Princeton Small Urban Area Study: Executive Summary

The Kentucky Transportation Cabinet (KYTC), in partnership with CDM Smith, has undertaken this Small Urban Area Study to examine the state-maintained highway network in Princeton, KY in Caldwell County. The purpose of this study is to identify transportation issues in coordination with stakeholders and to develop prioritized improvement concepts to address them. This study builds upon previously completed planning studies in the region, including the city's 1999 *Comprehensive Plan* and the 2013 *Comprehensive Economic Development Strategies* prepared by the Pennyrile Area Development District.

Existing Roadway Characteristics

Chapter 2 of the report provides an overview of existing highway characteristics in the urban area.

- Arterial streets in the study area include US 62, KY 91, KY 139, and KY 293. I-69 passes along the north side of town with interchanges at KY 91 and KY 293 but the interstate is not included in the scope of this study.
- Traffic volumes along these routes are relatively low to moderate. The highest volume occurs along US 62 (Main Street) between KY 91 and the one-way pair downtown, which has a recent average daily traffic volume of 13,100 vehicles per day. Level of service analysis indicates existing highway segments operate at acceptable levels (LOS D or better) based on both current and projected 2040 traffic volumes. Individual intersections were not evaluated for this analysis but are discussed conceptually in the text.
- Key geometric deficiencies restrict traffic movements through Princeton, particularly for commercial truck traffic. Low clearance rail overpasses on KY 2080 and KY 139 restrict truck movements. A local truck detour has been designated along Legion Street, Seminary Street, and Green Street although trucks must negotiate a series of tight turns through residential areas to use this route. Other geometric deficiencies include substandard horizontal and vertical curves, tight turns, narrow lanes and shoulders, nonstandard intersection configurations, and inadequate clear zones.

- Numerous segments and 0.10-mile "spots" within the network exhibit high crash rates, or critical rate factors (CRF) defined on page 15. High CRF segments are concentrated along Main and Market Streets downtown, plus North Jefferson Street and a few outlying collector routes. Within the study area, 18 spots were found to have a CRF greater than 1.00, largely concentrated in the one-way segments downtown, along commercial section of US 62 west of downtown, along KY 91 near the I-69 ramps and at the school driveways, and on KY 278.

Previously Identified Projects

Described in **Chapter 4**, numerous transportation projects have been identified through previous planning efforts. Two projects within the study area are included in the current KYTC *Six Year Highway Plan:* Item Number 2-153.00 and 2-193.00, both of which are portions of the city's planned Southeast Connector. Thirteen Project Identification Forms (PIF) identify potential transportation improvements that fall within the urban limits of Princeton. In addition, 21 transportation improvement projects are described in the *1999 Comprehensive Plan.* These planning concepts provided the foundation for the prioritized projects presented in this report. The project team met with local officials and stakeholders twice throughout the study process to review these project concepts and gather up-to-date information about local perspectives and priorities.

Recommended Improvement Concepts

Based on the results of technical analysis, stakeholder input, and engineering judgment, the project team developed a set of both long term and short term recommended improvement concepts. The primary purpose of each project-level improvement concept identified herein is to improve safety and/or improve traffic operations. In addition, a number of additional project-level goals were identified:

- Reduce pass-through truck traffic downtown
- Accommodate local truck trips (i.e., deliveries to downtown businesses) within the street network
- Enhance pedestrian connections, particularly downtown
- Enhance bicycle mobility, particularly to local and regional recreational destinations
- Enhance tourism and economic development opportunities within the City
- Minimize impacts to residents, businesses and the environment

Table ES.1 (page ES-4) provides overview information for each proposed project while **Figures ES.1** and **ES.2** (pages ES-5 and ES-6) present the prioritized improvement concepts graphically. Project sheets in **Appendix G** of this report contain additional detail about each improvement concept.

