Bardstown
Nelson County, Kentucky
Small Urban Area
Transportation Study

Prepared by:
Kentucky Transportation Cabinet
Division of Planning
February 2008

Kentucky
UNBRIDLED SPIRIT

KENTUCKY TRANSPORTATION CABINET
Division of Planning

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1.0 Introduction

1.1 STUDY PURPOSE

This study was conducted by the staff of the Kentucky Transportation Cabinet (KYTC) with assistance from the Joint City-County Planning Commission of Nelson County (Planning Commission) and the Lincoln Trail Area Development District (LTADD). The last study conducted for this area by the State was the development of a travel model for Bardstown in 1993. The last transportation plan was completed in 1980 and a Major Thoroughfare Plan was developed for Bardstown in 1967.

The primary goal of this study was to identify operational modifications to improve the transportation system in the city of Bardstown. The study focused on opportunities to maximize the current highway assets using low-cost projects including roadway, transit, pedestrian and bicycle improvements. A secondary focus was to identify strategies that may be needed to accommodate the travel needs of a growing population especially within newly developing areas. This study did not aim to identify new major state funded improvements; major improvements had already been identified and prioritized as part of the existing KYTC Unscheduled Project List process.

1.2 STUDY PROCESS

The study was conducted by Division of Planning staff with the guidance of an advisory committee. Appendix A lists the members of that advisory committee. Appendix B contains meeting notes from the advisory committee. The needs of the area were identified using existing data, field visits, and input from the public and elected officials. Details about the needs identification process are described in Section 2 of this report. From there, projects to address these needs were identified that fit within the scope and purpose of this study. It is assumed that the needs that fell within projects already identified in the Six Year Highway Plan will be addressed as part of those projects (see Figure 1.) Each of the projects listed below falls within the defined study area and is in a different phase of development, i.e. design, right-of-way acquisition, utilities relocation, or construction. Actual completion dates may depend on the availability of state and federal funds.

Route(s)	Description	Year(s) Scheduled
US 150	Widening from KY 49 to KY 245	2007-10
US 150	Widening from KY245 to Leslie Ballard Blvd.	2007-10
US 31E	Relocation and Widening from Nazareth Drive to KY 509	2007-10
US 31E	Relocation and Widening (Cox Creek Section)	2007-8
KY 245	Widening from KY332 to Flaget Hospital Site	2007-9
US 62/KY 245	Intersection Improvement	2007-9
Maywood Ave	Realign – contract administered by Nelson County	2007-8

Figure 1: 2007-2012 Six Year Highway Plan Project List

The recommendations identified in this study include modifications to existing roadway facilities, local policy additions, and planning document development. Section 3 of the report describes the needs of each area and the recommended projects to address those needs.

2.0 Determining the Areas of Focus

2.1 STUDY AREA

The project study area was defined by including the area inside the incorporated limits of Bardstown and anticipated growth areas adjacent to the city. The growth areas were defined through consultation with the Planning Commission Director. Figure 2 is a map of the defined study area and the state and local routes within. With the exception of the interchange areas, the Bluegrass Parkway was not a part of this study. Please note that during the development of this report, maps with the US 62 (West Stephen Foster Road) curve reconstruction were not available and therefore not reflected within the maps of this report.

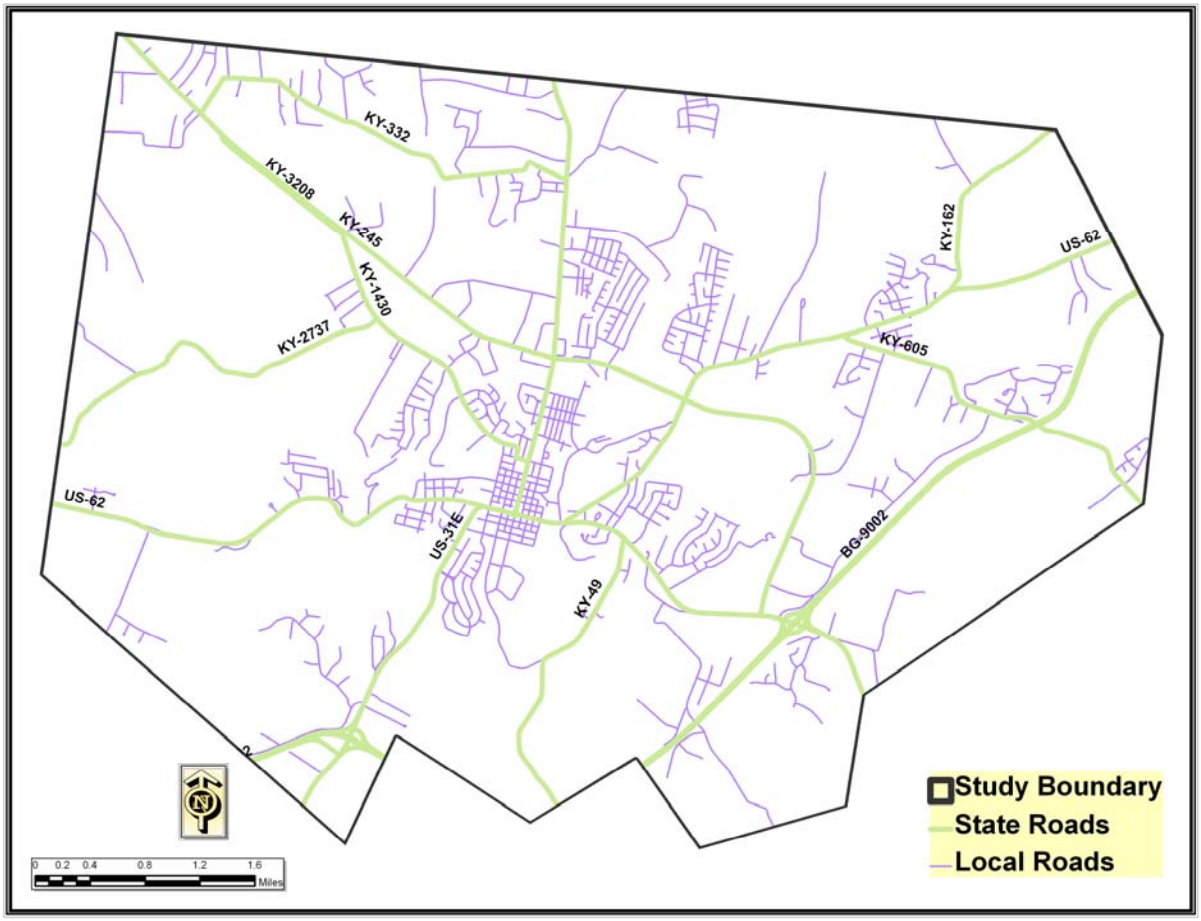

Figure 2: Bardstown Study Area

2.2 AREAS OF FOCUS

To begin the process, the project team gathered data and sought input from the local officials, staff and the public regarding transportation within the study area. Based on this information, we were able to determine areas of needed transportation improvements. The following sections describe the methods of assessing the current conditions and focusing on the most pressing transportation needs.

2.2.1 Crash Analysis

To determine high crash locations, first, a review of state-maintained highway segments was conducted. Segments with a critical rate factor (CRF) over 1.0 indicated a potential problem and further analysis was warranted. Each of the high-crash segments was then divided into 1/10 mile spots and examined for trends in crash types. Spot locations with CRF greater than 1.0 were identified; these locations are identified in Figure 3 by red icons sized based on the total number of crashes. Patterns of crashes were examined for each of these spot locations.

The Critical Rate Factor (CRF) is the ratio of the actual crash rate on a segment of highway for a given time period as compared to the average crash rate for other similar roads in Kentucky. A CRF> 1.0 generally indicates a "high crash" location, where crashes may not be occurring randomly.

The intersections of two state roads with high crash rates (CRF greater than 1.0) were also identified from the Kentucky Transportation Center research report, “Crash Rates at Intersections.” There were eight such intersections within the study area which are indicated by a green star in Figure 3.

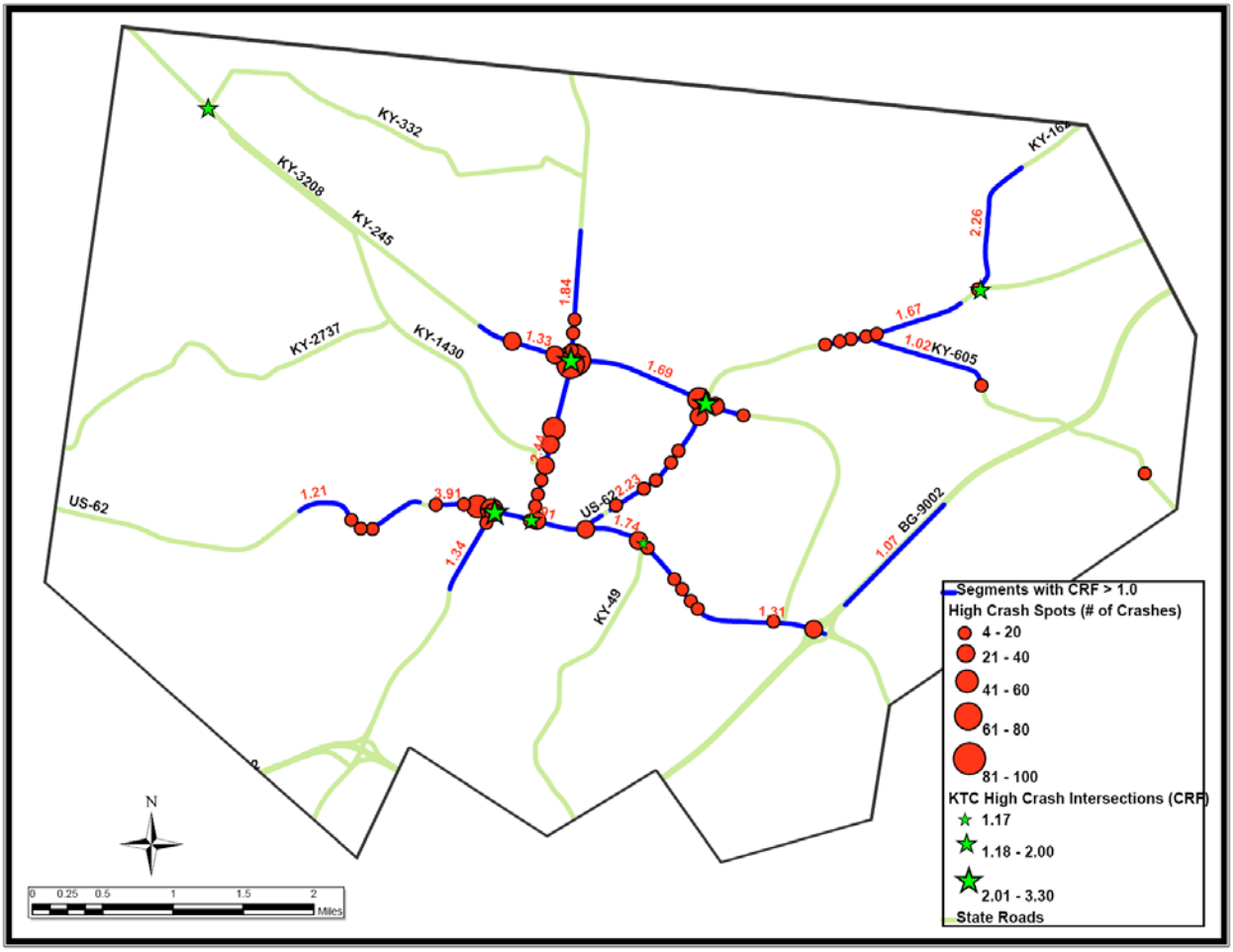

Figure 3: High Crash Spot and Intersection Locations

2.2.2 Roadway Characteristics

Data about the physical characteristics of the road was compiled from the Highway Information System (HIS) for state maintained highways within the study area. Specifically, roads with lane widths narrower than 10 feet (45 mph and below) or narrower than 11 feet (greater than 45 mph) were identified (See Figure 34). In general terms, roadways within the urbanized area meet or exceed the thresholds set out for lane and shoulder width; however, as you move away from the city center, many highways have lanes or shoulders below these thresholds.

