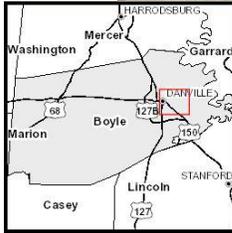
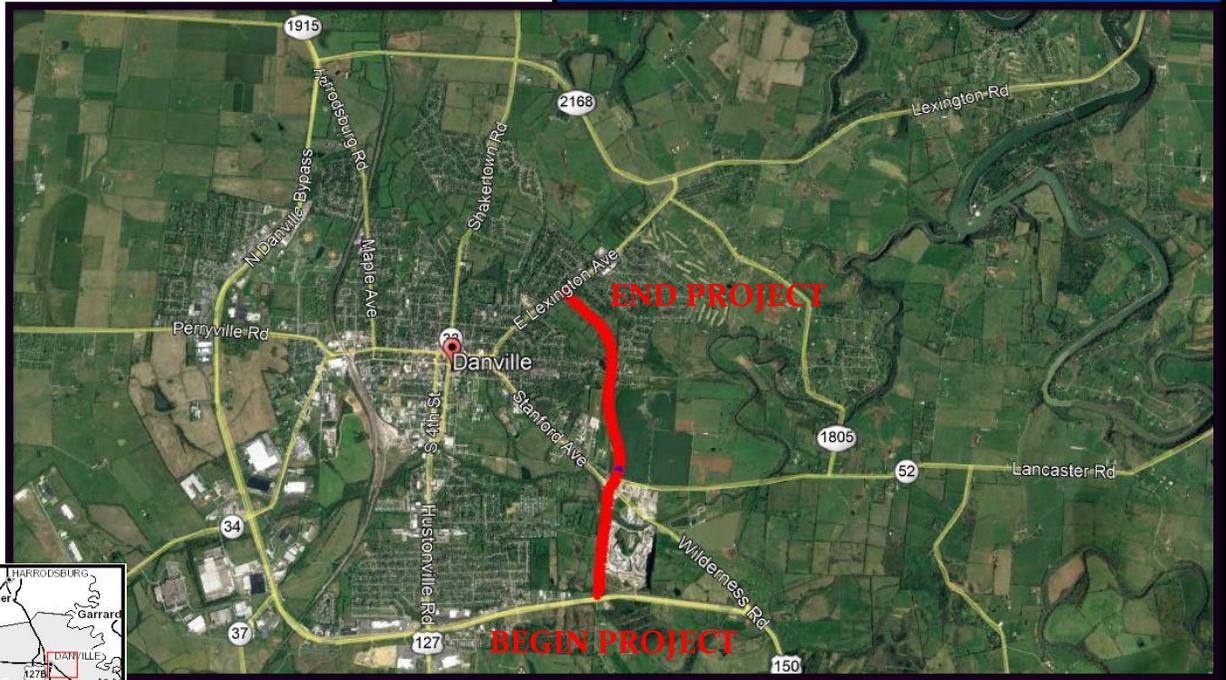


Data

Needs

Analysis



## Scoping Study



East Danville Connector,  
Boyle County  
From KY 34 to US 150 Byp.  
Item No. 7-80000.00

Prepared by the KYTC  
Division of Planning and  
KYTC District 7

December 2020



**I. PRELIMINARY PROJECT INFORMATION**

<b>County:</b>	Boyle	<b>Item No.:</b>	7-80000.00
<b>Route Number(s):*</b>	New Route	<b>Road Name:</b>	New Route
<b>Program No.:</b>	1249801D	<b>UPN:</b>	FD52 011 NEW ROUTE
<b>Federal Project No.:</b>	STP 1501124	<b>Type of Work:</b>	New Route

2020 **Highway Plan Project Description:**

CONSTRUCT A NEW CONNECTOR ROAD ON THE EAST SIDE OF DANVILLE CONNECTING KY-34 AND US-150 BYPASS (18CCN)(2020CCR)

