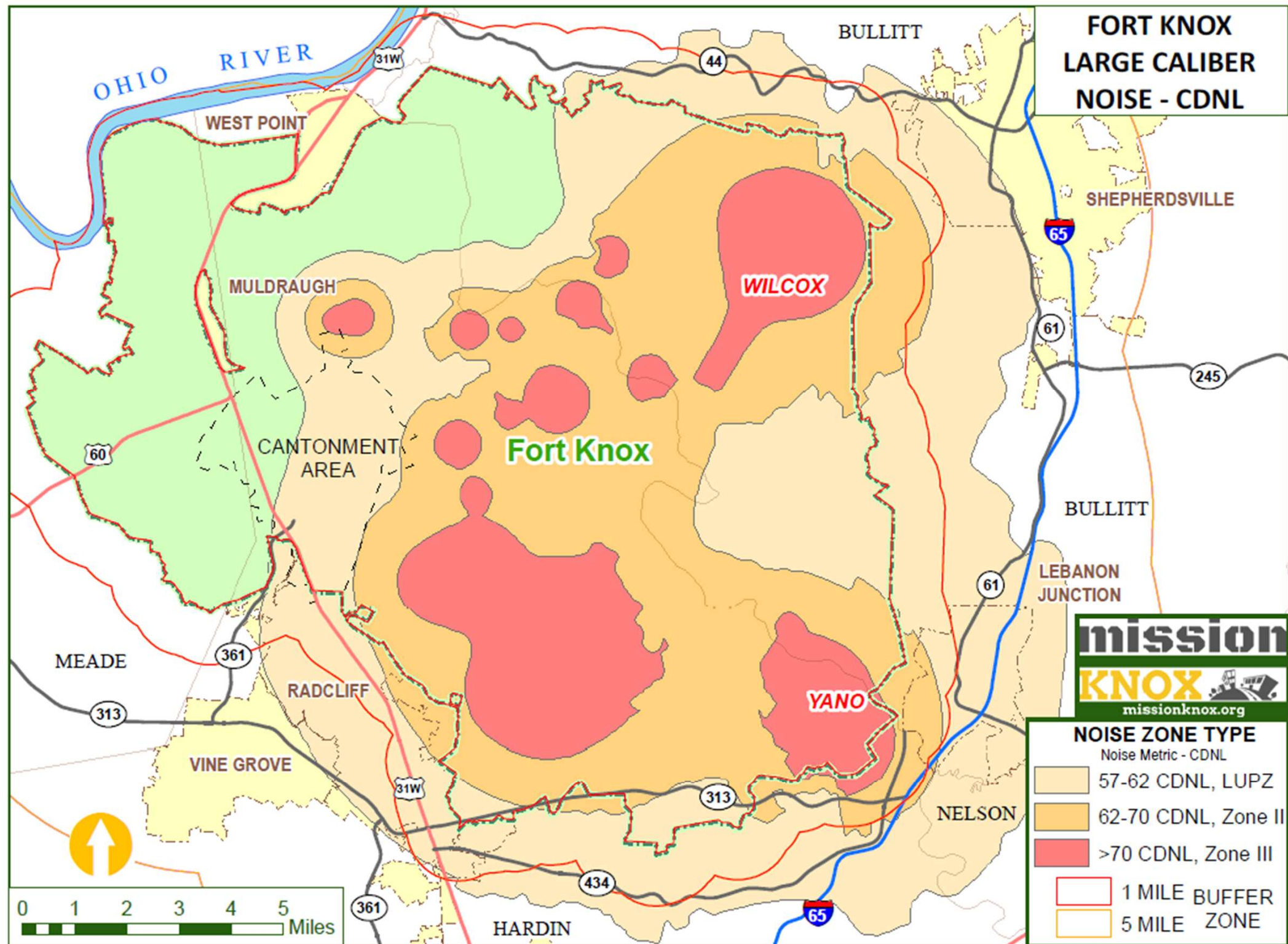
CELL TOWER GROWTH



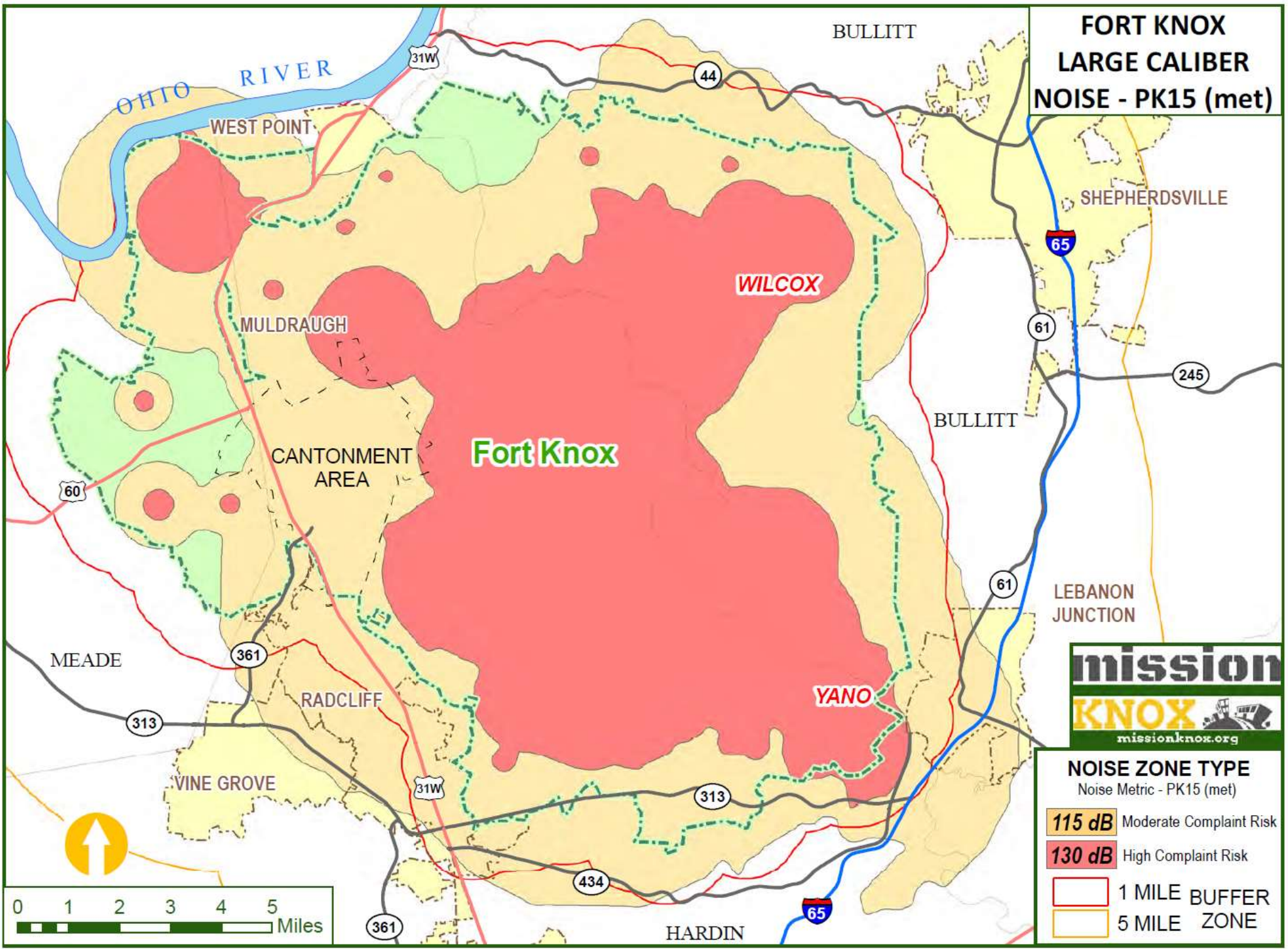
CELL TOWERS
■ As of 2002
● Additional thru 2019