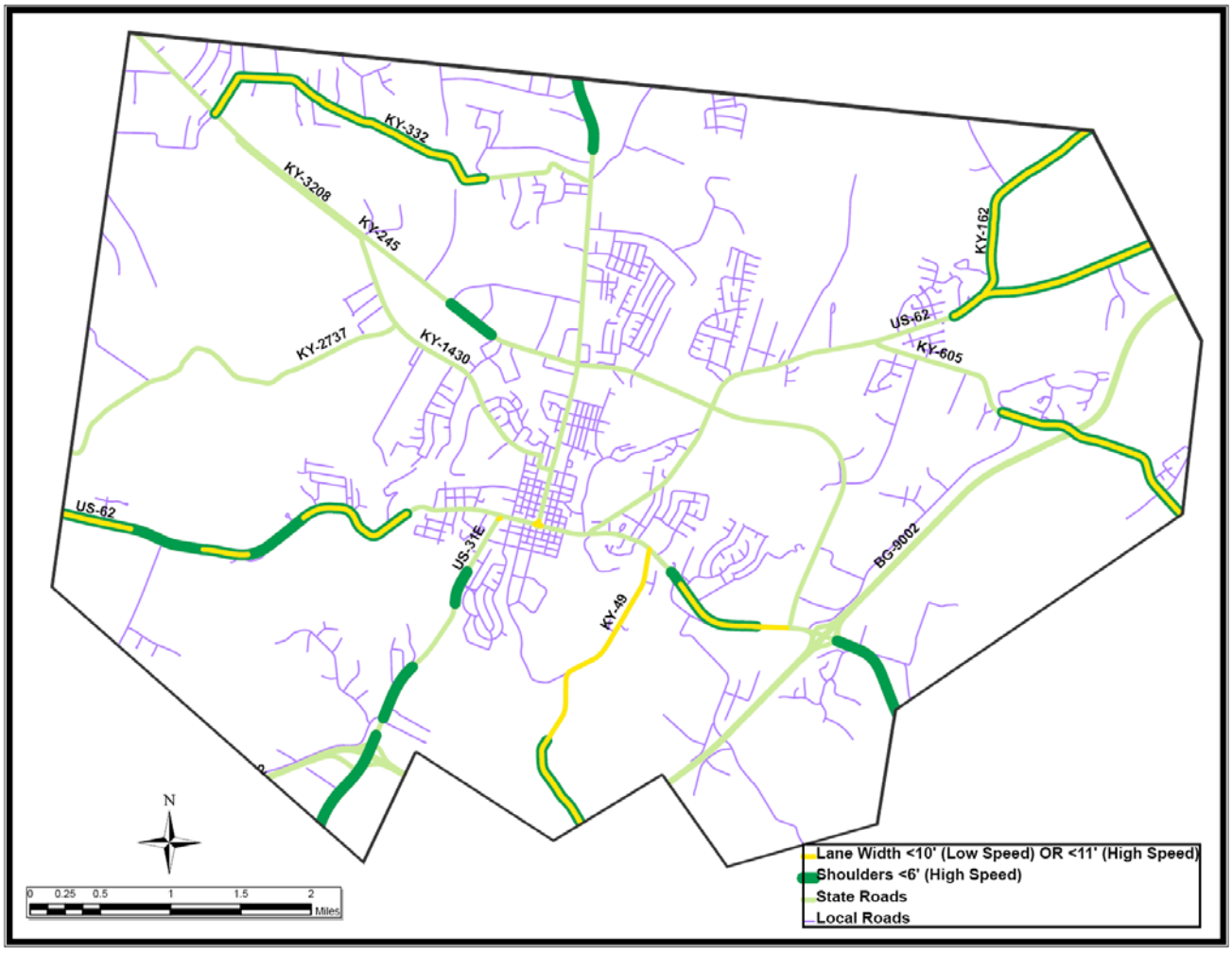

Figure 4: Narrow Shoulders and Lane Locations

2.2.3 Traffic Data

Information about traffic volumes, traffic generators and future growth areas were compiled. Traffic volumes for state maintained roadways were acquired from the Highway Information System. Significant traffic generators, such as industrial parks, shopping centers and tourist attractions, were identified with the assistance of the Planning Commission. In addition, future residential, commercial and industrial growth areas were also identified by the Planning Commission. Figure 5 shows the traffic volumes for each of the state maintained roadways. The map also shows the locations of many of the important traffic generators including retail centers, employers and schools.

2.2.4 Freight Movement

The primary mode of freight movement within the study area is by truck; there is an R.J. Corman Bardstown short line that enters from the west and ends near Spencer Mattingly Road, primarily used by the My Old Kentucky Dinner Train. The National Truck Network

(NN) for the area consists of KY 245, KY 150 from US 62 headed southeast and the Bluegrass Parkway. There are several trucking logistics and distributing companies headquartered around the area.

2.2.5 Transit

The transit service that is available within the study area is provided through a transit broker, Central Kentucky Community Action Agency. This service is primarily an on-demand service for programs previously funded through Department for Medicaid Services, Department for the Blind, and the Department of Vocational Rehabilitation. Senior citizens over 60 years of age may also request transportation through a reservation process through the broker for a minimal donation. The funding for this brokered service is administered by the Kentucky Transportation Cabinet's Human Service Transportation Delivery Branch.

There is no fixed-route, regular public transit system within the study area at this time.

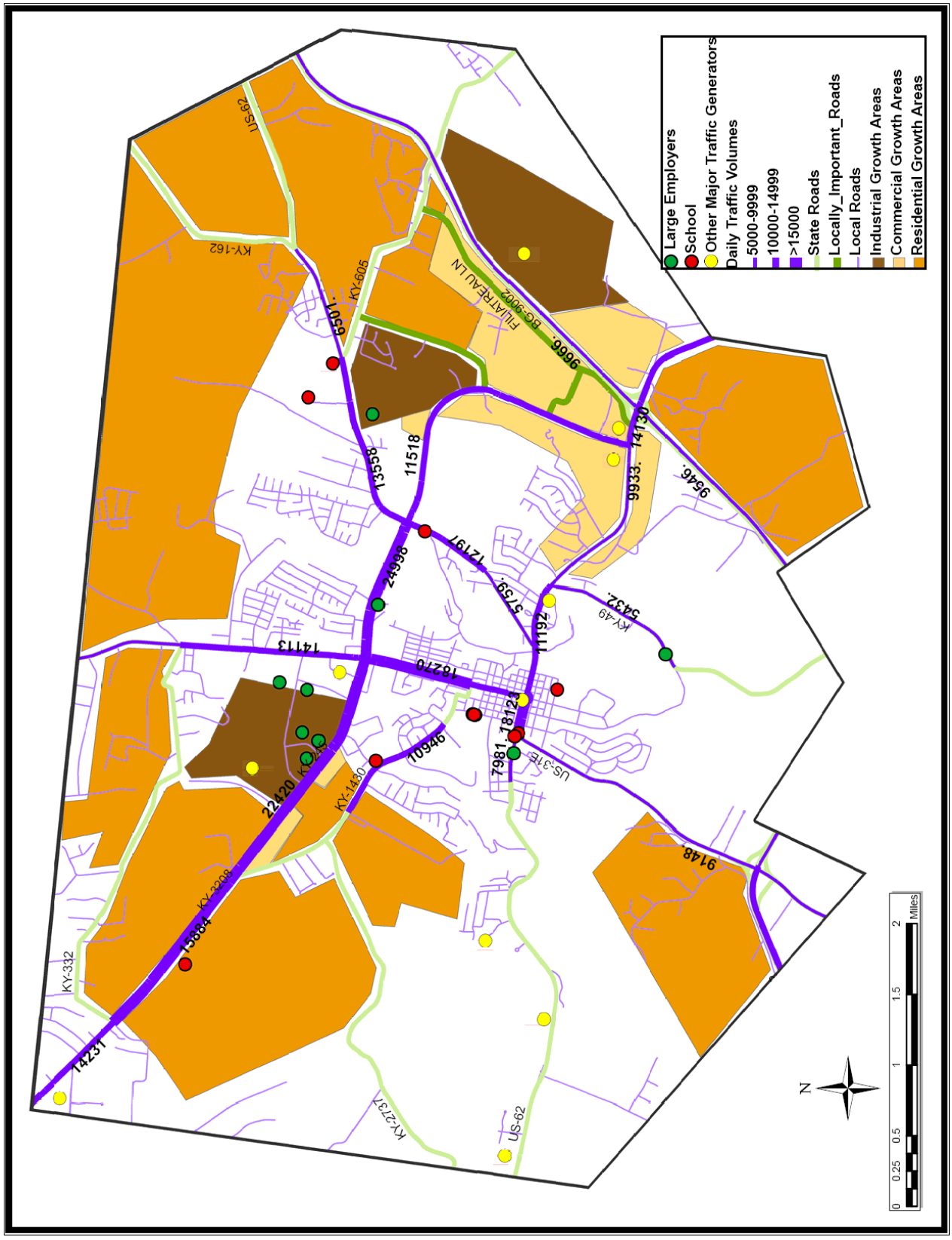

Figure 5: Traffic Volumes, Major Traffic Generators and Growth Areas

2.2.6 Population, Travel and Development Trends

Within the study area, there has been a significant growth in population, coupled with a higher rate of developed land area. From 1990 to 2000, population grew by over 50 percent (+3500 persons) in Bardstown and nearly 20 percent (+4200 persons) in the unincorporated areas of Nelson County.[1] Additionally, the Kentucky State Data Center projects that Nelson County's population has grown by about 10 percent from 2000 to 2005. For that same time period, local estimates assert that population grew by 9 percent based on zoning compliance permits issued.[2] Local estimates also project growth to top 57,000 persons county-wide. These growth rates may not account for people that may move to Nelson County as part of the base expansion at Fort Knox; anticipated total population increase for the region from that expansion is expected to be 11,500 persons by the end of 2010.[3] The pattern of land development since the mid-20th Century has resulted in separated land uses. Another important trend is that average store sizes, parking lot areas, home and lot sizes have all increased compared to development just 40 years ago. These patterns have created an environment where people must travel farther distances to go to places such as school, work or shopping. With longer travel distances and no local transit system, the majority of trips in Bardstown are now by automobile. As a result, roadways within the study area have seen a large increase in traffic volumes and miles traveled.

The heaviest traveled road in the study area is KY 245 (John Rowan Blvd). West of US 31E (N. Third St.), traffic on KY 245 has tripled in the last 20 years. Between US 31E (N. Third St.) and US 62 (Bloomfield Rd.) traffic has increased 2.5 times. Currently, KY 245 serves as the only major east-west route connecting areas of growth and major traffic generators. With the exception of the widening of KY 245 on the western edge of the study area, there are no current projects in the FY2007-2012 Six Year Highway Plan for east-west travel movements.

There is a lack of interconnection and roadway redundancy. Much of the development that has taken place over the last several decades has not included the building of new collector roadways or connections between developments. As a result, drivers must use the state arterial system, even for short distance trips. For an example of these issues, see Figure 6.