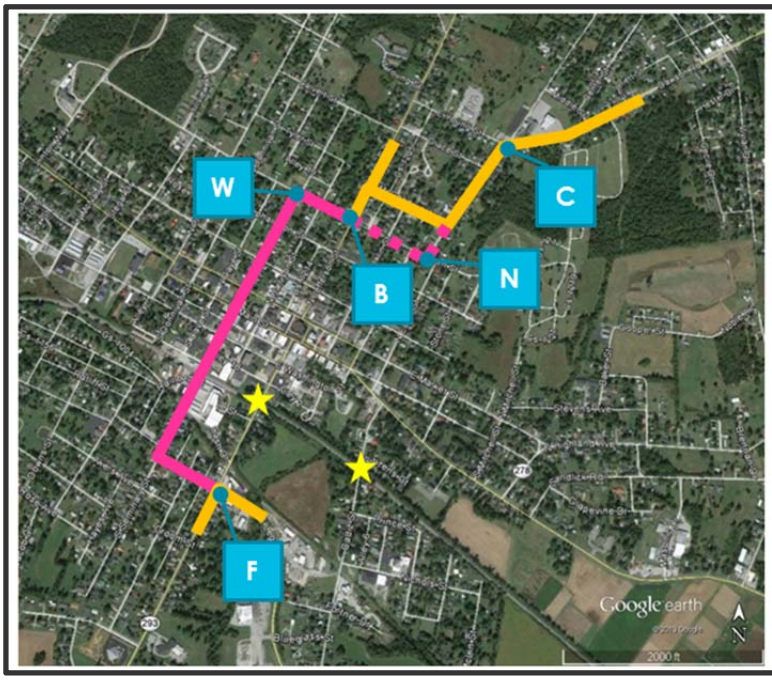
The three high priority projects were recommended:

- The proposed **Five-Leg Intersection Improvement** (Project Z) includes reconfiguration of the existing five-leg intersection between KY 91 (Hopkinsville Street), East Main Street, KY 91 (Hawthorne Street), KY 91-1 (East Main Street), and East Washington Street to improve safety. Several high CRF spots and segments appear at this location.

  Based on input from local stakeholders, a local project to extend Washington Street to KY 2080 could be considered alongside Project Z when it advances for additional project development phases.

- A series of spot improvements along the designated **Truck Route** are recommended to improve safety and traffic flow. Components include:
  - Project W, to realign the curve at the Green Street/Seminary Street intersection to increase design speed;
  - Project B, to add turn lanes and improve radii at the Green Street/Jefferson Street intersection;
  - Project N, to reroute the designated truck route one block south to Green Street, eliminating two tight turns over the existing route;
  - Project F, to add turn lanes at the Legion Street/Jefferson Street intersection; and
  - Project C, to realign a segment of US 62 north of KY 3114 (Young Street) to improve sight distance and a deficient horizontal curve in close proximity to a roadside utility pole.



Truck Route Improvements

Orange lines note the state-owned portions of the designated truck route; pink lines are signed detours along local streets to avoid the low clearance overpasses (marked with yellow stars).

Blue callout boxes note the location of the five proposed component projects along the truck route.

- The **Southeast Connector** (Projects K, Q, and R) would create a new two-lane highway link east and south of downtown Princeton. The project is intended to create an alternate link to help route truck traffic and pass-through regional trips away from one-way streets downtown. The northernmost link (Project R) includes funding in the *2014-2020 Final Highway Plan* through construction and is in its preliminary design phase. The middle link (Project Q) has some design funding allocated in the *2014-2020 Final Highway Plan*.