CUP Focus Area





MAP 27 - LARGE CALIBER, NOISE - CDNL



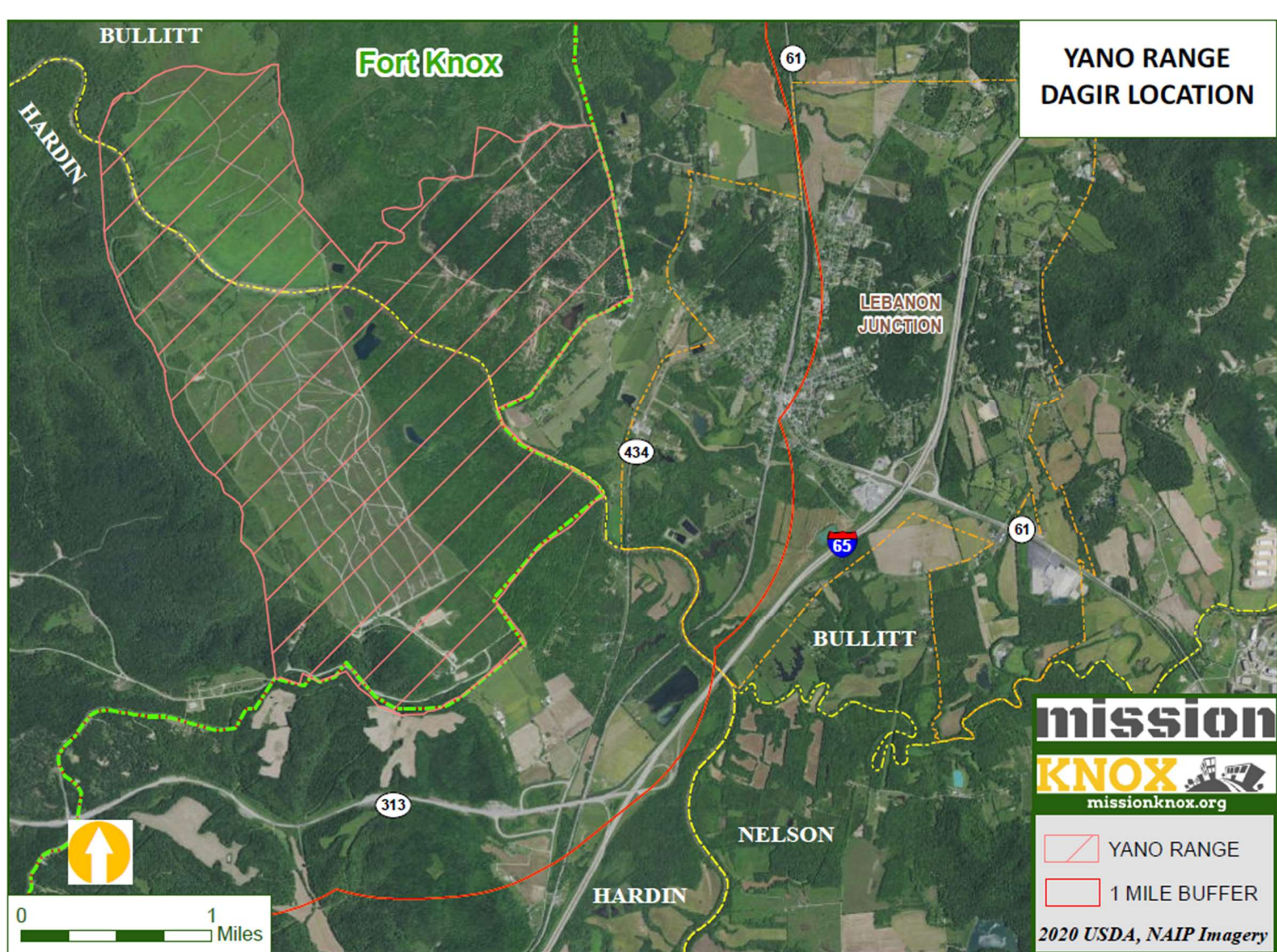
Digital Air-Ground Integration Range (DAGIR)

Online Late 2023

Schedule slippage – weather & supply chain issues

NOISE – LOCATION CHANGES & INCREASED LEVELS & FREQUENCY





YANO RANGE DAGIR LOCATION

mission

KNOX

missionknox.org

YANO RANGE
1 MILE BUFFER

2020 USDA, NAIP Imagery

MAP 28 - YANO RANGE - DAGIR LOCATION

FORT KNOX COMPATIBLE USE PLAN - STUDY

LAND USE CONCERNS – Building “against the fence”



HOMES ADJACENT TO FIRING RANGE

Fort Knox

YANO RANGE

BULLITT
HARDIN

NEWTON FARM RD

LEBANON
JUNCTION



0 1 Miles

2011

2019

2013

2014

2012

2010

2018

2019

2018

2011

2018

2011

2019

mission
KNOX
missionknox.org

■ Building Permit
(Year)

○ Houses shown
in figures.