[1] Kentucky State Data Center
[2] Joint City-County Planning Commission of Nelson County
[3] OneKnox website www.oneknox.com

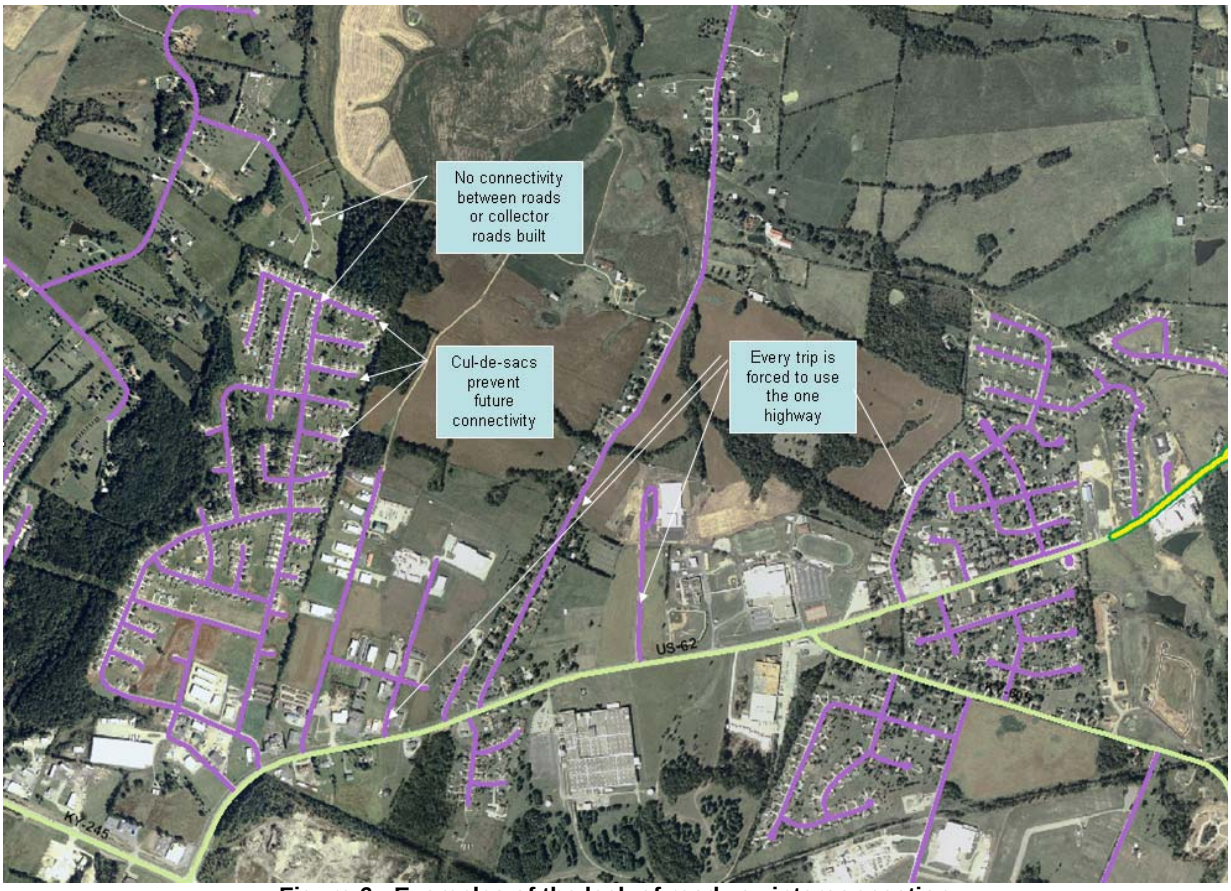

Figure 6: Examples of the lack of roadway interconnection

2.2.7 Environmental Justice Review

The Lincoln Trail Area Development District (LTADD) conducted an Environmental Justice and Community Impact Report for the given study area. The report outlines areas where there are concentrations and potential communities of minorities or elderly and concentrations of persons in poverty. This information is important to understand in making decisions about transportation facilities and services. Services such as transit, pedestrian and bicycle facilities may help those groups of people that have been traditionally underserved, cannot afford to drive or do not have the physical capability to drive. This study can also be helpful in the analysis of the impacts on future highway improvements. A copy of the full Environmental Justice report may be obtained either from KYTC or LTADD staff.

Figure 7, Figure 8 and Figure 9 are maps that show the locations of the above-mentioned groups, according to data from the 2000 Census. Based on the study results, there are four primary clusters of minority populations within the study area. The dominant minority group within the study area is Black or African American (77percent of minorities). There are two dominant clusters of elderly (age 65 and older) within the study area, both of which are near the city center and historic district. Finally, there are three continuous block groups that contain a density of 100 persons per square mile or more that are under the poverty level, primarily near the city center and eastern edge.

