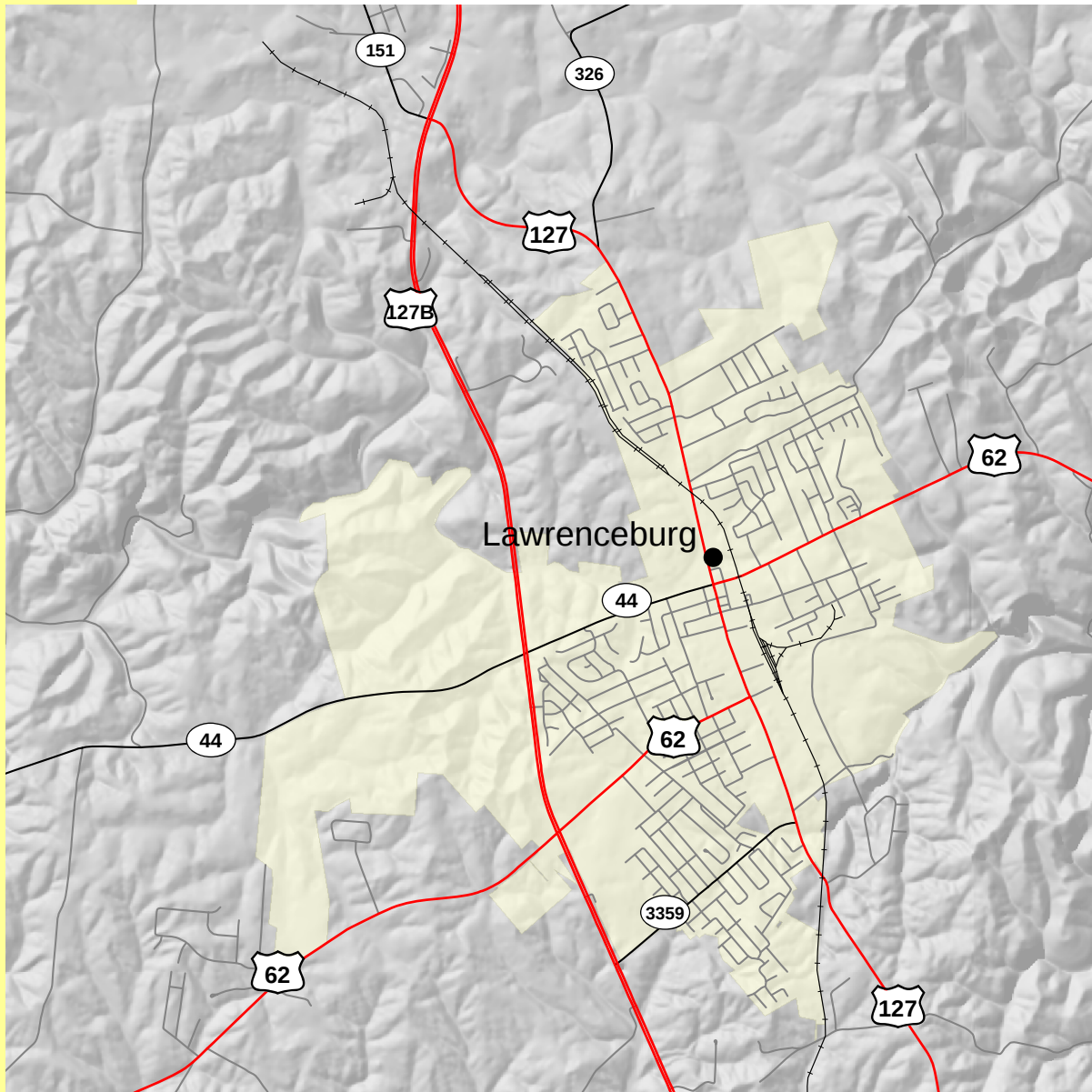




LAWRENCEBURG SMALL URBAN AREA TRANSPORTATION STUDY



**FINAL
DRAFT**

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Prepared by:
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Division of Planning



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Introduction

Study Purpose

This study was conducted with the goal of improving the transportation system in Lawrenceburg by maximizing the current transportation assets. A strong focus was given to low cost projects that would have an immediate, positive impact for the traveling public in Lawrenceburg.

Programming and Schedule

One project in Lawrenceburg is listed in the *Kentucky Enacted Six-Year Highway Plan FY 2007-2012*. The project is described as "widening and improvements on US-62 from 0.103 mile west of the new school entrance/Westwood Estates to 0.095 mile east of US-127B."

Officials and Project Team Meetings

Four meetings were conducted during the course of this study. Two meetings were held with local officials in Lawrenceburg and two meetings were held with the project team in Lexington at the Kentucky Transportation Cabinet's District Seven office. Meeting minutes for each of these meetings can be found in the Appendix.