▨ YANO RANGE

▭ 1 MILE BUFFER

2020 USDA, NAIP Imagery

RADCLIFF SOUTHERN HEIGHTS SUBDIVISION

 **Firing Point**

Fort Knox

RADCLIFF

ELINGOIN TRAIL BLVD

31W

HARDIN CO.

*North Urban Area "East"
Zoned R-1 Residential*

mission
KNOX 
missionknox.org

-  Southern Heights Subd.
-  Other Residential Zoning
-  Building Permit
2017 - 2019
-  Addressed Structure

2020 USDA, NAIP Imagery



0 1,000 2,000 3,000 4,000 5,000 Feet

REPORT: PUBLIC MEETINGS & SURVEYS

“I was at a meeting and a Colonel said they can’t fly over your house, farm, property”

“Tanks are gone but still noise.”

“The noise causing the value of my property to decrease “

“Walls cracking when using large weapons, hasn't been happening much recently though.”

“Property value drop due to noise”

“NOISE” COMPLAINTS

*“I have called many times about you
being over the BUFFER ZONE
BROKEN GLASS PICTURES FALLING OFF
WALL
Going to court house file complaints...”*

FORT KNOX AVIATION NOISE ZONES

Fort Knox

Godman AAF

CANTONMENT
AREA

mission
KNOX
missionknox.org

NOISE ZONE TYPE

Mean Noise Level - Decibels

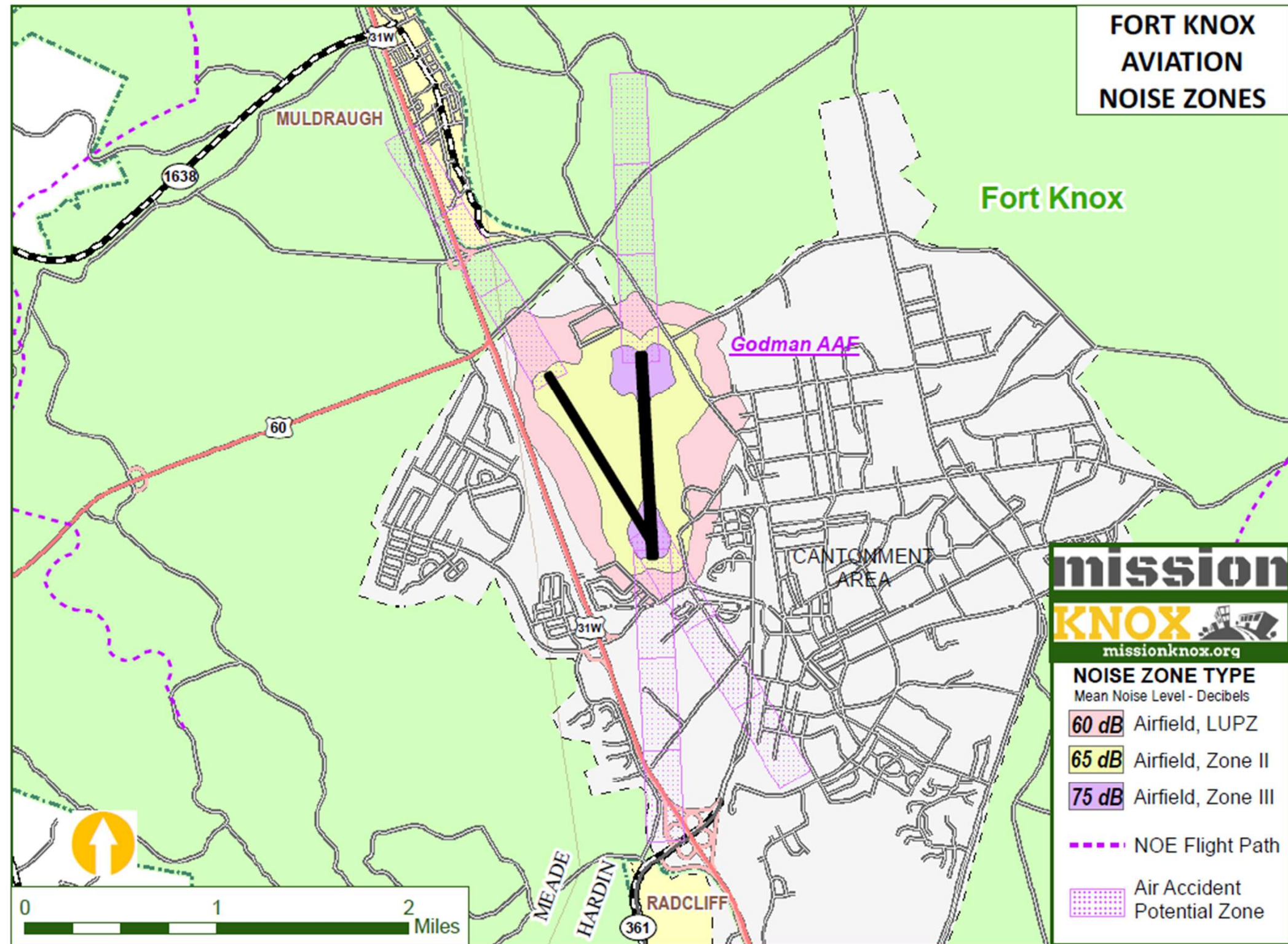
60 dB Airfield, LUPZ

65 dB Airfield, Zone II

75 dB Airfield, Zone III

--- NOE Flight Path

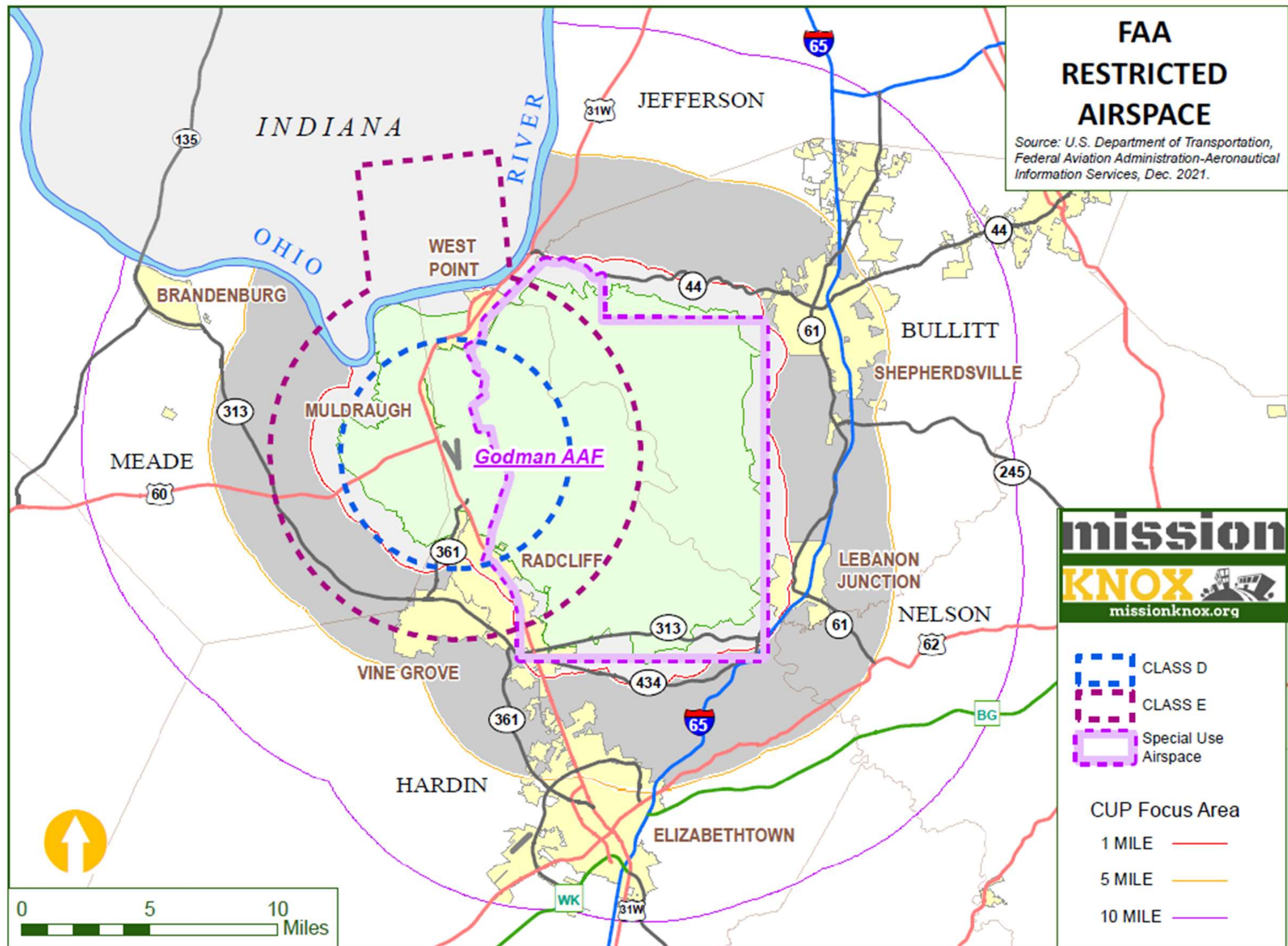
--- Air Accident
Potential Zone



MAP 29 - AVIATION NOISE ZONES

FAA RESTRICTED AIRSPACE

Source: U.S. Department of Transportation,
Federal Aviation Administration-Aeronautical
Information Services, Dec. 2021.