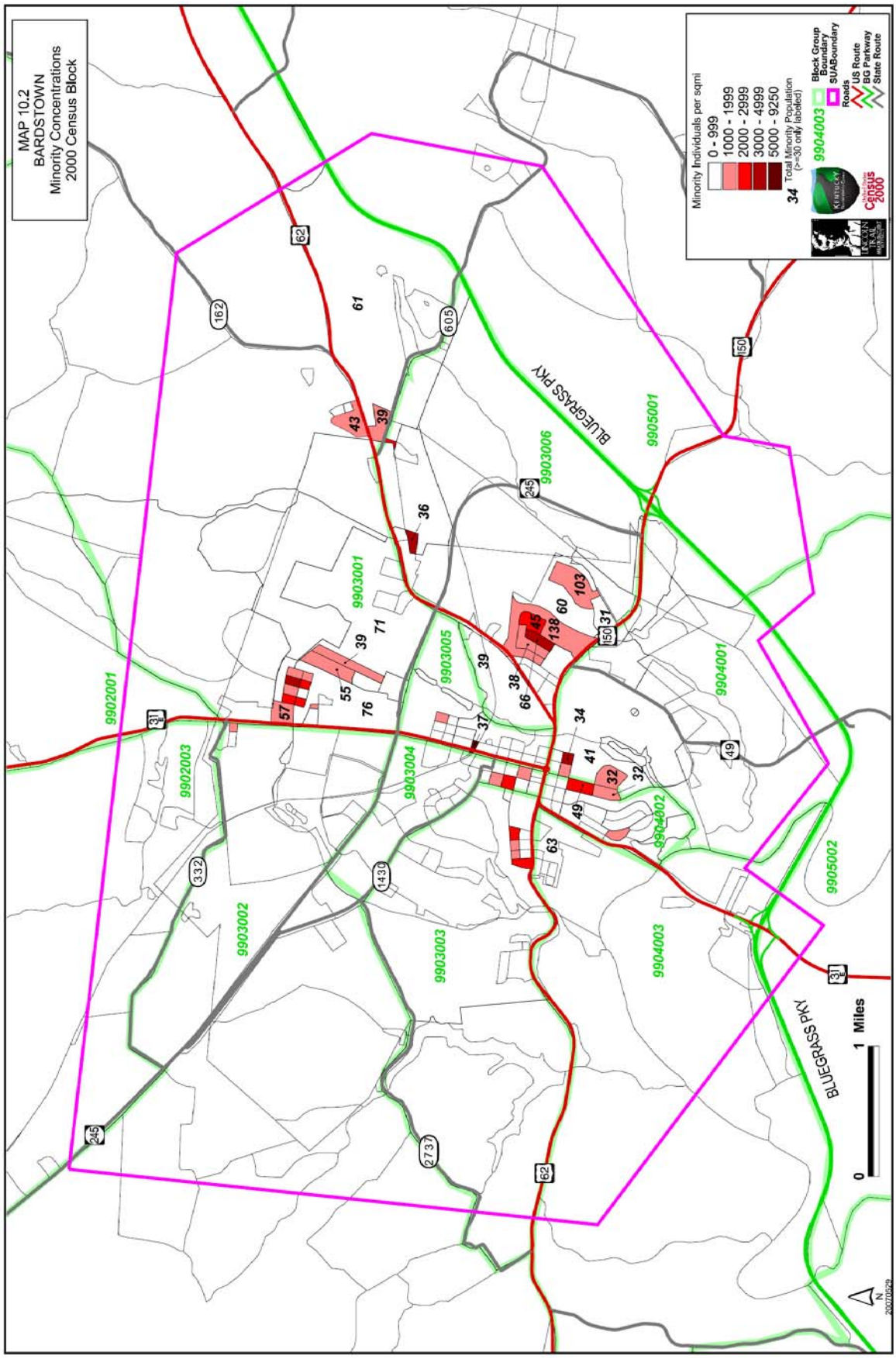

Figure 7: Minority Population Concentration

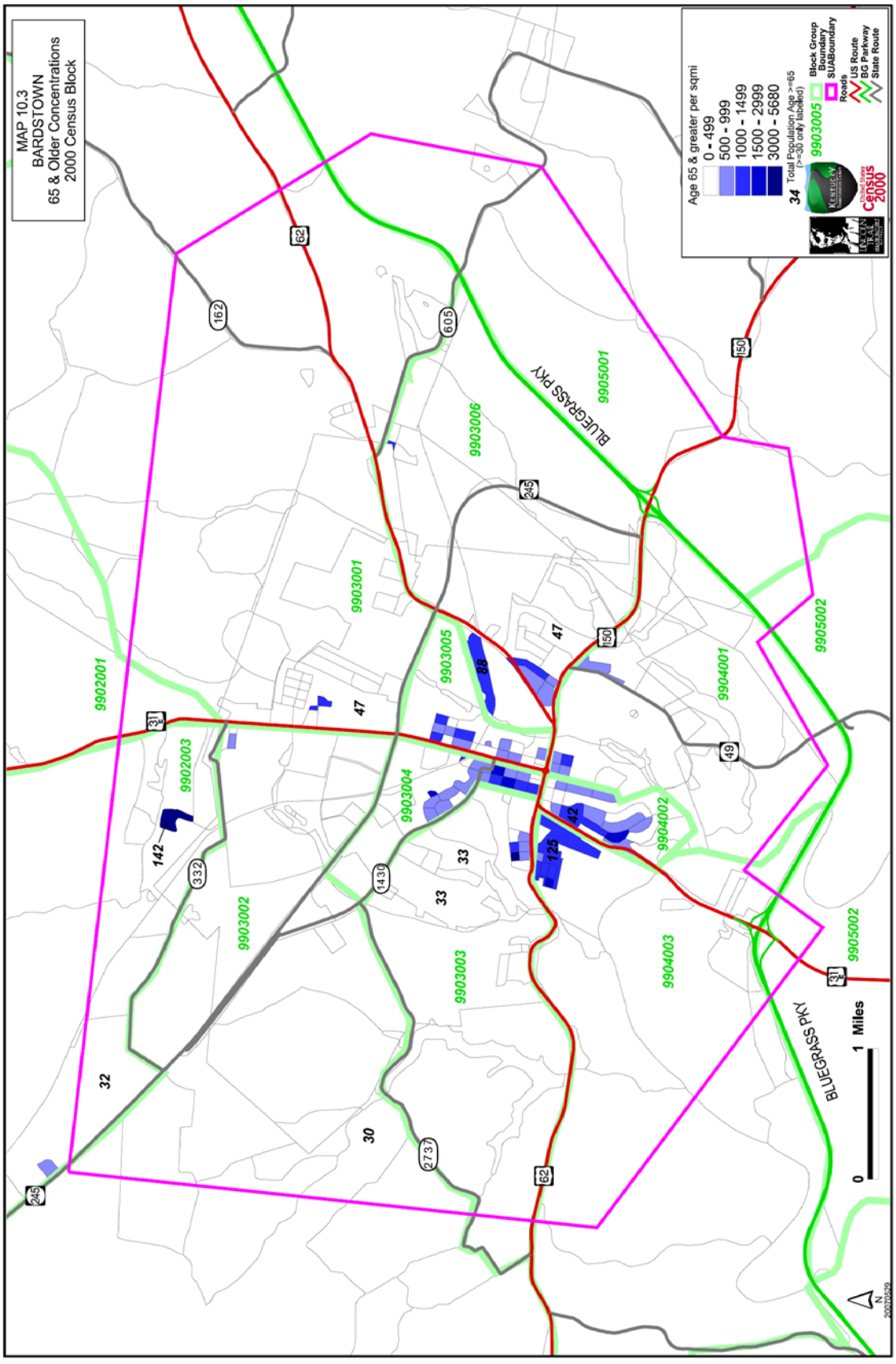

Figure 8: Age 65 and Older Population Concentration

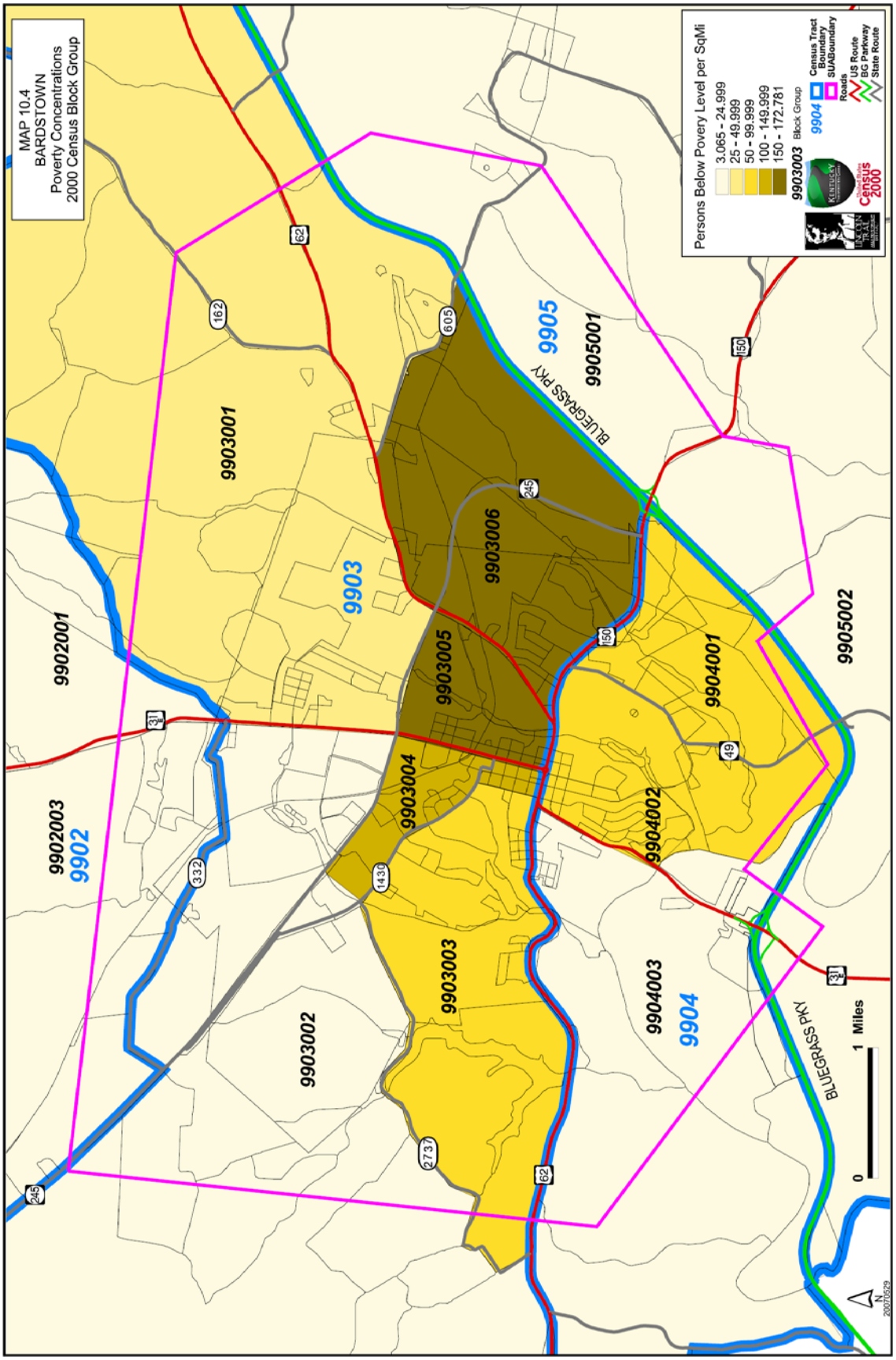

Figure 9: Poverty Population Concentrations

2.2.8 Local Input

The project team met with local officials, local government staff, and the public to gather input on needs and suggestions for projects. The first public meeting, held on February 28, 2007, was with the Technical Advisory Committee (TAC) but was open for the public to attend and participate. For meeting summaries, see Appendix B. The project team developed and distributed a survey (Appendix C) that was distributed at the first meeting. The purpose of the survey was to provide an alternate means of gathering information about transportation needs and suggestions for the area for those people that did not attend the meeting or those who came up with ideas afterward.

Issues identified in the survey include:

1. Congestion at US 62/KY 245
2. Congestion at US 31E/KY 245
3. Congestion at US 150/KY 245 [need for protected signal phase]
4. Congestion at US 31E (New Haven Road)/US 62
5. Congestion at US 31E/Fourth Street [need for protected signal phase]
6. Congestion at KY 245/Spencer Mattingly Road
7. Congestion (and need for medians) along US 150 in vicinity of Bluegrass Parkway interchange
8. Congestion on KY245 [US 150 to US 31E;Hospital heading west]
9. Congestion on US 31E
10. Congestion on US 62 (Bloomfield Road) [KY 245 to KY 605]
11. Crashes on US 31E (North Third Street)
12. Crashes at US 31E/KY 245
13. Crashes at US 62/KY 245
14. Crashes at US 31E (New Haven Road)/US 62
15. Crashes at Courthouse Square [US31E & US 150]
16. Vanpool & ridesharing possibilities on US 31E northbound toward Louisville
17. Vanpool & ridesharing possibilities on KY 245 westbound toward Louisville
18. Pedestrian safety at Courthouse Square
19. Sidewalks and bicycle lanes along KY 245
20. Sidewalks and bicycle lanes on US 31E
21. Sidewalks or shared-use paths along all major arterials
22. Transit needed for seniors and physically challenged
23. Transit not needed or feasible
24. More collector roads needed to distribute traffic
25. Growth happening on north, west and east sides of Bardstown

26. Widen KY 245 from US 62 to Ky 150
27. Build bypass on west side from US 62 to KY 245 to US 31E
28. Build east side bypass
29. Left-turn lane needed on US 150 at Springhill Street & Marvin Downs Street
30. Highway lighting glare, especially high mast lighting.

On August 8, 2007, a meeting with the TAC was held to share findings and recommendations from the study and prioritize projects for implementation. Additional information on the results of that process is described in Section 3.5.

3.0 Needs Identification & Recommendations

Roadways with transportation needs were identified after gathering information about safety, highway geometrics, traffic, land use and local input. These are mapped and numbered in Figure 10. Through field observation and consultation, the project team developed suggestions for each of these areas. This chapter describes the current conditions and recommended projects or policy actions to help improve and or enhance transportation. Also, in order to organize the recommendations, this chapter is divided into the following four categories:

- Area-wide Recommendations
- State Highway System
- Existing Local Roadway System (Local Implementation)
- Future Roadways (Local Implementation)

Each number in Figure 10 corresponds with the numbered paragraphs in Sections 3.2, 3.3 and 3.4. Summary tables with the recommendations and prioritization are included in Section 3.5.

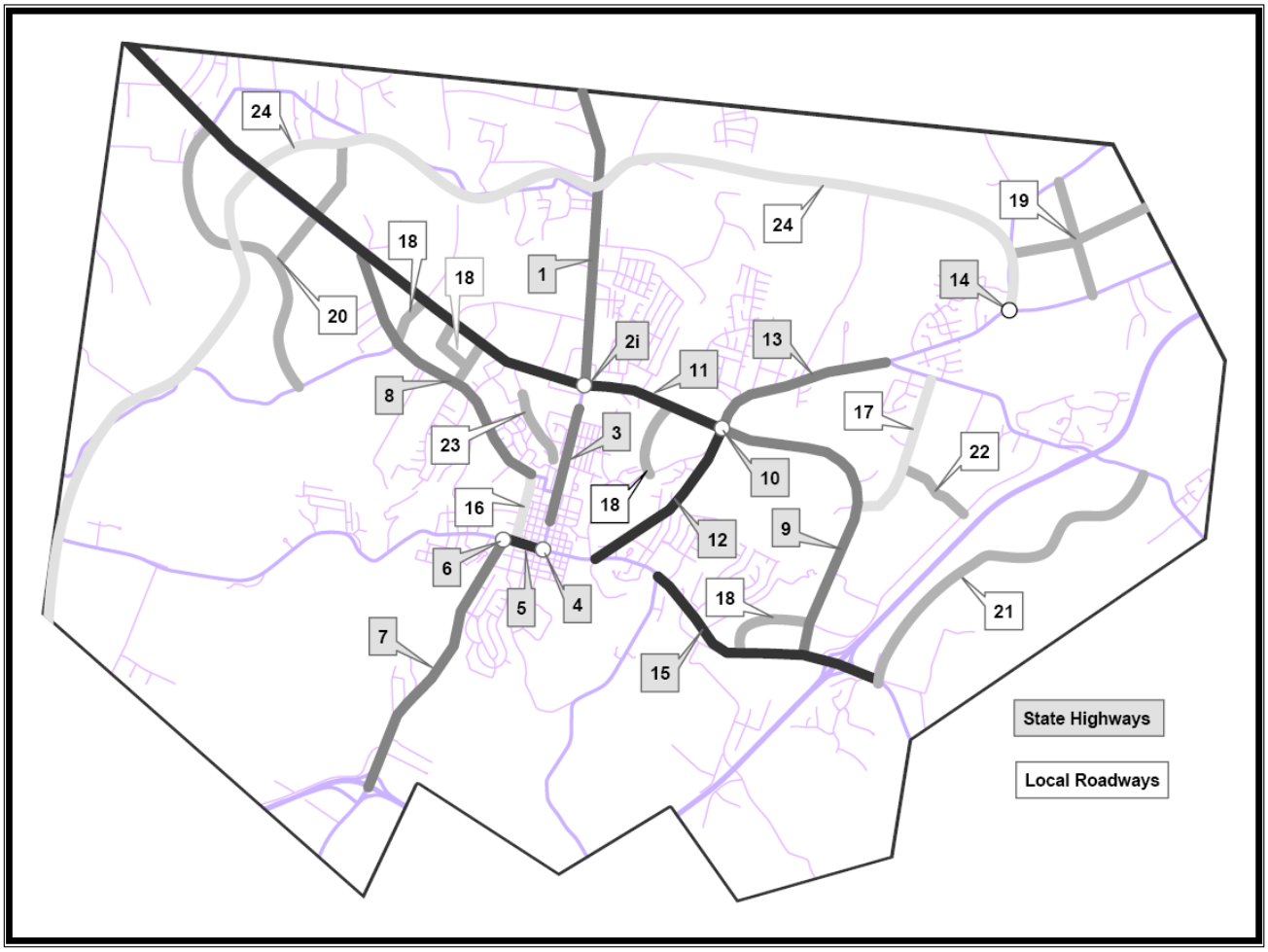

Figure 10: Corridors and Intersection Location Map

3.1 AREA-WIDE RECOMMENDATIONS

3.1.1 Access Management Standards

It is recommended that access management standards be developed for many of the arterial and collector routes and applied through the land-use planning process. Specific route recommendations are included in subsequent sections of this report.

Access management is critical to maintain the capacity, traffic flow and safety of roadways according to their designated function. To implement access management, it is best to create a classification system and corresponding standards. These standards can then be incorporated into the comprehensive plan, appropriate zoning ordinances and subdivision regulations. Recommended standards include driveway spacing and design, signal spacing, medians and median openings.

The use of access management overlay zones along critical roadway corridors can help protect and enhance the mobility and safety as development and redevelopment occurs. The use of an overlay zone allows standards to be customized to the particular conditions on high-priority corridors. Overlay requirements may address lot cross access, reverse frontage, minimum frontage, driveway spacing and limitations on new driveways. These requirements would be applied during zone change requests and development plan approvals.

Access management also provides good connectivity within and between properties. By doing this, it can reduce the vehicle demand on the arterials; it also provides lower operating costs and better transportation efficiency for emergency services, transit, garbage, and mail pickup. Connectivity can be accomplished through comprehensive planning using the following methods:

1. Connectivity within an individual property –connectivity index measurement
2. Connectivity between properties – planned collector roads
3. Connectivity between properties – local road stub outs
4. Connectivity between properties – frontage roads

Providing well-planned connectivity is essential to creating a road network that is safe and adds to the quality of life of the residents. Well designed collector and frontage roads provide the important function of connecting neighborhoods, shopping areas and other nearby land uses to the arterial network. Connections within and between developments provide necessary links for short trips, both vehicular and pedestrian, but must be laid out in a way to minimize speeding and “cut-through” traffic. With proper planning, these connections, collector roads, frontage roads and connections between adjacent developments can compliment each other in making a functioning road system.