<b>Beginning MP:</b>		<b>Ending MP:</b>		<b>Project Length:</b>	
<b>In TIP:</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Reconcile Project Information in Clearview</a>			
<b>State Class.:</b>	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary	<b>Route is on:</b>	<input type="checkbox"/> NHS <input type="checkbox"/> NN <input type="checkbox"/> Ext Wt		
<b>Functional Class.:</b>	<input type="checkbox"/> Urban <input type="checkbox"/> Rural <input type="text" value="Arterial"/>	<b>Truck Class.:</b>	<input type="text"/>	<b>% Trucks:</b>	
<b>MPO Area:</b>	Not Applicable	<b>Terrain:</b>	Rolling		
<b>ADT (current):</b>	(Year)				
<b>Access Control:</b>	<input type="checkbox"/> None <input type="checkbox"/> Permit <input type="checkbox"/> Fully Controlled <input type="checkbox"/> Partial	<b>Spacing:</b>			
<b>Median Type:</b>	<input type="checkbox"/> Undivided <input type="checkbox"/> Divided (Type):				
<b>Existing Bike Accommodations:</b>		<b>Ped:</b>	<input type="checkbox"/> Sidewalk		
<b>Posted Speed:</b>	<input type="checkbox"/> 35 mph <input type="checkbox"/> 45 mph <input type="checkbox"/> 55 mph <input type="checkbox"/> Other (Specify):				
<b>KYTC Guidelines Preliminarily Based on :</b>	55 MPH Proposed Design Speed				

**COMMON GEOMETRIC**

Roadway Data:	EXISTING	PRACTICES**	
No. of Lanes	N/A	2	<a href="#">Existing Rdwy. Plans available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Lane Width	N/A	12'	
Shoulder Width	N/A	8'	Year of Plans:
Max. Superelevation***	N/A	8.00%	<input checked="" type="checkbox"/> <a href="#">Traffic Forecast Requested</a>
Minimum Radius***	N/A	960'	Date Requested: 11/17/2020
Maximum Grade	N/A	5.00%	<input type="checkbox"/> Mapping/Survey Requested
Minimum Sight Dist.	N/A	495'	Date Requested:
Sidewalk Width(urban)	N/A		Type:
Clear-zone <sup>†</sup>	N/A	24'	
<b>Project Notes/Design Exceptions?</b>	Project is a new route.		

<b>Bridge No.:#</b>	011C00040N	(Bridge #2)	
Sufficiency Rating	79		<a href="#">Existing Geotech Data Available?</a> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Total Length	48		
Width, curb to curb	30		Detour Length(s): 1.90 mi
Span Lengths	44.6		
Year Built	1986		
Posted Weight Limit	None		
Structurally Deficient?	No		
Functionally Obsolete?	No		
Existing Bridge Type	Concrete Beam/Girder		

\*If more than one road is included in the project, include additional sheets.  
 \*\*Based on proposed Design Speed  
 \*\*\*AASHTO's A Policy on Geometric Design of Highways and Streets  
 +AASHTO's Roadside Design Guide  
 †If more than two bridges are located on the project, include additional sheets.

**II. PROJECT PURPOSE AND NEED**

**A. Legislation**

This project has had the support of State and Local Officials. As of the June 2014 Danville SUA Study, this project was identified in the PIF database. Project was a legislative add in for the 2018 Enacted Highway Plan for the need of a parallel	<i>Funding</i>	<i>Phase</i>	<i>Year</i>	<i>Amount</i>
	FED	D	2022	\$2,080,000
		R		
		U		
		C		

connector to relieve traffic on KY 34 (E Lexington Road/Wilderness Road) and US 150 (Stanford Road)

**B. Project Status**

Currently, design funding was authorized by FHWA on November 5, 2020. TC-10 Authorization No. 12498. Funding provided through the Federal Surface Transportation Program. This project was identified during SHIFT 2017. The project was listed in the 2018 Enacted Plan as a Legislative add-in 7-80000.00 with SPP funding in FY 2021. In SHIFT 2020, the project was sponsored, scored, and was double boosted (+30 points), provided by the District Office and the Bluegrass ADD, achieving a final score of 53.6. It was listed in the 2020 Enacted Plan with design funding (FED) for FY 2022.