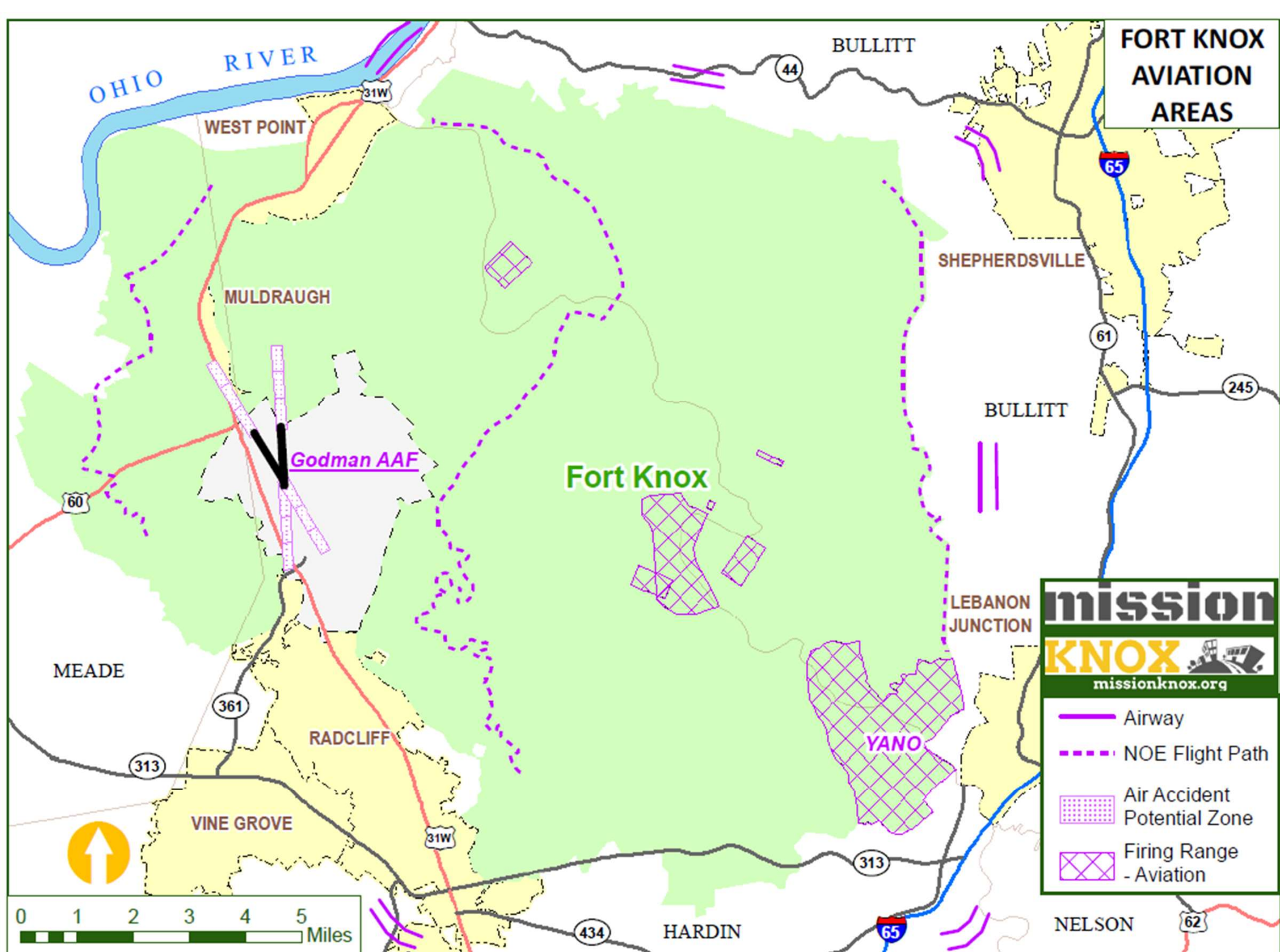


mission
KNOX
missionknox.org

- CLASS D
- CLASS E
- Special Use Airspace

CUP Focus Area

- 1 MILE
- 5 MILE
- 10 MILE



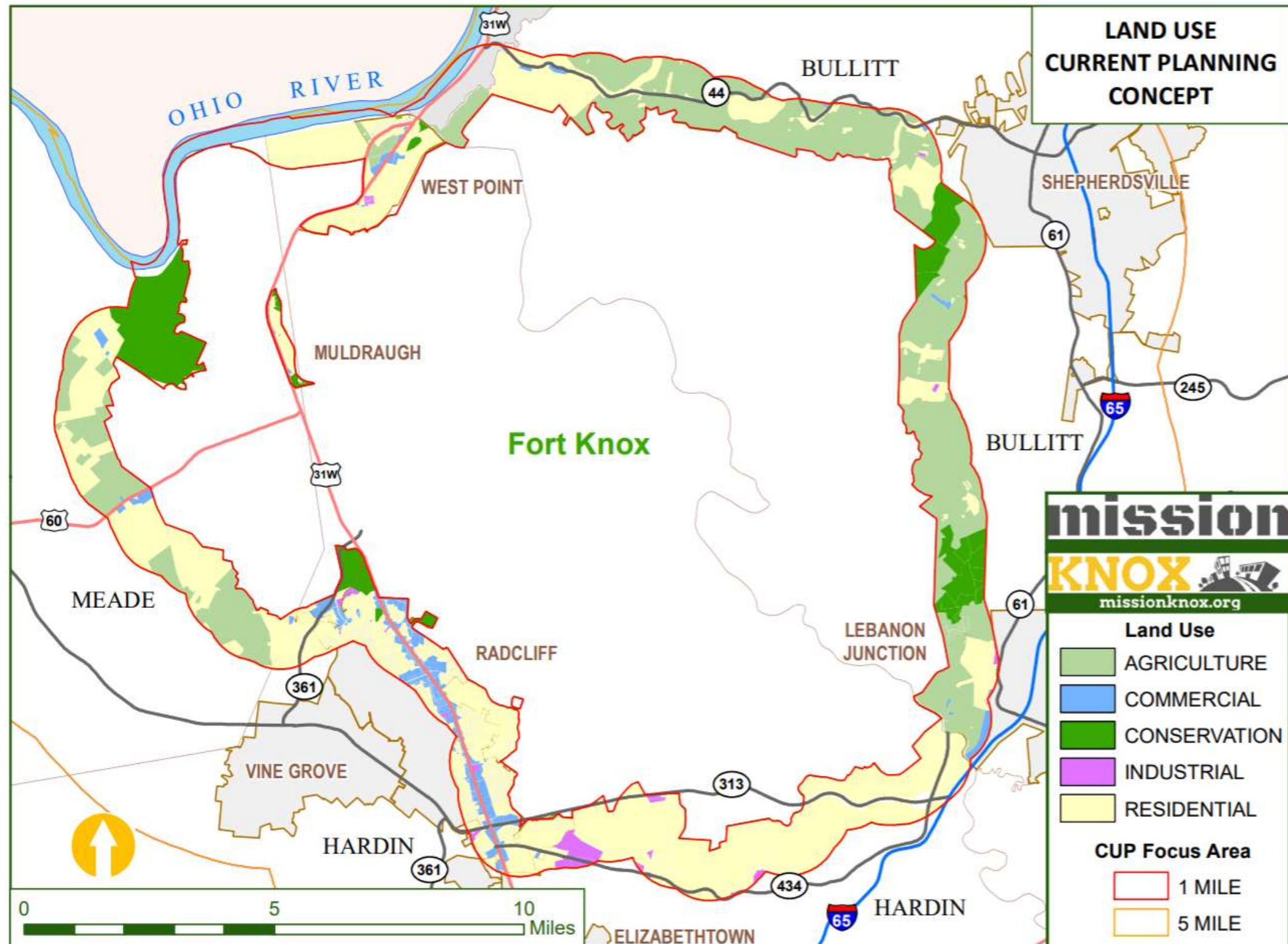
MAP 23 - AVIATION AREAS

"NOISE" COMPLAINTS

"On wednesday [sic] night 23 Oct at around 1 a.m. helicopters were flying very low above our house. They were below 100 feet and they rattled my house. Fort Knox has 109,000 acres, why do they have to fly over residential areas."

"Tues. night (10/22) at around 11 p.m. helicopters were flying about 200 ft. above our house. There is no need to fly over a subdivision that low, that late at night. I understand at 3 in the afternoon, but not at night. That is what the restricted airspace on Fort Knox is for."