It is recommended that the Planning Commission review the local requirements for these four methods within regulating documents and make appropriate changes. The diagrams in Figure 11 and Figure 12 illustrate some suggested best practices for planning a local roadway network.[4]

[4] Cary Design Guidelines, City of Cary, North Carolina, Frazier Associates and Strategic Land Planning 2001

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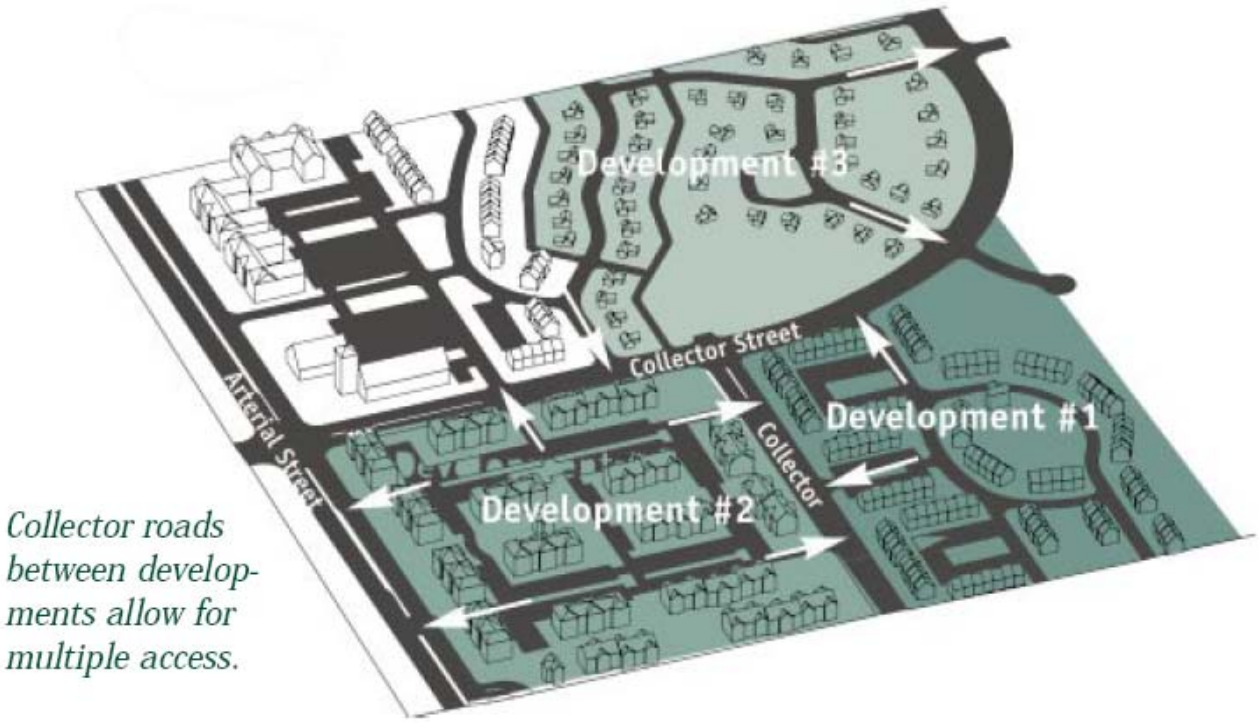

Figure 11: Collector Road Connectivity

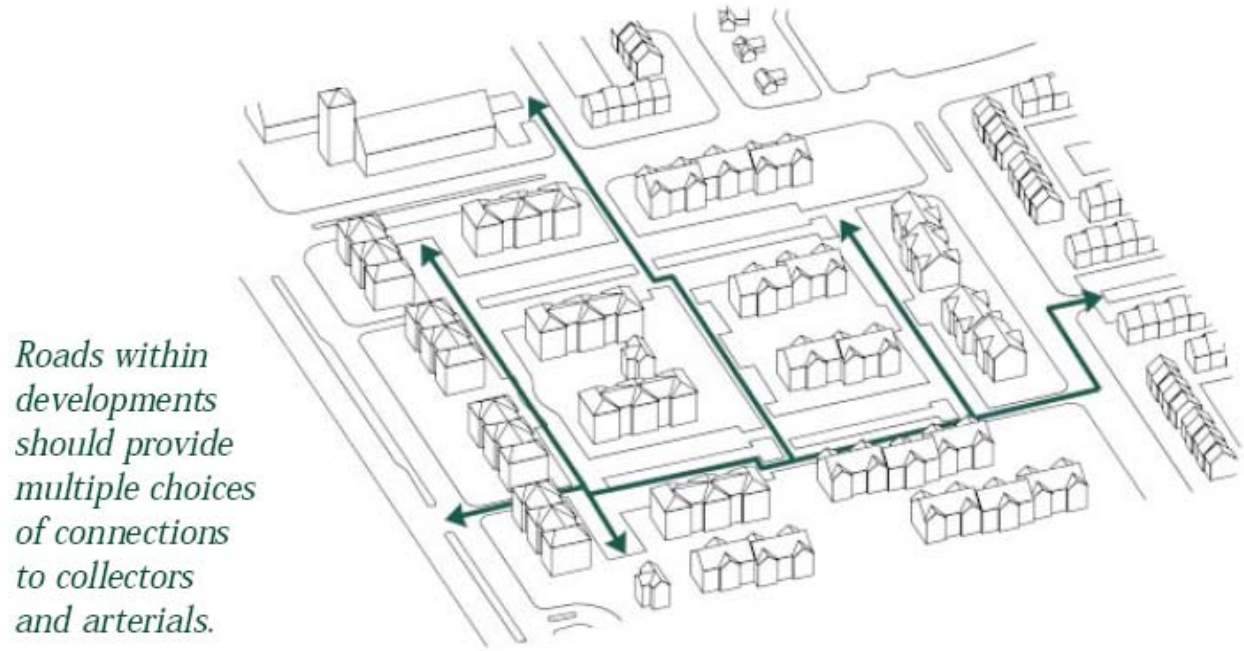

Figure 12: Connectivity Within and Between Developments

3.1.2 School Transportation

There are several locations within the study area where there are a group of schools, either on a campus setting or just within close proximity. Figure 13 provides a listing of the schools located within the study area. Through comments received, it appears that high traffic volumes and congestion on roadways near these schools may be caused by concurrent start times in the morning and departure times in the afternoon. It may be beneficial for city and school administrations work together to develop school schedules that are staggered. This would allow traffic ingress and egress to be spread over a longer time period and reduce congestion caused by high simultaneous volumes. Some specific areas are described in subsequent sections of this report. It may also be possible to alter the transportation routes to and from school properties and circulation within the property to better facilitate overall traffic flow for the vicinity. The following is a list of large existing private and public schools. There is also a proposed school complex in the northwest part of the study area, located off of KY 3208.

School Name	School System
Bardstown Elementary	City of Bardstown
Bardstown Primary	City of Bardstown
Foster Heights Elementary	Nelson County
St. Joseph Elementary	Private
Bardstown Middle	City of Bardstown
Old Kentucky Home Middle	Nelson County
Bethlehem High	Private
Bardstown High	City of Bardstown
Nelson County Area Technology Center	Private

Figure 13: Schools within Study Area

3.1.3 Ridesharing Program

Due to the high number of commuters to the Louisville metropolitan area and the cost of driving continuing to rise, it would be beneficial to establish a ridesharing program for the Bardstown area. This may include establishing a carpool and vanpool matching service and creating additional park & ride lots. A vanpool opportunity currently exists through the Ticket to Ride program; however, no vanpools currently exist for routes in this area. Additional marketing may be needed to raise the awareness of the opportunity to commuters from Bardstown. Currently, there are three park and ride lots that exist to serve Bardstown commuters: KY 245 at milepoint 9.8 (28 spaces); KY 3208 adjacent to KY 245 (18 spaces); and US 31E at milepoint 20.5 (10 spaces). Enhancement to existing lots or creation of a new location at an existing shopping center may increase the attractiveness to potential users. If such a program proves popular in the long term, it may be feasible to create a transit connection along this corridor to Jefferson County.

3.1.4 Adequate Facilities Ordinance

Many new developments within the study area, primarily residential subdivisions, have been approved and built on existing state and local roads that have narrow travel lanes and shoulders, restricted site distance, and no turning lanes. These roads, while they may have met standards at one time, do not meet current standards and are unable to accommodate increased demand. As traffic increases due to new development, the potential for conflicts increases. In addition, when development is approved on roadways with existing high traffic volumes, capacity is reduced and delays increased for the traveling public. In order to assure that new development is built where there are adequately-designed roads, both in geometry and capacity, it is recommended that an Adequate Facilities Ordinance pertaining to roadways be developed and adopted by the Planning Commission. Such an ordinance could be adopted into the Subdivision Regulations and only allow approval of a preliminary plan of subdivision if a defined set of criteria is met. The analysis and review would include scheduled, funded roadway improvements and the traffic impact from all other approved developments.

3.1.5 Bicycle and Pedestrian Facilities Plan

It is estimated that 12 percent of Nelson County residents live in poverty; nearly 32 percent of the households make less than $25,000 annually. Six percent of the households own no vehicle. Add in the children that are not of driving age (25 percent of the total population) and some seniors that can no longer safely drive and there is a significant amount of the population that must find another means of transportation. With the rise in oil and gasoline prices to an all-time high[5], this number is certain to increase. Currently, the Planning Commission staff is drafting a Greenway Plan that will include some trails for the area. The local governments may use this plan to create a network of safe, interconnected pedestrian and bicycle facilities, especially with the urban, suburban, hamlet and village designated areas. This network may include facilities such as sidewalks, shared-use trails, shared roadway shoulders and bicycle lanes. Some specific recommendations are included in subsequent sections of this report. In addition, providing improved connectivity within and between properties as described in the previous section allows for a more walkable and bikable environment. The Greenway Plan and Bicycle and Pedestrian Plan may be incorporated into the transportation element of the Nelson County Comprehensive Plan.

3.1.6 Transit

For the same reasons presented in the previous section and because land use is increasingly less accessible due to current land use patterns, the City of Bardstown may wish to consider the creation of a transit system. There appears to be some logical fixed route opportunities. For instance, based on the strong vehicular demand, relatively higher poverty levels, and increased residential, commercial and office development, there is potential demand for transit along US 62, US 150 and KY 245 out to the Flaget Memorial Hospital. Another potential route would include the Old Kentucky Home State Park, downtown, and major hotels to serve tourists during their visit. To examine the

[5] Energy Information Administration website: www.eia.doe.gov

opportunities for transit in more detail, it is recommended that the local government contact the Kentucky Transportation Cabinet's Office of Transportation Delivery.

3.1.7 Land-Use Scenario Planning

The results of current development patterns around Bardstown have resulted in increased usage and demand on the state and local highway system. Zoning that separates land uses and very low density development has led to increased dependency in using the automobile. In order to facilitate development that is sustainable, at least from a transportation perspective, it is recommended that the local government initiate a scenario planning study.

Typically, in scenario planning, a baseline case is developed using the current development pattern and trends. Then, additional scenarios are created, using different development types and patterns. These additional scenarios could include different variations and degrees of mixing land-uses and densities. An accompanying transportation model is created to measure the effects of travel on the highway network for each of the scenarios. The results of this study allow policymakers, both planning commissioners and elected officials, to better understand the impacts of land-use planning decisions while creating a comprehensive plan.

3.2 STATE HIGHWAY SYSTEM

The following locations on the Kentucky state-maintained highway system were identified through the needs identification process. For each location, an assessment of the conditions, issues and recommendations are included. The recommendations for each area are identified through underlining the text.

(1) US 31E: KY 245 to County Line

(North Third Street: John Rowan Boulevard to County Line)

This entire roadway segment is slated to be widened to four lanes starting just north of KY 245 north to the county line. In fact, the first segment has already begun construction in 2006 while the next segments began design in 2007. No additional road improvement projects are recommended as part of this study;

To protect such a large public investment in roadway widening, an access management standards overlay (see description under Area-wide Recommendations) can be adopted by the Planning Commission in order to maintain the function of the road as development and traffic increase. As part of access management, the Planning Commission should consider designing and implementing frontage or backage roads between KY 332 and KY 509 to provide connectivity between developments and to accommodate short distance trips. This can be implemented through the development process.

Many commuters to the Louisville area use this route. It may be beneficial to the commuters of Nelson County to have a park and ride lot established at an existing shopping center in the vicinity of KY 245, with the permission of the property owner. This would allow an inexpensive means of creating a safe pick-up point close to the urban area. If such a program proves popular in the long term, it may be feasible to create a transit connection along this corridor to Jefferson County. See section 3.1.3, Ridesharing Program, for additional information.

(2) US 31E /KY 245 Intersection

(North Third Street/John Rowan Boulevard Intersection)

The current traffic control of this intersection is a traffic signal. The intersection critical rate factor (CRF) is 2.18, the twenty-second highest in the state.[6] A majority of the crashes at this location are rear- end and angle. This intersection was also mentioned by survey participants as a problem intersection. Additional through and turning lanes will be added in the north and south directions as part of the US 31E widening project currently under construction. As a result, no improvements are recommended as a part of this study; however, it is recommended that the district monitor the crash and traffic flow performance for three years following completion of construction.

[6] Crash Rates at Intersections: KTC-03-21; Kentucky Transportation Center; Eric Green and Kenneth Agent. August 2003.

(3) US 31E : KY 1430 to KY 245

(Third Street: Templin Avenue to John Rowan Boulevard)

Figure 14: US 31E Northbound

This stretch of roadway currently has four eleven-foot wide lanes. The daily traffic volume ranges from 13,300 at Beall Avenue and 18,300 just south of KY 245. There has been a reduction in traffic at the Beall Avenue count station of approximately 4,000 vehicles since 1997 and 3,000 vehicles since 2004 at the KY 245 count station. This may be due to the increased commercial development on KY 245 that includes a new Walmart and Lowes. This is shift of the commercial center away from the intersection of KY 245 and US 31E. The crash analysis shows a high level of crashes along this segment. The critical rate factor for this road ranges, beginning from the south, 1.35 to 2.44 to 1.85. Examining the previous four years of crash data, the majority of crashes are rear-end and angle. There is also a history of some sideswipe crashes along this corridor.