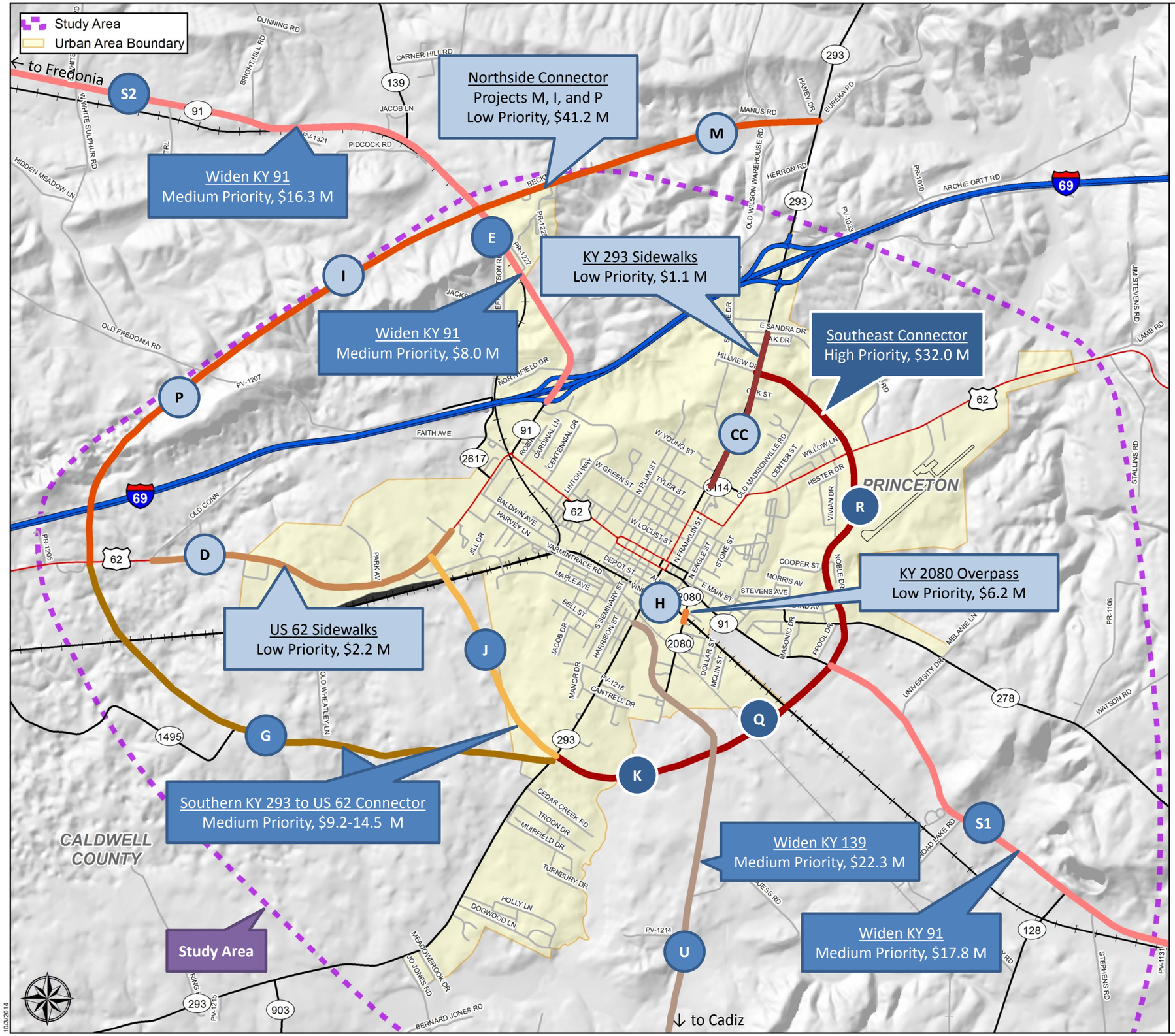
In addition to specific projects, the study recommends updating GPS files to facilitate truck routing, conducting a walkability audit, incorporating system-wide access management principles, preparing a Main/Market Street Development Plan for the downtown area, and developing a Bicycle/Pedestrian Plan.