**C. System Linkage**

The new route would connect KY 34 (E Lexington Road) with US 150 (Stanford Ave) in eastern Danville. The route is intended to relive traffic congestion on KY 34 (E Lexington Road/Wilderness Road) and US 150 (Stanford Road) and to function as an additional North-South route for the roadway network. The overall desire, from the City of Danville, is to continue to US 150 Bypass by way of Gose Pike.

**D. Modal Interrelationships**

The proposed roadway may have intermodal interaction with different transportation modes including public transit (DanTran) and bicycle traffic. Bicycling has seen increased usage in Danville, whether it be for employment, recreational, or educational trips. Per the Danville/Boyle County Comprehensive Plan, there has been an increased desire for additional and improved bikeway facilities. In the vicinity of the new roadway, a new shared use path has been recommended from KY 34 to Henson Park. A trail grant has been received for a section of shared use path from Henson Park to US 150 where a trailhead is proposed. A shared use path is already in place from Henson Park and travelling northwest for approximately 0.40 miles.

**E. Social Demands & Economic Development**

The City of Danville and the surrounding areas of Boyle County have experienced moderate growth since the year 2000. The US Census Bureau shows Boyle County having a population of 27,697 in the year 2000 and increased to 28,432 by 2010. This growth is expected to continue at a similar level through the year 2040. As of January 2013, Boyle County's unemployment rate was 9.90%, which is higher than the State average of 8.70%. The top two industries in Boyle County account for more than 60% of jobs in the County. The highest industry is in Services with Trade, Transportation, and Utilities being the second highest industry. Manufacturing is the third highest. Per the April 2018 Future Land Use Map (FLUM), residential land use will occupy most of the acreage required for future development. In the vicinity of the proposed connector road, much of the area is anticipated to be low density residential. Changing trends in residential development that usually result in smaller or mixed-use development, such as condos, planned unit developments, and townhouses may redistribute the area required for residential use due to its higher density. The FLUM also shows some commercial use along US 150 (Stanford Road), and Industrial use along Gose Pike to US 150 Bypass.

## II. PROJECT PURPOSE AND NEED (cont.)

### F. Transportation Demand

Major components in the Boyle County Transportation Plan focus on the City of Danville. This includes KY 34 (E Lexington Ave) being the link to Lexington to the northeast and US 150, which links Danville to Stanford. Travel patterns to and from Danville indicate a significant number of vehicles commuting daily for employment and shopping purposes. The majority of these trips occur on 5 routes including KY 34 and US 150. A new connector route would impact some portions of existing roadway that are experiencing high traffic volumes coming into and out of Danville. Recent traffic counts show an annual average daily traffic (AADT) volume of 12,240 at KY 34 between MP 14.148-14.834 in 2019 with a truck percentage of 6.361%. This increases to an AADT of 12,482 closer to Danville. On US 150 closer to Danville the AADT is 6,234 with a high 16.497% trucks. Continuing toward KY 52, the AADT increases to 7,122. Per the 2014 Daville Small Urban Area Study, KY 34 is experiencing a level of service (LOS) grade of 'E' and US 150 LOS grade of 'D'.

### G. Capacity

The major routes that would be impacted are KY 34 and US 150. As part of the Danville SUA study, the volume - capacity (v/c) ratio was evaluated for KY 34 and US 150. Per the study, the v/c ratio of KY 34 was 0.64 between Parkview Drive and Grabruck Street (MP 14.15 - MP 14.83) with a level of service (LOS) of E. US 150 had a v/c ratio of 0.37 with a LOS of D.