This segment of US 31 E is a strong candidate for a road diet project. A road diet is taking a road and making it "leaner, safer and more efficient."[7] In this case, it is proposed to reduce the roadway from four lanes to three lanes (1 through lane each direction plus a center continuous turn lane), as seen in Figure 15.

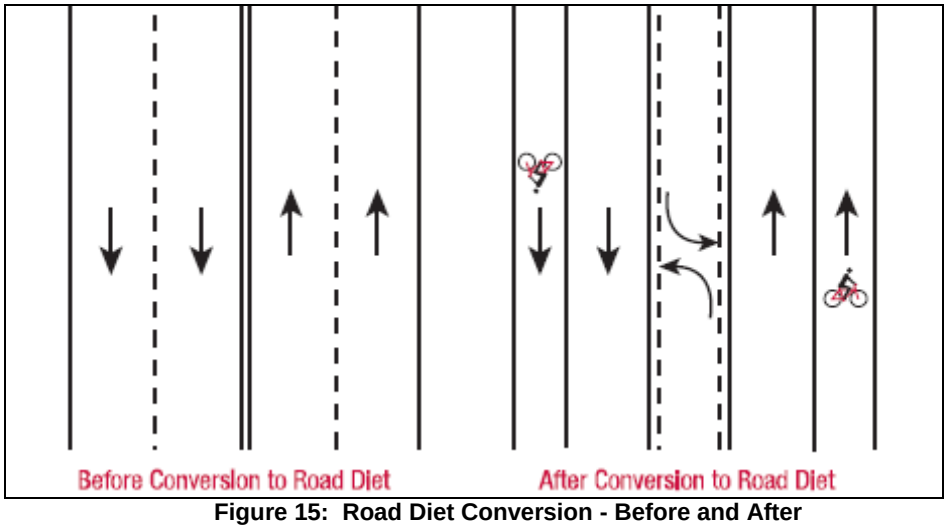

Figure 15: Road Diet Conversion - Before and After

The traffic volumes along this roadway and the high number of crashes make it ideal for such a conversion; however, it is recommended that traffic be modeled using microsimulation for the current configuration and the proposed road diet to ensure

[7] Road Diets: Fixing the Big Roads; Dan Burden and Peter Legerwey, March 1999, p2.

adequate performance. By including a center turning lane (12' to 14'), left turning vehicles are removed from the through movement, thus making the roadway more efficient and safe. This ultimately makes it easier and safer for drivers to judge gaps in traffic when making left turns from side streets and driveways. It makes it easier for pedestrians to judge gaps and shortens the crossing distance for pedestrians. With the reconfigured travel lanes (11'), there is also a possibility of incorporating bicycle lanes (5') on both sides.

(4) US 31E/US 150/US 62 Intersection: Courthouse Square

(North Third Street/Stephen Foster Avenue Intersection)

Figure 16: Courthouse Intersection: Looking NB

The current traffic control at this four legged intersection is a traffic circle. At the center island of the traffic circle are the Nelson County government and tourism offices. With the convergence of 3 major roadways, traffic volumes are heavy during peak travel times at this intersection. Pedestrian activity is frequent both around the circle and to the building located in the center. This location was identified as one the top concerns both from traffic flow, vehicular safety and pedestrian safety by members of the community. It was also identified as having an intersection critical rate factor of 1.74, well above the statewide average and within the top 1 percent.[8] There are twelve parking spaces along the circumference of the circle. Frequently, trucks park on the approach roads to unload freight, creating an obstruction and hazard to other vehicles. Visiting tour buses also park within the circle to unload passengers. This reduces the approach lane capacity by 50 percent and causes approaching vehicles to switch lanes. There is also a designated pick-up stop for the Heaven Hill tour bus within the southwest quadrant of the circular roadway.

Under the current configuration, the traffic on the north and south entries must yield upon entry to the circle; whereas, the traffic on US 62 from both directions does not have to stop or yield. Traffic within the circle yields to the traffic entering from the east and west. This leads to driver confusion, inconsistent driving behaviors and queues within the circle that inhibit flow within the circle. The lane striping within the circle also leads to confusion for the drivers. It is recommended that the circle be modified to operate as a modern roundabout. A review based on traffic counts[9] shows that each entry may

[8] Crash Rates at Intersections: KTC-03-21; Kentucky Transportation Center; Eric Green and Kenneth Agent. August 2003.
[9] Special Intersection Turning Movement Count, District 4 Planning Staff, May 2, 2007.

operate sufficiently with one lane resulting in only one travel lane within the circle; each peak hour entry volume plus circulating volume is under the accepted capacity thresholds.[10] A more thorough analysis of turning movements and other constraints must be examined before conversion.

For the purpose of driver safety, pedestrian safety and traffic flow, it is recommended that parking within the circle be eliminated. Signage directing drivers from out-of-town to nearby public parking lots should also be added. Additionally, the location for the Heaven Hill tour bus should be moved to outside the circular roadway.

With creation of a single lane roundabout and consistent driving behavior, it will be easier for both the pedestrian to judge a gap in traffic and for drivers to be able to see the pedestrians. Although crossing into the center island is not recommended in a modern roundabout, this situation is unique because of the existing building that must be accessed. The best alternative is to create crossings from a raised splitter island, located at each roadway entry, to the central island in order to minimize conflict with entering vehicles. It is advisable to further investigate the use of the pedestrian crossing signal system to improve the pedestrian crossing environment, particularly crossing to and from the central island. Additionally, yield to pedestrians signs and possibly flashers could be installed prior to the crosswalks on the entries.

Destination Downtown, Bardstown's Main Street program, has preliminary plans to improve the traffic flow, pedestrian safety and aesthetics of this intersection. They have agreed to work closely with KYTC District 4 to develop a design that balances each of the project goals and find methods of implementation.

[10] NCHRP Report 572 Roundabouts in the United States, p59, 2007.

(5) US 31E: US62 to Courthouse Square

(West Stephen Foster Avenue: New Haven Road to North Third Street)

Figure 17: West Stephen Foster Avenue – Looking East

This stretch of roadway currently has four twelve-foot wide lanes. The daily traffic volume has steadily remained under 19,000 vehicles per day over the last five years. There is a left turn lane at Fifth Street in both directions. The remaining intersections have no turning lanes. This segment t has a CRF of 1.35; the intersections on each end of this segment have significantly higher CRF. This area is within the downtown historic district.

To better facilitate traffic flow, a road diet (reducing from four to three lanes) combined with eliminating left-turns from side streets and removal of signals from Fourth and Fifth Streets may be considered for the stretch from east of Fifth Street to the Courthouse Square. This scenario would work best if u-turn capability is allowed at both the US 62/US 31E (New Haven Road) intersection and the Courthouse intersection. Left turns would be controlled through a raised median; however, left turns from US 31E to Fourth and Fifth Streets would be allowed by use of a directional median opening (Figure 18).

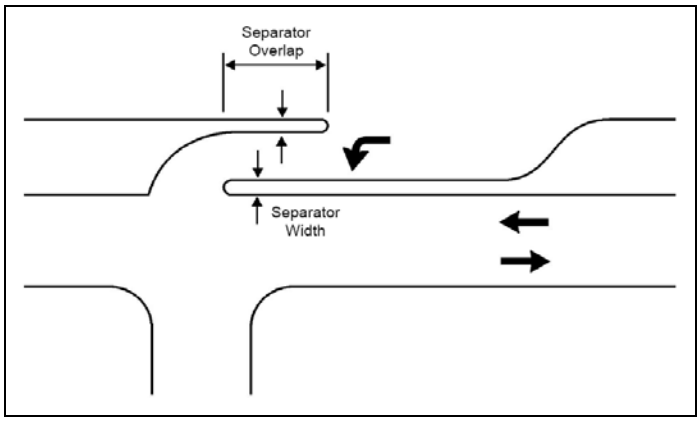

Figure 18: Directional Median Opening

In the current configuration, there may be no advantage to traffic capacity of having two through lanes in each direction because of the constraint caused by the signal and no turn lane at Fourth Street. Reduction to three lanes would remove vehicles turning left from the through travel lanes thus, improving traffic flow and safety. The reduced number of lanes will also make it easier for pedestrians to judge gaps and shortens the crossing distance for pedestrians. Free flow at the intersections at Third Street and New Haven Road combined with the elimination of signals has the potential to keep traffic

flowing smoothly and without conflict. With the reconfigured lanes, there is also a possibility of incorporating bicycle lanes or wide curb lanes for cyclists. Depending on the ultimate design of the adjacent intersections (New Haven Road; North Third Street), a short flared entry (widening from one to two lanes) into a roundabout may be beneficial at the Courthouse intersection. It is recommended that this concept be studied further using traffic modeling, if needed, after examining the school traffic patterns and start times. For more explanation, see section 3.1.2, School Transportation.

(6) US 31E/US 62 Intersection

(New Haven Road/West Stephen Foster Avenue Intersection)

The current traffic control of this intersection is a traffic signal. The intersection critical rate factor is 3.05, the eighth highest in the state.[11] A majority of the crashes are rear-end and some angle. This intersection was also mentioned by survey participants as a problem intersection and had been a topic of concern raised in several letters to the editor in the Kentucky Standard. There is also a traffic conflict issue with the Bethlehem High School on the southeast quadrant of the intersection.

Figure 19: US 31E & US 62 Intersection

The City of Bardstown has contracted with American Engineering Incorporated to create a pair of designs for this intersection, one that has a roundabout, the other with turning lanes and a traffic signal. At the time of this report, no decision has been made on the preferred solution. In addition to an engineering solution to the intersection, an examination of the schedules of the schools in the vicinity is prudent. For more explanation, see section 3.1.2, School Transportation.

[11] Crash Rates at Intersections: KTC-03-21; Kentucky Transportation Center; Eric Green and Kenneth Agent. August 2003.

(7) US 31E: Bluegrass Parkway to US 62

(New Haven Road: Bluegrass Parkway to West Stephen Foster Avenue)

This segment begins at an interchange with the Bluegrass Parkway (Exit 21). It connects to the downtown area of Bardstown. Little development has taken place in this region of the city; as a result, traffic counts have remained constant, at approximately 10,000 vehicles per day. There are no apparent safety issues along this corridor until the approach of the intersection at US 62.

In order to protect the function and safety of this roadway, especially in the vicinity of the interchange where growth is most likely to happen, it is recommended that an access management standards overlay for this corridor be considered by the Planning Commission.

(8) KY 1430: KY 245 to Fifth Street

(Templin Avenue: John Rowan Boulevard to Fifth Street)

This is a two lane roadway that serves as a major collector between KY 245 and US 31E. There are traffic flow issues in the vicinity of the entrance of Bardstown Primary School, primarily from school related traffic.

To improve traffic flow, the intersection at the school's driveway should be considered for either the addition of turning lanes or a roundabout. Ingress and egress patterns to the school as well as the schedule of school beginning and end times in relation to nearby schools on Fifth Street should also be examined in order to maximize travel efficiencies. For more explanation, see section 3.1.2, School Transportation.

In order to protect the function and safety of this roadway, especially in the northwestern section where growth is most likely to happen, it is recommended that an access management standards overlay for this corridor be considered by the Planning Commission.

In addition to the roadway improvements, planning for adjacent pedestrian and bicycle facilities would greatly benefit the area. This roadway connects many neighborhoods, schools and downtown Bardstown. In addition, growth is anticipated along the northwest portion of this roadway. See Section 3.1.5, Bicycle and Pedestrian Facilities Plan, for additional information.

(9) KY 245: US 150 to US 62

(John Rowan Boulevard: Springfield Road to Bloomfield Road)

The traffic on this two lane stretch of roadway has quickly grown since its construction in the early 1990s. Since the completion of the road, growth of commercial development has taken place and more is planned. This roadway serves both as an important link to this commercial area and as a connection between the north and west sides of town to the Bluegrass Parkway. There currently is a project identified on the Unscheduled Project List to widen this road to four lanes. Therefore, no major improvement will be recommended as part of this study.