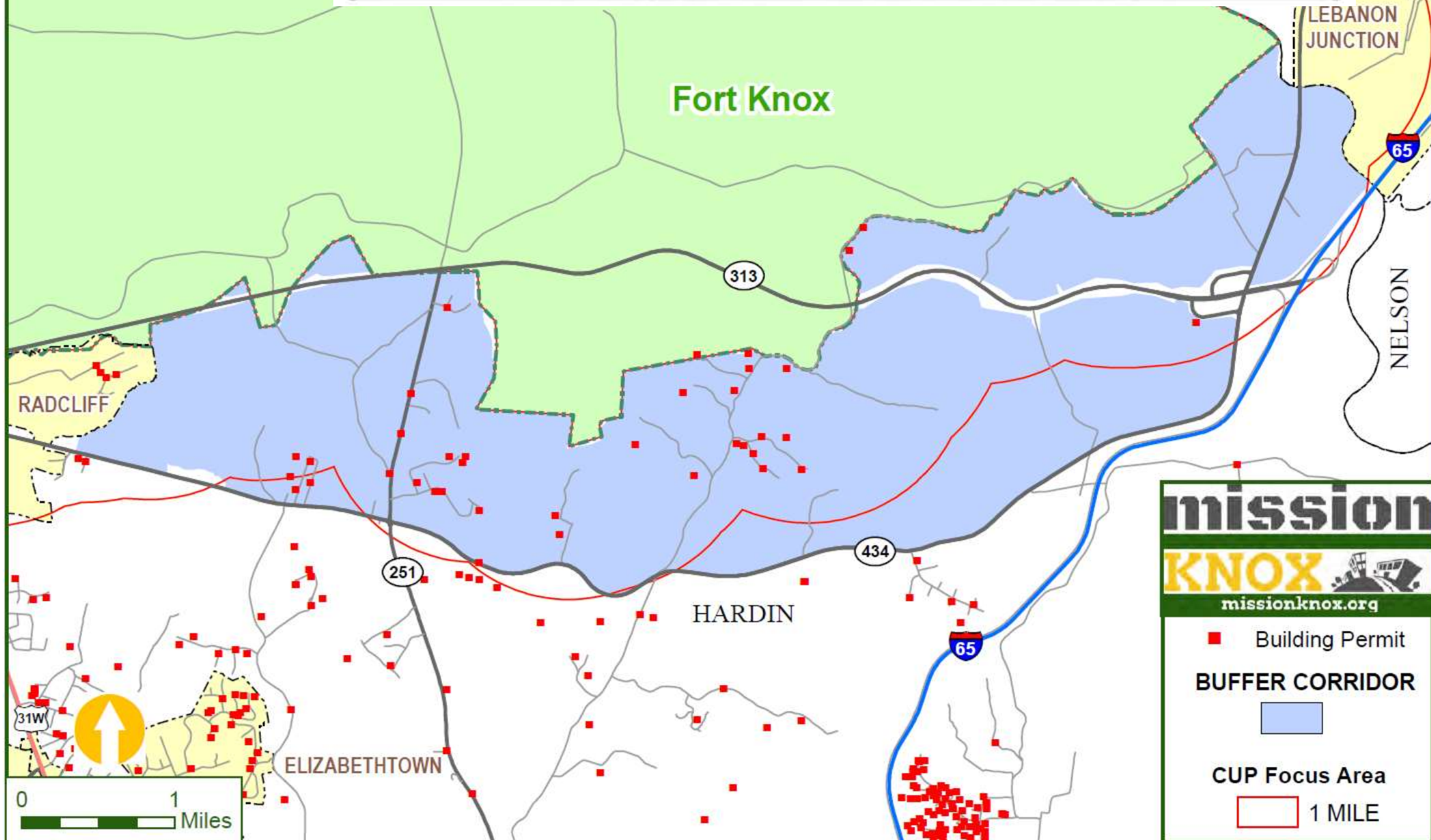
**LAND USE
CURRENT PLANNING
CONCEPT**



**KY 313
BUFFER
CORRIDOR**

KENTUCKY 313 CORRIDOR

**THIS DISTRICT MAY BE NEGATIVELY AFFECTED
BY NOISE CREATED BY FORT KNOX
ACCORDING TO THE FORT KNOX NOISE IMPACT STUDY.**



LAND USE



This home is being constructed in an RU-E Zone, which experienced significant growth due to annexation.

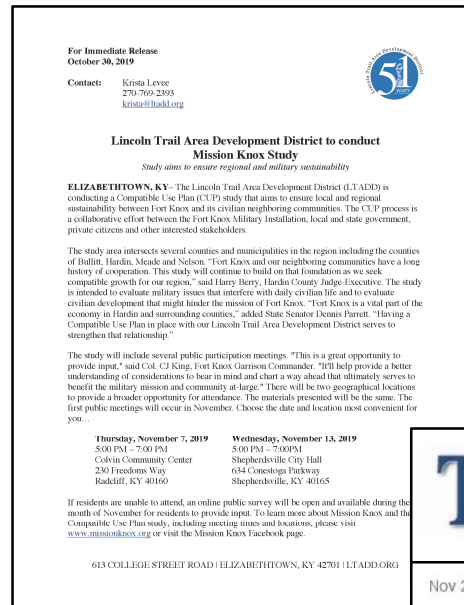
2019 RADCLIFF COMP PLAN

PUBLIC PARTICIPATION



PRESS RELEASES

News-Enterprise
The Pioneer News
Meade County Messenger
The Kentucky Standard
WQXE 98.3 FM
WVKB 101.5 FM
WULF 94.3 FM
Kentucky's Heartland



NEWSPAPER ARTICLES

News-Enterprise, article & editorial
The Pioneer News, article
Messenger, article



Mission Knox and Compatible Use Plan meeting

CHAD HOBBS
Messenger Staff

On Nov. 25, a public open forum meeting was hosted at the Meade County Courthouse by the Lincoln

million is obligated to mission and installation contracts. The daytime population of Fort Knox swells to over 25,000, ranking it as the 13th largest city in Kentucky between

THE NEWS-ENTERPRISE

Nov 27, 2019



In a series of community meetings, the Lincoln Trail Area Development District is looking for feedback from the community. Fort Knox, its upbeat name for the federal compatible

The CUPs plan, itself a new name for the former Compatible Use Plan, is on how the post and its neighbors can best grow together. Partners by reducing encroachment.

Through this a series of information-gathering sessions, the district is gathering thoughts and insights in a search for priorities. The plan is to develop a Compatible Use Plan and eventually more community involvement.

THE NEWS-ENTERPRISE

Sustainability between Fort Knox, area communities being researched

MARY ALFORD The News-Enterprise Nov 10, 2019



The Lincoln Trail Area Development District is conducting a Compatible Use Plan study. An initial preparation meeting was held Thursday evening at Colvin Community Center in Radcliff.

MARY ALFORD/The News-Enterprise



The Lincoln Trail Area Development District is conducting a Compatible Use Plan study that aims to ensure local and regional sustainability between Fort Knox and its neighboring communities.