Project Location, Existing Conditions, and Traffic

Project Location

The project study area included the area inside the incorporated limits of Lawrenceburg and also included the KY 151/US 127 intersection. See Exhibit 1: Location Map.

Existing Highway Features

Data on the existing conditions in the study area were taken from the Division of Planning's Highway Information System (HIS) database. Table 1: Route Information shows some general route information for Lawrenceburg. Exhibit 2: Aerial Footprint and Exhibit 3: Topographical Footprint also show existing features in Lawrenceburg.

Table 1: Route Information

Route	Begin MP	End MP	Lanes	Lane Width (feet)	Shoulder Width (feet)	Percent Trucks	Percent No Passing	Speed Limit (MPH)
US 127	2.535	3.805	2	10	3	12	100	45
US 127	3.805	5.871	2	10	3	12	100	45
US 127	5.871	6.175	2	15	2	8	100	35
US 127	6.175	7.230	2	18	1	8	100	25
US 127	7.230	8.897	2	11	3	8	100	45
US 127B	0.000	3.272	4	12	10	6	0	55
US 127B	3.272	4.101	4	12	10	6	72	45
US 127B	4.101	6.656	4	12	10	6	72	55
US 62	16.414	18.323	2	10	3	8	60	55
US 62	18.323	18.948	2	11	2	8	100	35
US 62	18.948	19.404	2	14	2	8	100	35
US 62	19.404	19.940	2	15	2	8	100	35
US 62	19.940	21.565	2	12	6	8	100	35
KY 44	11.108	12.970	2	11	3	10	0	55
KY 44	12.970	13.577	2	12	2	10	100	45
KY 44	13.577	13.888	2	12	2	10	100	35
KY 3359	0.000	1.058	2	11	4	4	100	35

Highway Systems

The study area includes roadways of different functional classifications. The functional classes for each segment are shown in Exhibit 4: Route Classification.

Vehicle Crash Analysis

A total of 514 vehicle crashes were recorded with valid reference points in the study area during the three-year-period between January 1, 2003 and December 31, 2005. Of these 514 crashes, 388 were property damage only crashes, 126 resulted in injuries, and no fatal collisions occurred in Lawrenceburg. There are seventeen spots with a critical rate factor (CRF) in excess of 1.0, and four others greater than 0.9 (see Table 2: Crash Data). A CRF greater than 1.0 indicates the segment of roadway has had a statistically significant number of crashes that most probably are not occurring at random.

Table 2: Crash Data

Route	Begin MP	End MP	Crashes				Critical Rate Factor
			Property Damage Only	Fatal	Injury	Total	
US 62	19.901	20.000	26	0	6	32	3.688
US 127	8.801	8.900	10	0	5	15	2.755
US 127	6.601	6.700	15	0	4	19	2.578
KY 44	12.901	13.000	10	0	1	11	1.841
US 62	18.801	18.900	22	0	4	26	1.808
US 127	5.501	5.600	6	0	2	8	1.803
US 127B	4.101	4.200	16	0	6	22	1.781
US 62	20.401	20.500	9	0	4	13	1.759
US 62	20.501	20.600	11	0	2	13	1.759
KY 151	0.000	0.099	9	0	1	10	1.698
US 62	18.301	18.400	18	0	6	24	1.669
US 62	19.801	19.900	12	0	2	14	1.613
KY 44	13.801	13.900	7	0	2	9	1.225
US 127	6.901	7.000	6	0	3	9	1.221
US 62	19.001	19.100	6	0	3	9	1.106
US 127	6.201	6.300	6	0	2	8	1.085
US 62	20.001	20.100	7	0	1	8	1.083
US 62	19.101	19.200	7	0	1	8	0.983
US 62	19.501	19.600	7	0	1	8	0.922
US 62	19.701	19.800	6	0	2	8	0.922
KY 44	11.600	11.699	2	0	1	3	0.902

A crash analysis was then performed on the spots with a CRF greater than 1.0. This analysis can be seen in Table 4: Crash Analysis. This information is also represented in Exhibit 5: High Crash Spots.

Traffic and Level of Service

Level of Service (LOS) is a measure of the quality of traffic service provided by a highway facility. It ranges in scale from A to F, with A being the best, or free flow, and F being the worst, or gridlock. LOS C is considered stable flow and is acceptable in most situations. LOS D is acceptable for urban areas. Exhibits 6 and 7 show the traffic and level of service for 2005 and 2030, respectively.

Environmental and Socioeconomic Overview

Environmental Footprint

A brief environmental analysis was conducted to locate places of significant historical or cultural value as well as places with potential hazards. An environmental footprint map can be seen in Exhibit 8: Environmental Footprint.