Because this serves as a primary arterial connection for much of the city today and most of the future growth areas, it is critical that access be strictly controlled. In order to

protect the function and safety of this roadway, it is recommended that an access management standards overlay for this corridor be considered by the Planning Commission. The number of full intersections, whether with signal, roundabout or stop control should be limited in order to maintain the traffic flow and safety.

As growth occurs to the north east of this area, Spencer Mattingly Road will be increasingly used to connect KY 605 to KY 245. Intersection improvements to Spencer Mattingly Road at KY 245 should be studied to address the access and travel time at this intersection. Similarly, the intersection of Glenwood Drive at KY 245 needs to be examined to provide access for development on KY 245 and the connection to KY 605 via Filiatreau Lane.

Because this segment is developing into a major commercial center and is within short distances from residential neighborhoods, it is important to consider pedestrian and bicycle accommodations in future actions. It is recommended that the local governments develop a bike and pedestrian plan so the appropriate facility type(s) can be incorporated into both highway project development and land use decisions. See Section 3.1.5, Bicycle and Pedestrian Facilities Plan, for additional information.

(10) KY 245/US 62 Intersection

(John Rowan Boulevard/Bloomfield Road Intersection)

The current traffic control of this intersection is a traffic signal. The intersection critical rate factor is 2.13, the 25th highest in the state.[12] A majority of the crashes are of the rear-end type. This intersection was also mentioned by survey participants as a problem intersection for delay.

Currently, this intersection is being designed for reconstruction by the Kentucky Transportation Cabinet. A roundabout alternative and conventional intersection with upgraded turning lanes alternative are being evaluated. Additionally, improved access via a frontage road to property in the northwest quadrant is being considered. All phases of project development are listed in the current Six Year Highway Plan. No other major improvements are recommended as a part of this study.

(11) KY 245: US 62 to Flaget Hospital

(John Rowan Boulevard: Bloomfield Road to Flaget Hospital)

This section has four travel lanes plus a two-way center turning lane between US 62 and KY 332 and then tapers back to two undivided travel lanes, heading west. There are several intersections along this corridor controlled by traffic signals. The section between US 62 and US 31E currently carries about 25,000 vehicles per day, the highest of any roadway in the area. It has a crash critical rate factor of 1.69.

The segment between US 31E and KY 1430 carries approximately 23,000 vehicles per day (compared to just 13,000 vehicles in 2003); the section closest to US 31E has a crash critical rate factor of 1.38. Farther west, the volumes begin to taper off west of Templin Avenue; however; the volumes are growing at high rates (9 percent from 2005 to 2006).

[12] Crash Rates at Intersections: KTC-03-21; Kentucky Transportation Center; Eric Green and Kenneth Agent. August 2003.

Figure 20: KY 245 Looking West Toward US 31E

The capacity on this roadway is constrained by the signal controlled intersections. Capacity is also impacted by the driveway access to properties along the corridor. Because this serves as a primary arterial connection for much of the city today and most of the future growth areas, it is critical that access be strictly controlled. In order to protect the function and safety of this roadway, it is recommended that an access management standards overlay for this corridor be considered by the Planning Commission.

The number of full intersections, whether with signal, roundabout or no control should be limited in order to maintain the traffic flow and safety. As part of access management, the Planning Commission should consider designing and implementing frontage or backage roads between KY 1430 and the Flaget Hospital to provide connectivity between developments and to accommodate short distance trips. Existing KY 3208 may be considered for inclusion into that frontage road system.

With continued growth of development both on this segment and on adjacent segments of highway, traffic volumes are expected to grow. Growth in number of access points and traffic volumes is usually accompanied by high crash rates and traffic congestion. In order to maintain the best and safest traffic flow, it is recommended that a raised median project between KY 1430 and US 62 be developed. National research has shown that with a multilane roadway with traffic volumes exceeding 24,000 vehicles per day, the availability of gaps for left turning vehicles becomes less frequent.

The intersection of South Salem Drive is 1300 feet east of the US 31E intersection. Cardinal Drive is only 700 feet east of that intersection. There are inefficiencies with having two intersections closely spaced and that close to US 31E. Public input indicated that there may be issues with the signal timing; however, KYTC personnel examined the intersections and found the timing to be appropriate. Upon findings from the field review, the signal heads at the South Salem Drive intersection were shifted for better visibility. In the long term, it is recommended to modify South Salem into a directional median opening (left turns in, no left turns or through movement out.) An improved connection between South Salem and Cardinal may need to be established to allow for a signalized left turn out movement. Road interconnectivity already exists on the north side. A maximum of only one additional signal would be recommended to be allowed, centered between Cardinal and US 62.

Many commuters to the Louisville area use this route. It may be beneficial to the commuters of Nelson County to have a park and ride lot established at an existing shopping center west of US 31Ewith the permission of the property owner. This would allow an inexpensive means of creating a safe pick-up point close to the urban area. If such a program proves popular in the long term, it may be feasible to create a transit connection along this corridor, leading to I-65 and to Jefferson County. See section 3.1.3, Ridesharing Program, for additional information.

Because this segment connects major commercial centers and residential neighborhoods, it is important to consider pedestrian and bicycle accommodations into future actions. It is recommended that the local governments develop a bike and pedestrian plan so the appropriate facility type(s) can be incorporated into both highway project development and land use decisions. The idea of providing pedestrian and bicycle facilities on this segment was identified by several survey participants. See Section 3.1.5, Bicycle and Pedestrian Facilities Plan, for additional information.

(12) US 62: US 150 to KY 245

(Bloomfield Road: Springfield Road to East John Rowan Boulevard)

This two-lane roadway can be considered in two sections. The first, a stretch between US 150 and Guthrie Drive has approximately 6,000 vehicles per day. The second, runs between Guthrie Drive and KY 245, has just over 12,000 vehicles daily. The large increase in traffic volume north of Guthrie Drive may be due to the residential neighborhoods and the Justice Center that use Guthrie Drive. Currently, there are few turning lanes and no traffic signals except at each end of the segment. There is a history of crashes along the corridor; the critical rate factor is 2.23.

Figure 21: KY 62 Looking SB at Guthrie Drive (to the left)

Two projects had been identified in the Unscheduled Projects List. The section between Guthrie Drive and KY 245 was ranked in the top five in local priorities in the 2007 prioritization. This project, described to add a continuous left turn lane, should help address traffic flow and crash issues. Because this segment connects downtown, the KY 245 commercial corridor, and residential neighborhoods, it is important to consider pedestrian and bicycle accommodations into future actions.

In addition to the noted project, it is recommended that access management standards overlay for this corridor be considered for adoption by the Planning Commission. These

standards can be applied for new development and properties as they redevelop over time.

At the first public meeting, it was brought to the project team's attention that there may be some issues with drivers' inability to stop because of the steep downhill grade approaching the intersection on US 150. The eastern approach on US 150 had been rebuilt as part of a highway project; therefore, no major changes are recommended; however, upon review of the site, there is a car sales lot on the northeast quadrant that has vehicles parked very close to and possibly within the highway right-of-way. These parked vehicles inhibit sight distance for traffic approaching the intersection both from the east on US 150 and the northeast on US 62. It is recommended that the District Four staff work with the dealership owners to move the first two or three vehicles to another location to improve sight distance.

(13) US 62: KY 245 to KY 605

(Bloomfield Road: East John Rowan Boulevard to Woodlawn Road)

This roadway has two travel lanes and a continuous left-turn lane. There is a pattern of crashes between Wildcat Lane and KY 605/Nelson County High School entrance. Traffic has been increasing and is currently 14,000 vehicles per day. New development is expected to continue on roads that intersect US 62, such as KY 605, Pennebaker Road and Caney Fork Road which will increase the traffic volume. There is a new major traffic generator, Kenmore Industrial Park, located at Wildcat Lane. Large trucks use this corridor to access a trucking company headquarters and manufacturing plant. The critical rate factor on US 62 is 1.67 with a concentration of crashes between Wildcat Lane and the KY 605/high school entrance intersection. Although speculative, it appears there may be an issue with safe access to and circulation through the school properties.

A comprehensive look at traffic patterns for the schools on this stretch of US 62 is needed. The study should consider school start and end times, access to the site and parking circulation. An issue that was noted by the study team was the left turn from the high school entrance to the parking lot is very close to US 62. It may be desirable to change circulation to require access to the parking lot from the back entrance located on Wildcat Lane. Another option would be to direct traffic entering from the KY 605 entrance around the rear of the building, thus allowing more queuing of vehicles on-site. Considering the high volumes of traffic going to the Middle School and Board of Education office, a right turn lane onto Wildcat Lane may also be warranted to remove turning vehicles from the through traffic stream. The intersection of KY 605 does not appear to warrant any improvements at this time; however, as traffic increases, the delays, queues and crash rates should be reexamined.

(14) US 62/KY 162 Intersection

Bloomfield Road/Old Bloomfield Road Intersection

The current traffic control of this intersection is with a stop sign on the KY 162 approach leg. The intersection critical rate factor is 1.24. There is a sight distance problem on all approach legs because of the hill on the southern border and the steep vertical profile. Also, the angle of intersection of KY 162 allows for left-turn drivers coming from the west on US 62 to turn left at high speeds.

Figure 22: KY 62 Looking WB at KY 162

For the short term, it is recommended that KY 162 be realigned slightly to tie into US 62 at a right angle. A left turn lane on eastbound US 62 should also be provided to safely remove turning vehicles from the through travel lane. Because of the high speeds and traffic volumes, a secondary measure may include a short right turn lane on US 62 to help with traffic flow and safety of the intersection.

The Comprehensive Plan and KYTC Unscheduled Projects List have identified a northeast bypass that would tie into US 62 at or close to this intersection. A more comprehensive, long-term design would be addressed if the bypass project advances. For more information about the bypass project, see Section 3.4(27), Bypass.

(15) US 150: KY 49 to Leslie Ballard Lane

(Springfield Road: Loretto Road to Leslie Ballard Lane)

This roadway has two travel lanes and carries a significant volume of traffic, over 13,000 vehicles per day between the interchange and KY 245 and over 10,000 cars per day west of KY 245. The critical crash rate factor ranges from 1.31 to 1.74. There are a series of spot locations with high crash volumes. Two to note are at the Bluegrass Parkway interchange and at the KY 49 intersection. The geometric layout of the KY 49 intersection is not adequate to accommodate the turning semi-trucks that use the road to access the Heaven Hill distillery; trucks routinely turn wide from KY 49 into the US 150 left turn lane to avoid tracking onto the curb.

This stretch of highway is scheduled to undergo a design project for improving traffic flow and safety, beginning in 2007. It is recommended that the project team pay close attention to the design of access and the following major intersections: KY 49, Pottershop Loop, KY 245 and each interchange ramp terminal. The Comprehensive Plan Update 2007 calls for realigning the westernmost Pottershop Loop intersection with Springhill Drive. The project team may examine the use of a non-traversable median and the use of indirect-left turn movements for intersection controls to maximize safety and traffic flow.

In addition to the noted project, it is recommended that an access management standards overlay for this corridor be considered by the Planning Commission. These standards can be applied for new development and properties as they redevelop over time.

3.3 EXISTING LOCAL ROADWAY SYTEM (Local Implementation)

The following locations on the locally-maintained roadway system were identified through the needs identification process. For each location, an assessment of the conditions, issues and recommendations are included. The recommendations for each area are identified through underlining the text.

(16) North Fifth Street: Stephen Foster Ave. (US 31 E) to Templin Ave. (KY 1430)

Figure 23: North Fifth St Looking South

This is a local roadway that connects two primary state highways. This segment was identified as a problem because of speeding and a high number of vehicles using it to bypass North Third Street and the Courthouse Square area.

It is recommended that the City of Bardstown conduct a traffic and speed study to determine the exact nature of the problem and examine the potential use of traffic calming measures such as speed humps or bump-outs to minimize and mitigate the impacts of traffic. In addition, an examination of the schedules of the schools in the vicinity is prudent. For more explanation, see section 3.1.2, School Transportation.

(17) Spencer Mattingly Road

This is a narrow, two-lane road that serves as an important collector roadway, connecting two primary state highways, KY 605 and KY 245. Residential growth on KY 605 and east on US 62 along with commercial growth on KY 245 has resulted in increased usage of Spencer Mattingly Road. Also, there is potential for additional development along Spencer Mattingly that would generate traffic.