### H. Safety

The two major routes that would be impacted by a new connection include KY 34 (Wilderness and E Lexington Rd) and US 150 (Stanford Rd). KY 34 is a narrow 2 lane roadway with lanes that are as narrow as 10 feet in width with curb and gutter. A portion of KY 34 (Wilderness Road) has several residential homes, which are already close in proximity to the edge of the existing roadway, leaving very little options for improvement. On KY 34 there were 78 total collisions during a 5 year period from June 1, 2015 to May 31, 2020. The collision analysis included 10 injuries, 72 involving property damage and 1 involving a commercial vehicle. With the exception of the portion closer to E Main Street, US 150 has 2 lanes with much of the impacted area containing lane widths of 11 feet lane with 4 feet of shoulder (1 foot paved). On US 150 there were a total of 128 total collisions during the same 5 year period. The collision analysis included 22 injuries, 114 involving property damage, and 3 involving a commercial vehicle.

### I. Roadway Deficiencies

Based on the existing routes that this improvement would impact, routes such as KY 34 and US 150 currently have high traffic volumes with a high percentage of trucks. While no horizontal or grade issues exist, there are some geometric deficiencies on KY 34 that make it very difficult for truck traffic, particularly at the intersection of Wilderness Road and E Lexington Ave. The cross section of Wilderness Road is narrow with lanes 10 feet wide with curb and gutter. It was often noted that utility poles, located close in proximity to the edge of pavement, are brushed or hit by vehicles particularly around curves. In this section of KY 34, the truck weight class is AAA (80,000 lbs limit). The IRI roughness index on KY 34 is highest closer to E Main Street where it is 264. The same is true with US 150 where the IRI roughness is 279 closer toward E Main Street.

**III. PRELIMINARY ENVIRONMENTAL OVERVIEW**

**A. Air Quality**

Project is in:  Attainment area  Nonattainment or Maintenance Area  PM 2.5 County

STIP Pg.#:

TIP Pg.#:

No air quality impacts are anticipated

**B. Archeology/Historic Resources**

Known Archeological or Historic Resources are present

No known sites are present, however, archeological & historic impacts are possible in the open fields, residential area, and/or church property.

**C. Threatened and Endangered Species**

Potential impacts to T & E species (bats).

**D. Hazardous Materials**

Potentially Contaminated Sites are present  Potential Bridge or Structure Demolition

No evidence of hazardous materials in project area.

**E. Permitting**

Check all that may apply:  Waters of the US  MS4 area  Floodplain Impacts  Navigable Waters of the US Impacts

Are 401/404 Permits likely to be required?  Yes  No      Impacts to:  Wetlands  Stream/Lake/Pond  
 ACE LON  ACE NW  ACE IP  DOW IWQC  Special Use Waters

Possible Waters of the US impacts (East Main Pond)

**F. Noise**

Are existing or planned noise sensitive receptors adjacent to the proposed project?  Yes  No

Is this considered a "Type I Project" according to [KYTC Noise Analysis and Abatement Policy?](#)  Yes  No

No noise impacts are anticipated

**G. Socioeconomic**

Check all that may apply:  Low Income/Minority Populations  Relocations  Local Land Use Plan available

Some relocations may be necessary.

**H. Section 4(f) or 6(f) Resources**

The following are present on the project:  Section 4(f) Resources  Section 6(f) Resources

A public park (Henson Park) and church (Christ the Head Missionary Church)

Anticipated Environmental Document:

CE Level 2

**IV. PROJECT NEED, PURPOSE & SCOPE**

**A. Need:**

The Danville Urban Services Area contains the largest concentration of developed land within Boyle County. The road network has encouraged past growth in the Danville area, and the resulting growth is now creating the demand for a safer and more efficient transportation facility. Per the 2017 Danville/Boyle County Comprehensive Plan, two of the major carriers into and out of Danville is KY 34, which sees as many as 15,500 vehicles per day and US 150, which carries over 11,800 vehicles per day. Both routes carry a considerable percentage of truck traffic. Per the 2019 traffic counts, KY 34 tabulated 6.36% trucks and US 150 tabulated 16.50% trucks. Current traffic volumes this high warrants consideration of a 4-lane roadway, however due to right of way constraints, particularly on KY 34, the options for improvement on the existing roadway network are limited and imprudent. Based on a collision analysis form the Kentucky State Police Collision Analysis, there were a total of 206 collisions resulting in 32 injuries, involving 186 counts of property damage, and 4 commercial vehicles.