Table ES.1: Prioritized Recommendations

Timeline	Improvement	Length	Total Cost
Recommended High Priorities			
Short Term	Five-Leg Int. Improvements (Z) – Option 1 or 2		
	Option 1	1.8 mi	$2.5 M
	Option 2	1.8 mi	$1.5 M
Short Term	Truck Route Improvements - All Combined		$10.6 M
	W (Green St/Seminary St curve)	0.16 mi	$1.6 M
	B (Green St/Jefferson St intersection)	0.18 mi	$2.1 M
	N (Green St rerouting)	0.23 mi	$1.7 M
	F (Legion St/Jefferson St intersection)	0.18 mi	$1.9 M
	C (curves north of Young St)	0.55 mi	$3.3 M
Long Term	Southeast Connector (KQR)	3.7 mi	$32.0 M
Recommended Medium Priorities			
Short Term	Courthouse Sq. Operations (X) - Option 2A	0.14 mi	$1.3 M
Short Term	KY 278 Curve Improvement (BB)	0.1 mi	$0.9 M
Long Term	KY 293 to US 62 Connection – Option J or G		
	J (new alignment near urban boundary)	1.8 mi	$9.2 M
	G (Grooms Lane Extension)	3.0 mi	$14.5 M
Long Term	Widen KY 91 - All Combined	21.8 mi	$42.1 M
	E (I-69 ramps to KY 139)	1.7 mi	$8.0 M
	S2 (KY 139 to Fredonia)	9.4 mi	$16.3 M
	S1 (Southeast Connector to Christian County)	10.7 mi	$17.8 M
Long Term	Widen KY 139 (U)	12.8 mi	$22.3 M
Recommended Low Priorities			
Short Term	US 62/Plum Street Intersection Improvements (AA)	0.1 mi	$1.2 M
Long Term	Northside Connector (MIP)	4.9 mi	$41.2 M
Long Term	KY 2080 Overpass Reconstruction (H)	0.1 mi	$6.2 M
Long Term	US 62 Sidewalks (D)	1.7 mi	$2.2 M
Long Term	KY 139 Sidewalks (CC)*	0.7 mi	$1.1 M

** No project sheet included in Appendix G as this project was suggested during the second project team meeting as a high-level concept and is recommended for consideration as part of a Regional Bike/Ped planning effort.*

Princeton Small Urban Area Study
Long Term Recommendations Map
Figure ES.1



High Priority Projects

Southeast Connector, 3.7 miles new alignment
- Project R (KY 293 to KY 91)
- Project Q (KY 91 to KY 139)
- Project K (KY 139 to KY 293)

Medium Priority Projects

Southern KY 293 to US 62 Connection
- Project J (1.8 miles new alignment) or
- Project G (3.0 miles new alignment)

Widen KY 91, 21.8 total miles
- Project E (I-69 ramps to KY 139)
- Project S2 (KY 139 to Fredonia)
- Project S1 (Southeast Connector to county line)

Widen KY 139, 12.8 total miles
- Project U (KY 293 to Cadiz)

Low Priority Projects

Northside Connector, 4.9 miles new alignment
- Project M (KY 293 to KY 91)
- Project I (KY 91 to Old Fredonia Road)
- Project P (Old Fredonia Road to US 62)

KY 2080 Rail Overpass Reconstruction, 0.10 miles
- Project H

Add sidewalks along US 62, 1.67 miles
- Project D

Add/upgrade ADA sidewalks along KY 293, 0.7 miles
- Project CC

Inset descriptions under each project heading above are also listed in priority order within each project. For example, Project R is the highest priority component of the Southeast Connector Project.