Figure 24: Spencer Mattingly Road Looking South

As traffic growth increases, it may be necessary to construct a minor widening to allow for adequate lane width and shoulders. Intersections should be upgraded with turning lanes or roundabouts to accommodate turning vehicles and maintain a safe corridor. With upgrades, Spencer Mattingly Road may help alleviate some of the traffic that funnels through the KY 245 and US 62 intersection.

3.4 NEW ROADWAY RECOMMENDATIONS (Local Implementation)

As mentioned previously in this report, roadway system connectivity is critical for several reasons. It provides a way to distribute traffic and minimize the number of vehicles on the most heavily traveled (state-maintained) arterials. It provides redundancy for emergency response. It also provides better connections for people to walk and bike for short trips. The following recommendations are a result of identifying areas where growth is occurring and where improved connectivity is needed. They were developed in cooperation with the Planning Commission staff and for the most part, complement the draft Comprehensive Plan Update 2007 proposed transportation projects. See Figure 8 for specific project locations.

(18) Connectors to John Rowan Boulevard (KY 245)

There are four connectors proposed in the Comprehensive Plan Update that could provide better vehicular and non-motorized connectivity, access to land development and distribution of traffic. The four are: extension of Ben Irvine Road (KY 2737); extension of Withrow & Nutter to Templin Avenue (KY 1430); Old Bloomfield Road (KY 162) connector; and extension of Culpepper Street to Springfield Road (US 150).

(19) NE Collector Road System

This network of roads is laid out to provide for connectivity to the areas that may grow on the north side of Bloomfield Road (US 62) and east and south of Old Bloomfield Road (KY 162). This will help alleviate demand and delay on the state highway system and provide safe multimodal connections. The roadway system should be designed and built through the local development process.

(20) NW Collector Road System

This network of roads is laid out to provide connectivity to the areas that may grow on the south side of West John Rowan Boulevard (KY 245) between Ben Irvine Road (KY 2737) and Old Nazareth Road (KY 332). This will help alleviate demand and delay on the state highway system and provide safe multimodal connections. The roadway system should be designed and built through the local development process.

(21) New County Industrial Park Access Road

This roadway is laid out to provide connectivity to the new industrial park and connect Woodlawn Road (KY 605) and Springfield Road (US 150). This will help alleviate demand and delay on the Bluegrass Parkway and provide safe multimodal connections. The roadway system has been designed and currently under construction.

(22) Filiatreau-Spencer Mattingly Connector Road

This roadway is laid out to provide connectivity between Filiatreau Lane and Spencer Mattingly Road, two important collector roads. The purpose is to alleviate demand and

delay on East John Rowan Boulevard (KY 245) and provide safe multimodal connections. The roadway system may be designed and built through the local development process.

(23) Fourth Street Extension to Frost Avenue

This roadway is laid out to provide improved connectivity in the downtown area and alleviate some of the traffic pressure on Templin Avenue (KY 1430). The roadway system will be designed and built through a local initiative. It is anticipated that this project would redirect some of the traffic from North Third Street (US 31E).

(24) Bypass

The bypass is actually a compilation of three separately proposed projects, the Southwest, Northwest and Northeast Bypasses. The purpose of these projects is to form important connections between the major arterials around town in order to expedite travel and alleviate congestion. The overall project is critical for two reasons. First, it will serve as another east-west connection in addition to the highly traveled John Rowan Boulevard (KY 245). It will also provide for an important bypass, removing traffic traveling through downtown from West Stephen Foster Avenue (US 62) to West John Rowan Boulevard (KY 245). Each bypass project has been identified and submitted to the Unscheduled Projects List. Each section was ranked in the top five local projects in the 2007 prioritization process.

Due to the state's current fiscal environment, it is unlikely that these projects will advance in the near future using state administered funds. To prepare for and accommodate such a project in the future, it is recommended that the local governments partner with KYTC to conduct an alternatives study to make recommendations for the corridors' future location. By recommending a location, local government can preserve the right-of-way by including the specific route location in the Comprehensive Plan and by only approving development that does not interfere with the future bypass location. This type of planning allows the minimization of unnecessary impacts to property owners and decreases potential project right-of-way costs. Without preservation of right-of-way, this project may become infeasible due to high costs.

3.5 SUMMARY OF RECOMMENDATIONS & PRIORITIZATION

In order to help prioritize the recommended projects, they were divided into three categories:

1. High Cost Construction
2. Low Cost Construction
3. Policies & Studies

On August 8, 2007, the project team presented the recommended projects to the Nelson County technical committee, elected officials and school district officials. We received feedback from individual members on how they ranked the relative importance of each project for each category. We did a consensus building exercise to determine the group's highest rated projects for each category. Finally, on August 17, 2007, the project team met to prioritize the projects. It must be stressed that projects rated lowest (with the highest number) does not necessarily reflect that they are bad or unimportant ; it may mean that there may be some large hurdles to implementing them, other projects were considered more important or sequentially, the project should follow others in the implementation process.

The following three tables contain the projects listed in order, as they were prioritized by the KYTC project team; see column labeled KYTC Rating. The next column to the right, titled Average Local Rating contains the average score, as compiled from the individual technical committee members voting sheets. Finally, the column labeled Group Consensus has the ranking that the technical committee members agreed to during the August 8 meeting.

Report Section	Route and/or Road/Street Name	Location	Recommended Improvement(s)	Responsible Entity(s)	Total Cost	Improve Mobility and Accessibility	Address Safety Concern	Reduce Congestion	Enhance Community	KYTC Rating	Average Local Rating	Group Consensus
3.2 (6)	US 31E (New Haven Road)	US 62 (West Stephen Foster Ave.)	Reconstruct intersection with roundabout or turn lanes & signal	City of Bardstown KYTC District 4	$1,200,000	X	X	X	X	1	3.5	
3.2 (8)	KY 1430 (Templin Ave.)	Entrance to Bardstown Primary School & Bardstown Early Childhood Center	Build left turn lane or roundabout	KYTC District 4 Bardstown City Schools	$225,000	X		X		2	1.9	1
3.2 (5)	US 31E (West Stephen Foster Avenue)	US 31E (New Haven Road) and US 150 (East Stephen Foster Ave.)	Change from four lanes to three lanes plus add median to restrict turns from side streets	KYTC District 4	$400,000	X	X	X		3	4.7	
3.2 (14)	US 62 (Bloomfield Road)	Intersection of KY 162	Realign KY 162; add left-turn lane on US 62; add right turn slip lane on US 62	KYTC District 4	$360,000		X			4	5.4	3
3.2 (11)	KY 245 (John Rowan Blvd.)	US 62 to Flaget Hospital	Non-traversable median & u-turns	KYTC District 4	$5,800,000	X	X	X		5	3.8	
3.2 (17)	Spencer Mattingly Rd.	KY 605 to KY 245	Minor widening & intersection improvements	City of Bardstown	$150,000	X	X	X	X	6	4.9	
3.2 (9)	KY 245 (John Rowan Blvd.)	Spencer Mattingly Road Intersection (interim)	Turning lanes; possible signal or roundabout	KYTC District 4	$600,000	X		X		7	3.8	2

Table 1: Higher Cost Construction Prioritized Project List

Report Section	Route and/or Road/Street Name	Location	Recommended Improvement(s)	Responsible Entity(s)	Total Cost	Improve Mobility and Accessibility	Address Safety Concern	Reduce Congestion	Enhance Community	KYTC Rating	Average Local Rating	Group Consensus
3.2 (4)	US 31E (North Third Street and US 150 (East Stephen Foster Ave.)	Courthouse Intersection	Conversion of traffic control to modern roundabout; remove parking in circle; improve crosswalk locations	KYTC District 4 Downtown Bardstown	$15,000	X	X		X	1	1.0	1
3.2 (4)	US 31E (North Third Street and US 150 (East Stephen Foster Ave.)	Courthouse Intersection	Add signage for parking	Downtown Bardstown	$1,000					1	2.6	1
3.2 (3)	US 31E (North Third Street)	KY 1430 (Templin Ave.) to KY 245	Restripe from 4-lanes to 3-lanes plus bicycle lanes	KYTC District 4	$18,000	X	X			2	3.2	2
3.2 (13)	US 62 (Bloomfield Road)	Wildcat Way	Add right turn lane	KYTC District 4	$20,000	X	X	X		3	3.9	3
3.3 (16)	North Fifth	US 31E (West Stephen Foster Ave.) to KY 1430 (Templin Ave.)	Traffic Calming Measures: Examine need, type and location for implementation	City of Bardstown	$20,000		X		X	4	5.5	
3.2 (1)	US 31E (North Third Street)	North of KY 245	Establish carpool & vanpool matching program: advertisement of program; create park & ride lot in existing parking lot;	KYTC District 4 KIPDA Ticket to Ride City of Bardstown	Minimal	X		X		5	6.1	
3.2 (11)	KY 245 (John Rowan Blvd.)	West of US 31E	Establish carpool & vanpool matching program: advertisement of program; create park & ride lot in existing parking lot;	KYTC District 4 KIPDA Ticket to Ride	Minimal	X		X		5	6.3	
3.2 (9)	KY 245 (John Rowan Blvd.)	Glenwood Drive Intersection (interim)	Turning lanes; possible signal or roundabout	KYTC District 4	$60,000	X		X		6	5.7	

Table 2: Lower Cost Construction Prioritized Project List

Report Section	Route and/or Road/Street Name	Location	Recommended Improvement(s)	Responsible Entity(s)	Total Cost	Improve Mobility and Accessibility	Address Safety Concern	Reduce Congestion	Enhance Community	KYTC Rating	Average Local Rating	Group Consensus
3.1.1	Various	Area-wide	Adopt Access Management Standards for US 31E, KY 245, US 150, US 62, KY 49, KY 605	Nelson County P&Z	$20,000	X	X	X		1	2.3	2
3.1.1	Various	Area-wide	Adopt Connectivity Standards	Nelson County P&Z	$5,000	X		X	X	2	4.3	3
3.1.4	Area-wide	Area-wide	Adequate Facilities Ordinance	Nelson County P&Z	$5,000	X	X	X	X	3	NR	NR
3.1.5 3.2 (5) 3.3 (16)	Various	Fifth Street, KY 1430 (Templin Avenue), US 31E (West Stephen Foster Avenue)	Improve school transportation routing and timing	Bardstown City Schools St. Joseph Schools	$10,000	X		X		4	5.4	
3.1.5 3.2 (13)	US 62 (Bloomfield Road)	Wildcat Way to KY 605 (Woodlawn Road)	Improve school transportation routing and timing	Nelson County Schools	$10,000	X	X	X		4	5.8	
3.4 (24)	Bypass	Bluegrass Parkway to US 62 (east side)	Planning study to develop alignment; Consider for Comp Plan and consider policy to preserve Right-of-way	Nelson County P&Z KYTC District 4	$100,000	X	X	X	X	5	5.2	1
3.4 (18)-(23)	Various	Various	Layout collector road locations for future development	Nelson County P&Z	$60,000	X		X	X	6	4.8	
3.2 (11)	KY 245 (John Rowan Blvd.)	Various locations between KY1430 to Flaget Hospital	Identify locations for backage/frontage roads where viable; consider through development process	Nelson County P&Z; Developers (with new development)	$50,000	X		X	X	7	6.2	
3.2 (1)	US31E (North Third Street)	KY 332 to KY 509	Plan to build backage road system	Nelson County P&Z; Developers (with new development)	$50,000	X		X	X	8	8.3	
3.1.7	Area-wide	Area-wide	Conduct Scenario Planning Study (land-use alternates plus traffic model analysis)		$70,000	X		X	X	9	6.0	4
3.1.5	NA	Area-wide	Create Bicycle & Pedestrian Network Plan	Nelson County P&Z	$30,000	X		X	X	10	8.0	
3.1.6	Various	Area-wide	Study Transit System Feasibility	City of Bardstown	$50,000	X			X	11	9.4	
3.2 (12)	US 150	Intersection of US 62	Removal of parked cars that inhibit sight distance	KYTC District 4	$0		X			12	10.4	

Table 3: Policies and Studies Prioritized List

4.0 Contacts

If additional information is needed regarding this study, the following persons may be contacted:

Daryl Greer, P.E.	Director, Division of Planning
Steve Ross, P.E.	Branch Manager, Division of Planning
Jimmy Wilson, P.E.	Team Leader, Division of Planning
Brent A. Sweger, P.E.	Study Project Manager, Division of Planning

The following address and phone number can be used to contact the staff listed above:

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Transportation Office Building
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You can also find additional information on the Division of Planning's website:

www.planning.kytc.ky.gov