PUBLIC PARTICIPATION



FACEBOOK



WEBSITE

missionknox.org

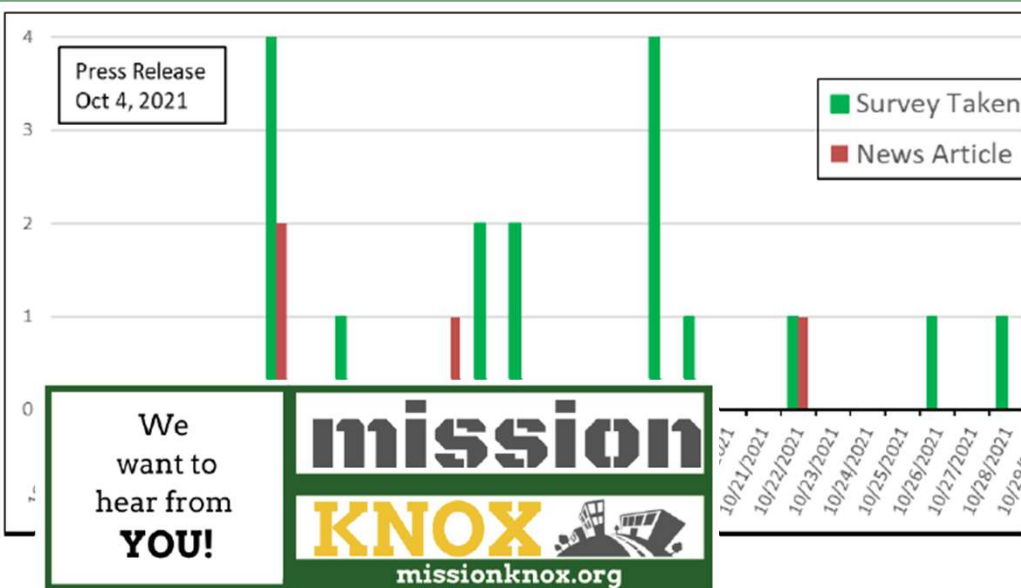


PUBLIC PARTICIPATION MEETINGS

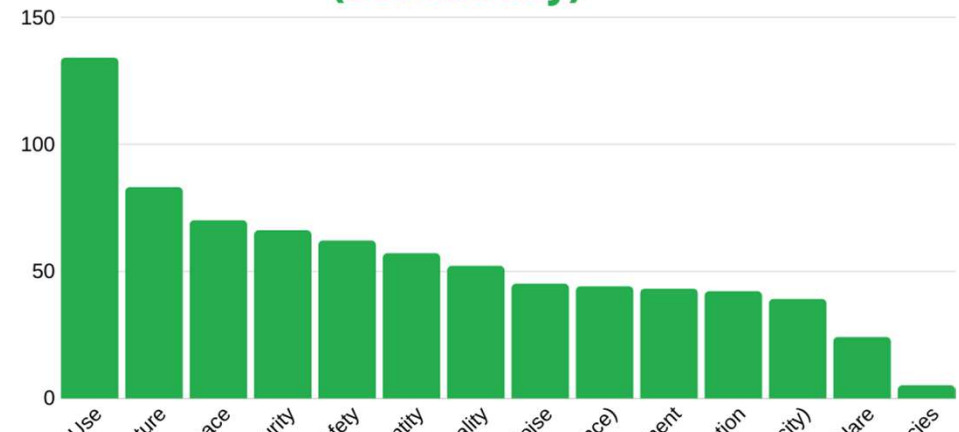


Images Lincoln Trail ADD, 2019.

PUBLIC PARTICIPATION SURVEYS



CUP Public Meeting Opinion Results (Dot Activity)



Take the
Public
Survey



Open
Nov 1-30



Stay connected at
www.missionknox.org
or follow on Facebook
info@missionknox.org
270-769-2393



Use the survey link
or QR code to access
the public survey.



FORT KNOX Compatible Use Plan



Public Meeting #1 A

Compatibility Issue / Opportunity	Very Important	Important	Somewhat Important	Not Important	No Opinion
Air / Land Space of an adequate size and quality are necessary for the military to accomplish training and operational missions. Competition for these shared resources can impact future growth of community and military uses.	●●●●●	●●●●●	●●●●●	●●●●●	
Noise: Exposure to high noise levels can have a significant impact on human activity, health, and safety, as well as wildlife, livestock, and pets. Training operations that involve aircraft, ground vehicles, and weaponry can create noise impacts that extend beyond military installations.	●●●●●	●●●●●	●●●●●	●●●●●	
Vibration may result from explosions, noise, mechanical operations, or other changes in the environment created by community or military activities.	●●●●●	●●●●●	●●●●●	●●●●●	
Light & Glare from commercial, industrial, recreational, and residential uses can interfere with both community and military activities, impacting the use of military night-vision devices and air operations or negatively affecting the communities.		●●●●●	●●●●●	●●●●●	
Energy Development of alternative energy sources such as solar, wind or biofuel could raise issues related to glare, vertical obstruction or water quality / quantity.	●●●●●	●●●●●	●●●●●	●●●●●	

REPORT: PUBLIC MEETINGS & SURVEYS

ISSUE: LAND BEING TAKEN

“Government (Ft Knox) is going to take all the land within one mile of boundary”

“Saw map on ky.gov that showed property to be taken”

“Loss of privately owned land and homes”

“LOSS OF MY FAMILY'S HOME AND PROPERTY”

“Taking my land because of the mile wide boundary expansion.”

Bullitt Magistrate contacted US Rep office concerned about Ft Knox taking land.

SOLUTIONS



FEDERAL

STATE

LOCAL

FEDERAL

SENTINEL LANDSCAPES PROGRAM

REPI - Readiness and Environmental Protection Integration

ACUB – Army Compatible Use Buffer

STATE

PACE - Purchase of Agricultural Conservation Easements

REAL ESTATE DISCLOSURES

STATE LEVEL DEVELOPMENT GUIDE FOR MILITARY INSTALLATIONS

LOCAL

ORDINANCES

NOISE

LIGHT

DENSITY

MANAGED GROWTH

COMMUNICATION / INFORMATION

Goal 1: Communication

Goal 2: Land Use Policy

Goal 3: Conservation

IMPLEMENTATION Policy Toolbox



Land Use Planning Specific

Language and Examples

Access to Fort Knox Management Plans & Studies

Establish MOU's between Planning Organizations
and Fort Knox

IMPLEMENTATION

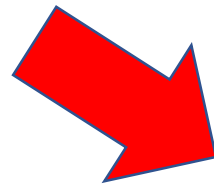
Attenuation Policies

NOISE

LIGHT

FREQUENCY (Communications)

OBSTRUCTIONS



Building Codes

Subdivision Regulations

Permitting Process

Ordinance

Zoning Regulations

IMPLEMENTATION

Sample Notice Language



This property is located near an active military training installation.

This includes active firing ranges and aircraft overflights.

Common issues such as noise, dust, vibration, traffic can occur with some frequency – 24 hours a day, seven days a week.