**B. Purpose:**

The purpose of this project is to explore and provide feasible solutions to improve the safety, mobility, and connectivity in the East Danville/Boyle County area between KY 34 and US 150 Bypass.

**C. Scope:**

Highways US 150 and KY 34 are the main branches entering and leaving the City of Danville. KY 34 is the route to Lexington, KY to the Northeast. US 150 the route to Stanford, KY to the Southeast. The scope of the project is to examine an additional connection between KY 34 and US 150 Bypass that will provide a positive impact to the traffic congestion on these routes and also function as an expansion of existing roadway network in Danville.

**V. PROJECT ESTIMATE & METHODOLOGY**

<b>Estimate Methodology:</b>	<b>Current Estimate</b>	
Estimates listed (excluding design) are planning level estimates with escalated costs based on the fiscal year listed. Design funding listed is from the 2020 Enacted Highway Plan. Funds available are in the current biennium.	<u>Phase</u>	<u>Estimate</u>
	Planning	
	Design	(2022) \$2,080,000
	R/W	(2023) \$6,807,000
	Utilities	(2023) \$2,925,000
	Const	(2025) \$20,245,000
	<b>Total</b>	<b>\$32,057,000</b>

**VI. UTILITIES POTENTIALLY AFFECTED - CONTACT INFORMATION**

Company Name -	AT&T Legacy
Contact -	Mike Diederich - Primary
Email Address -	<a href="mailto:MD4145@att.com">MD4145@att.com</a>
Phone No. -	216-750-0135
Company Name -	Kentucky Wired
Contact -	Gary Lady
Email Address -	<a href="mailto:gary.lady@ledcor.com">gary.lady@ledcor.com</a>
Phone No. -	859-619-9166
Company Name -	Kentucky Utilities
Contact -	Caroline Justice
Email Address -	<a href="mailto:caroline.justice@lge-ku.com">caroline.justice@lge-ku.com</a>
Phone No. -	502-627-3708
Company Name -	Inter-County
Contact -	Marvin Graham
Email Address -	
Phone No. -	859-236-4561
Company Name -	ATMOS Energy
Contact -	Mike Close
Email Address -	<a href="mailto:mike.close@atmosenergy.com">mike.close@atmosenergy.com</a>
Phone No. -	270-469-0073
Company Name -	AT&T KY
Contact -	Frank Ambrose
Email Address -	<a href="mailto:fa2207@att.com">fa2207@att.com</a>
Phone No. -	859-753-8377
Company Name -	City of Danville Municipal Utilities
Contact -	Earl Coffey
Email Address -	<a href="mailto:ecoffey@danvilleky.org">ecoffey@danvilleky.org</a>
Phone No. -	859-238-1200