Environmental Justice

Actions associated with Environmental Justice seek to avoid disproportionately high and adverse effects on minority and low income populations associated with public improvements. The Bluegrass Area Development District reviewed U.S. Census data to find possible Environmental Justice locations in Lawrenceburg. Potential for Environmental Justice issues exist in the area east of downtown. Tract 9501 Block Group 4 is 37.7% minority and all of Tract 9501 is 9.1% below the poverty rate. See Exhibit 9: Census Tracts and Block Groups for the location of the census units shown in Table 3: Selected Anderson County Census Data, 2000.

Table 3: Selected Anderson County Census Data, 2000

Census Unit		% Minority	% Elderly	% In Poverty
Tract	Block Group			
All	All	3.5%	10.8%	7.5%
9501	All	7.0%	9.5%	7.4%
	1	3.4%	7.3%	
	2	1.7%	13.1%	
	3	5.4%	7.0%	
	4	37.7%	15.3%	
9502	All	2.1%	13.5%	7.5%
	1	1.7%	17.5%	
	2	1.8%	23.6%	
	3	2.9%	10.2%	
	4	2.0%	19.0%	
	5	1.9%	8.7%	
9503	All	1.0%	8.3%	5.7%
9504	All	0.5%	8.2%	9.1%
	1	0.7%	8.8%	
	2	0.3%	7.3%	
Kentucky		10.0%	12.0%	16.0%
United States		25.0%	12.0%	12.0%

Recommendations

The project team and local officials recommend the projects shown in Table 5: Recommendations and Exhibit 10: Recommendations.

Table 4: Crash Analysis

Roadway	US 62												KY 44		US 127						US 127B		KY 151	
Milepoint Range	18.301-18.400	18.801-18.900	19.001-19.100	19.801-19.900	19.901-20.000	20.001-21.000	20.401-20.500	20.501-20.600	12.901-13.000	13.801-13.900	5.501-5.600	6.201-6.300	6.601-6.700	6.901-7.000	8.801-8.900	4.101-4.200	0.000-0.100							
Spot Reference (See Exhibit 3)	184	189	191	199	200	201	205	206	130	139	56	63	67	70	89	42	1							
Total Crashes	24	26	9	14	32	8	13	11	9	9	8	8	19	9	15	22	10							
Spot Critical Rate Factor	1.669	1.808	1.106	1.613	3.688	1.083	1.759	1.759	1.841	1.225	1.803	1.085	2.578	1.221	2.755	1.781	1.698							
Weather																								
Clear	46%	62%	56%	71%	56%	63%	77%	54%	55%	67%	75%	38%	74%	56%	13%	55%	80%							
Cloudy	42%	15%	33%	14%	19%	38%	15%	31%	27%	11%	25%	38%	21%	33%	53%	27%	20%							
Rain	8%	23%	0%	7%	19%	0%	0%	15%	18%	22%	0%	25%	5%	11%	33%	18%	0%							
Snow/Sleet/Hail/Sandstorm/Fog	4%	0%	11%	7%	6%	0%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%							
Roadway Condition																								
Dry	83%	73%	67%	86%	72%	100%	92%	85%	73%	78%	100%	75%	89%	89%	60%	68%	100%							
Wet	17%	27%	0%	14%	25%	0%	8%	15%	18%	22%	0%	25%	11%	0%	40%	32%	0%							
Ice/Other	0%	0%	33%	0%	3%	0%	0%	0%	9%	0%	0%	0%	0%	11%	0%	0%	0%							
Manner of Collision																								
Angle	25%	46%	22%	50%	31%	13%	31%	8%	0%	56%	50%	38%	32%	11%	33%	27%	10%							
Backing	0%	0%	22%	14%	9%	0%	8%	8%	9%	11%	0%	13%	0%	0%	7%	0%	0%							
Head-on	0%	4%	22%	7%	3%	0%	8%	0%	0%	11%	0%	0%	0%	0%	0%	0%	0%							
Opposing Left Turn	8%	4%	0%	7%	9%	0%	0%	15%	9%	0%	0%	0%	0%	0%	7%	0%	0%							
Rear End	63%	42%	33%	7%	9%	50%	23%	23%	73%	22%	38%	38%	47%	44%	40%	73%	70%							
Sideswipe	4%	4%	0%	7%	19%	25%	23%	23%	9%	0%	0%	0%	5%	22%	7%	0%	10%							
Single Vehicle	0%	0%	0%	7%	19%	13%	8%	23%	0%	0%	13%	13%	16%	22%	7%	0%	10%							
Light Condition																								
Dark	0%	0%	0%	0%	3%	0%	0%	0%	9%	0%	0%	0%	0%	0%	13%	9%	0%							
Dark-Hwy Lighted	8%	15%	33%	14%	25%	25%	38%	15%	9%	11%	25%	0%	5%	11%	0%	0%	30%							
Dawn/Dusk	4%	4%	0%	7%	3%	0%	8%	8%	0%	0%	0%	13%	5%	0%	0%	0%	0%							
Daylight	88%	81%	67%	79%	69%	75%	54%	77%	82%	89%	75%	88%	89%	89%	87%	91%	70%							