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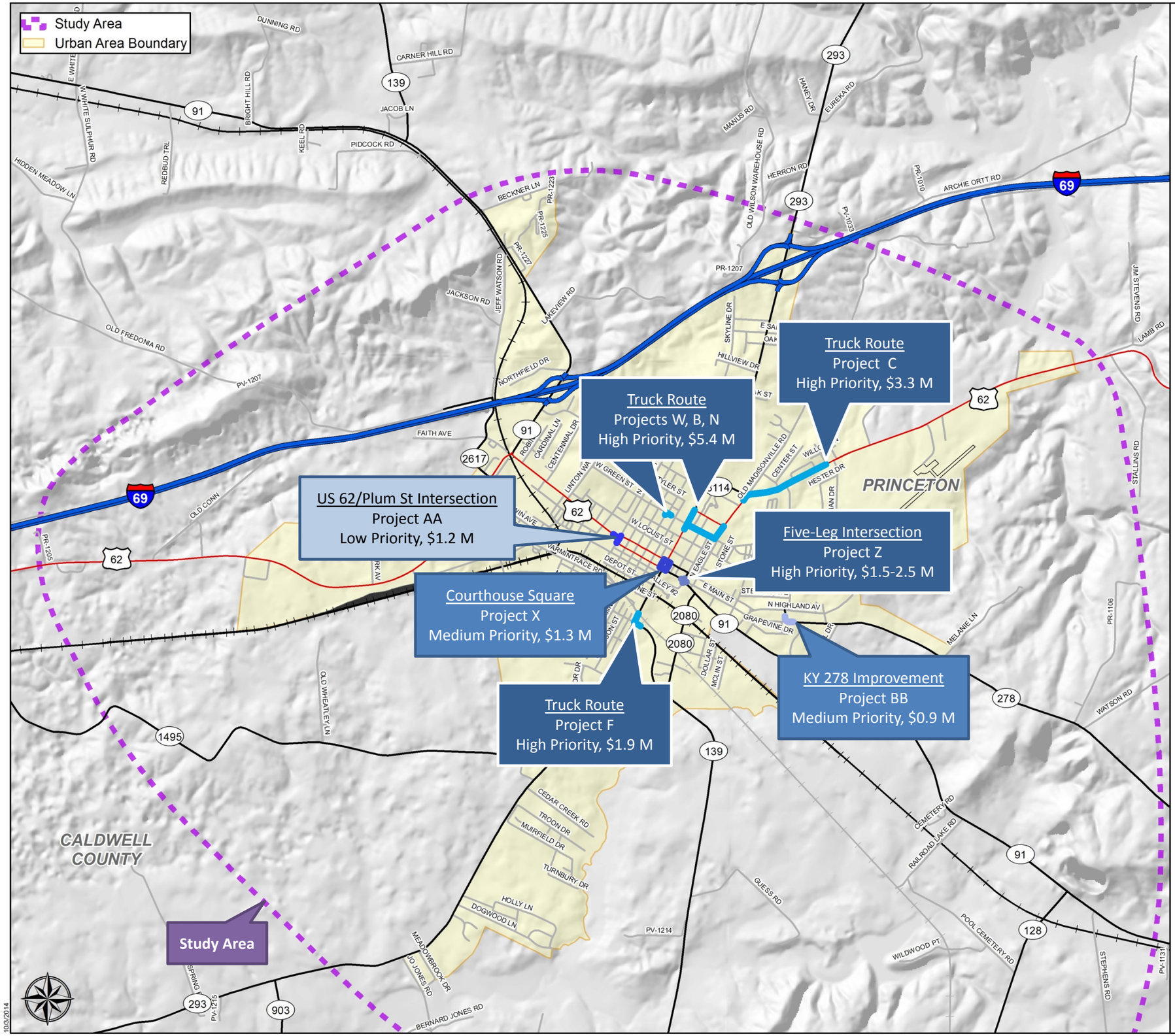
KENTUCKY TRANSPORTATION CABINET



Princeton Small Urban Area Study
Short Term Recommendations Map
Figure ES.2

High Priority Projects

Five-Leg Intersection Improvements
- Project Z (Option 1 or 2)

Truck Route Improvements
- Project W (Green St/Seminary St Curve)
- Project B (Green St/N Jefferson St Intersection)
- Project N (Green St Rerouting)
- Project F (S Jefferson St/Legion St Intersection)
- Project C (0.55 miles of realignment north of KY 3114)

Medium Priority Projects

Operational Improvements at Courthouse
- Project X (Option 2A)

KY 278 Curve Realignment, 0.10 miles
- Project BB

Low Priority Projects

US 62/Plum Street Intersection Improvements
- Project AA

Inset descriptions under each project heading above are also listed in priority order within each project. For example, Project W is the highest priority component of the Truck Route Improvements.

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