IMPLEMENTATION Overlay Zones



Military Influence Planning District (MIPD)
aka Military Influence Area Overlay(MIAO)

Airport Noise Impact Zone

Air Installation Compatible Use Zone and/or
Air Safety Zone

IMPLEMENTATION

Other Possibilities



Transfer Development Rights – Allowed

Future Land Use - Compatibility Review

Buffer Zones – New or Upgraded

Conflict Notification – via permitting process

Annexations – Compatible Use Considered

IMPLEMENTATION Also Being Done



Compatible Land Use Risk Analysis

Fort Knox Market Area Housing Study

Hazard & Resiliency Review

Compatible Conservation Report

General Assembly

KRS-324.360 *Form for seller's disclosure of conditions.*

- (3) The form shall provide for disclosure by the seller of the following:
- (a) Basement condition and whether it leaks;
 - (b) Roof condition and whether it leaks;
 - (c) Source and condition of water supply;
 - (d) Source and condition of sewage service;
 - (e) Working condition of component systems; and
 - (f) Other matters the commission deems appropriate.

Kentucky Real Estate Commission

FORM 402 - *Seller's Disclosure of Property Conditions*

Possible Version of the Proposed Language:

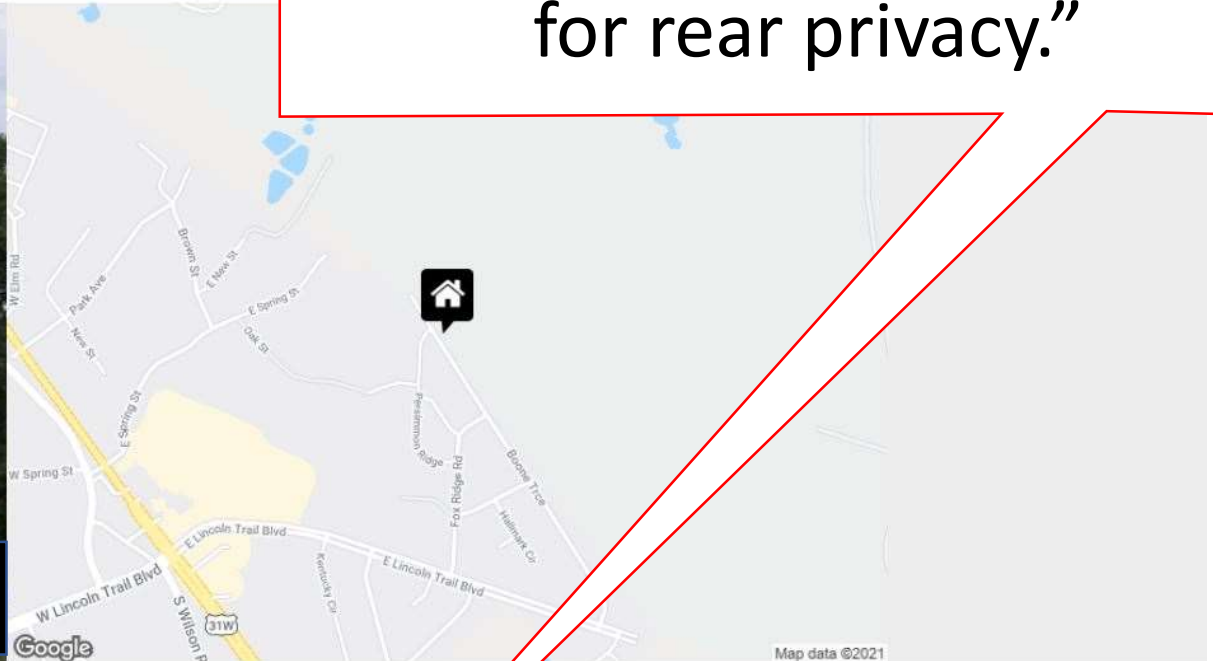
...property is contained wholly or partially within eight (8) miles of the US. Army's Fort Knox or Fort Campbell, and may be affected by noise or air installation compatible use zones or other operations; and...

Via Kentucky Real Estate Commission – Form 402

“NOISE” COMPLAINTS

“ Him and his wife have lived in this location for 1 1/2 yrs. When they looked at the house they were aware of the proximity to Ft Knox but were assured by the realtor that Ft. Knox was not going to be a training base and most of the training exercises would leave but they have not seen a decrease in the activity. The house shook all weekend. He thinks the noise is getting lousder [sic] and the whole house shudders now.”

Radcliff, KY 40160 View Map \$300,000 Ask a Question



“...that backs up to Fort Knox for rear privacy.”

Status: **Sold**

Property Type: **Single Family**

Sq. Feet: **2,572**

Date Sold: [Redacted]

Lot Size: **0.34 Acres**

County: **Hardin**

Wonderful 2 story home that backs up to Fort Knox for rear privacy. Home features 4 bedrooms-3 upstairs and one in walk out basement for plenty of space. Main level has living room with gas log fireplace, formal dining plus spacious kitchen with eat-in area. Also foyer and half bath plus laundry are on main level. Entrance from large 2 vehicle garage goes into eat in kitchen area. Upstairs has its own heating and cooling unit for year round comfort. Largest bedroom has private bath with double bowl vanity and separate soaking tub and shower. The walk out bas More...

RADCLIFF SOUTHERN HEIGHTS SUBDIVISION

 **Firing Point**

Fort Knox

mission
KNOX 
missionknox.org

HARDIN CO.

*North Urban Area "East"
Zoned R-1 Residential*

-  Southern Heights Subd.
-  Other Residential Zoning
-  Building Permit
2017 - 2019
-  Addressed Structure

2020 USDA, NAIP Imagery



RADCLIFF

ELINGOIN TRAIL BLVD

31W



0 1,000 2,000 3,000 4,000 5,000 Feet

Real Estate Disclosures



Image: *Google Street View 2022*



Real Estate Disclosures

PROPOSED 8 MILE IMPACT



Fort Knox		
County	Housing Units	Population
Bullitt	17,895	45,024
Hardin	32,784	76,145
Jefferson	14,985	36,987
LaRue	9	29
Meade	7,387	18,191
Nelson	592	1,313
	73,652	177,689

Fort Campbell		
County	Housing Units	Population
Christian	5,335	13,062
Todd	99	214
Trigg	1,573	3,496
	7,007	16,772

Kentucky Totals	1,994,323	4,505,836
% of State Affected	4.04%	4.32%

*2020 US Census Blocks
Centroid selection, 8 mile buffer*

DISCUSSION

CONTACT



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