Table 5: Recommendations

Rank	Intersection/Area	Problem	Possible Solution	Cost				
				Design	ROW	Utilities	Construction	Total
1	US 127 Bypass	Confusing Signage	Rename US 127 Bypass as US 127.			Traffic/Maintenance		
	US 127		Rename US 127 as US 127 Business.			Traffic/Maintenance		
	Woodford Street		Rename KY 44 from US 127 Bypass to US 127 as US 62.			Traffic/Maintenance		
	Broadway/Main Street		Rename US 62 from US 127 Bypass to US 127 as four digit route.			Traffic/Maintenance		
2	Carlton Lane/ US 127	Congestion Mitigation	Add right turn lane to Carlton Lane westbound at US 127B	\$ 20,000	\$ 15,000	\$ 10,000	\$ 110,000	\$155,000
3	US 127B/ US 62	Crash History	All-red phase needs to be checked and possibly extended.				Traffic	
4	US 127/ US 127B/ KY 151	Crash History	Left turn lane from SB US 127 to SB old US 127 (Main Street) backs up in the peak hour and should be extended. Signal phasing needs to be more responsive to traffic demand.	\$ -	\$ -	\$ -	\$ -	\$ -
5	US 127 Bypass/Community Park	Congestion and Safety	Add right turn lane from northbound US 127 Bypass into the community park.	\$ 20,000	\$ -	\$ -	\$ 100,000	\$120,000
6	US 127 Bypass/Food Court	Congestion Mitigation	Add a right turn lane from southbound US 127 Bypass into the food court across from Anderson County High School.	\$ 20,000	\$ -	\$ -	\$ 100,000	\$120,000
7	KY 44	Dangerous Passing Zone	Restripe KY 44 at the Nautical Chase and Gardens subdivisions to eliminate the current dangerous passing zone. Turning Lanes should be considered at these locations, with future developments required to install their own turning lanes.	\$ -	\$ -	\$ -	\$ 1,000	\$ 1,000
8	US 62/US 127/KY 44	Crash History	Post "Stop Here on Red" signs next to stop bars.				Traffic	
9	KY 44/127B	Signal System Coordination	Ensure that traffic signals on US 127 Bypass from the new Wal-Mart to Kroger are all coordinated.				Traffic	
10	US 62/Lynn Drive	Crash History	Trim Bushes in front of Dairy Queen.				Maintenance	
11	US 62/McDonalds Entrance	Crash History	Post a sign near McDonalds directing traffic attempting to access US 127 Bypass to use the frontage road in front of the car lot instead of first going back out onto US 62.				Traffic	
12	US 62/Hilltop Drive	Crash History	Increase corner clearance.				Maintenance	
13	US 62/Waterfill Avenue	Crash History	Improve signage for trucks accessing industries via Waterfill Street from Woodford Street. Improve corner clearance at this intersection, possibly involving utility relocation (fire hydrant on corner).				Traffic/Maintenance	
14	US 127/Carlton Drive	Crash History	Remove sight obstructions on US 127 southbound. Change speed limit to 35 mph until past Carlton Drive.				Traffic/Maintenance	
15	US 127/Secretariat Drive	Crash History	Eliminate on street parking and restripe to add two-way-left-turning lane from Bell Street to Walker Lane (Milepoints 6.817-7.075).	\$ 15,000	\$ -	\$ -	\$ 60,000	\$ 75,000
16	KY 44/Nautical Chase Subdivision	Connectivity	Add to the Anderson County Comprehensive Plan to extend a route connecting KY 44 to US 62 at Nautical Chase Subdivision.				Planning and Zoning	
17	Posey Street	Safety	Turn Posey Street into a one-way street starting at US 127 and ending at US 62, with the direction of travel being in a clockwise direction.				Maintenance	

Contacts

The following persons may be contacted if additional information is needed concerning the project or the study process:

- Keith Damron, Director, Division of Planning
- Steve Ross, Transportation Engineer Branch Manager, Strategic Planning Activity Center, Division of Planning
- Jill Asher, Team Leader, Strategic Planning Activity Center, Division of Planning
- David Tipton, Lawrenceburg Small Urban Area Transportation Study Project Manager, Division of Planning

The following address and phone number may be used:

Phone: (502) 564-7183
Address: Division of Planning
Kentucky Transportation Cabinet
Mail Code W5-05-01
Transportation Office Building
200 Mero Street
Frankfort, KY 40622