**VII. TABLES AND EXHIBITS**

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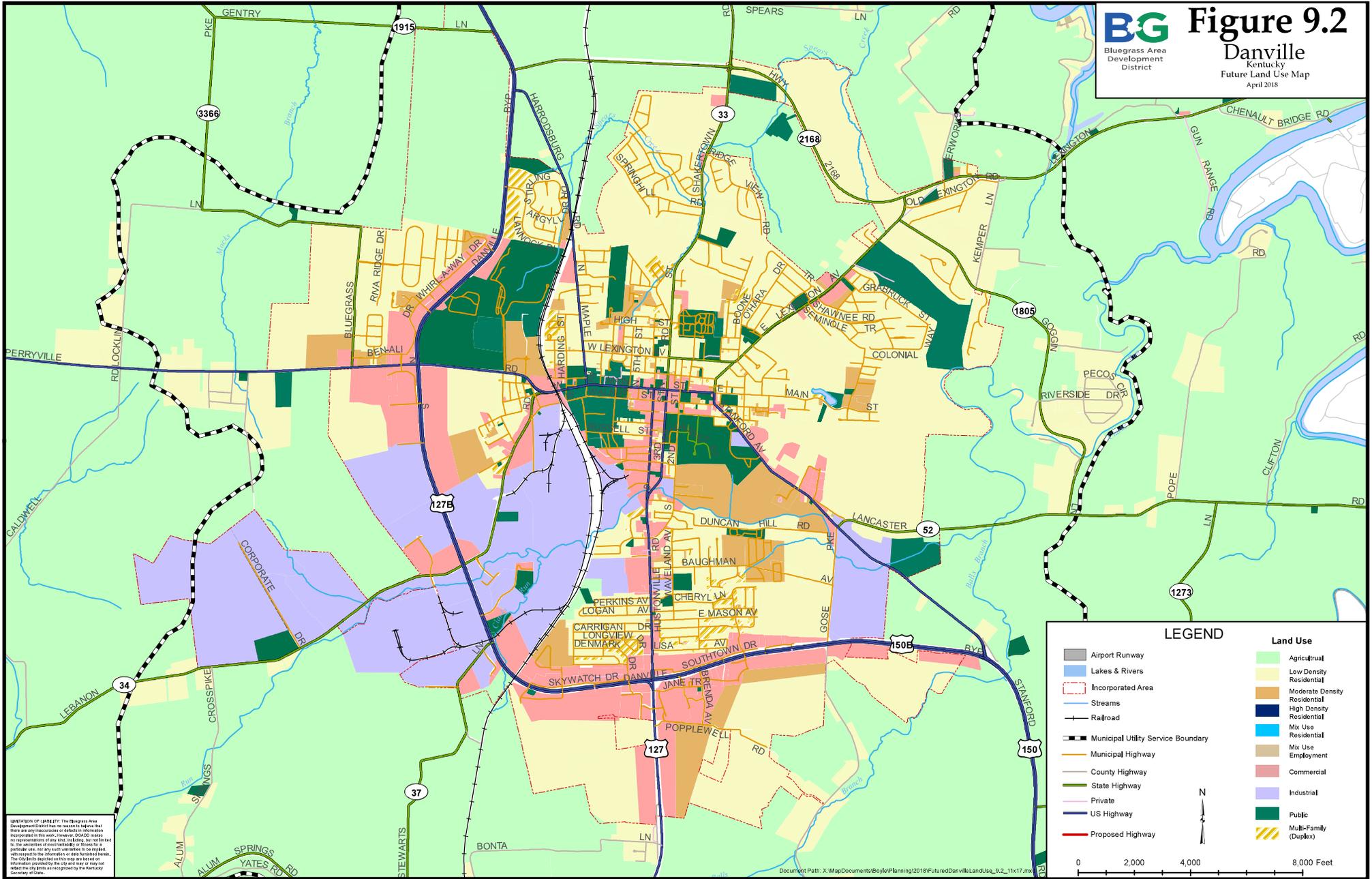
**VII. TABLES AND EXHIBITS (cont.)**

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# EXHIBIT A



**Figure 9.2**  
**Danville**  
 Kentucky  
 Future Land Use Map  
 April 2018



DISCLAIMER OF LIABILITY: The Bluegrass Area Development District has the honor to inform that there are any inaccuracies or defects in information or representation of any kind, including, but not limited to, the accuracy of the information, or the ability to use the information for any purpose, or the ability to use the information for any purpose, or the ability to use the information for any purpose, or the ability to use the information for any purpose. The City/County reported on this map are based on information provided by the city and may or may not reflect the city limits as recognized by the Kentucky Secretary of State.

# EXHIBIT B

Figure 7.4 Proposed Collector Streets

