

# Maysville Urban Area 2025 Transportation Study

December 2003



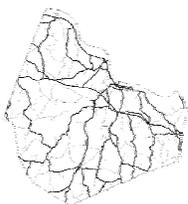
Prepared for:  
*Kentucky Transportation Cabinet  
Multimodal Programs*

Prepared by:  
*HNTB Corporation*



# TABLE OF CONTENTS

<b>Executive Summary .....</b>	<b>ES-1</b>
<b>1.0 Introduction .....</b>	<b>1-1</b>
1.1 Background.....	1-1
1.2 Study Area .....	1-2
1.3 Study Scope.....	1-2
1.4 Public Involvement Process .....	1-3
<b>2.0 Analysis of Existing Conditions.....</b>	<b>2-1</b>
2.1 Roadway System .....	2-1
2.2 Traffic Analysis.....	2-3
2.3 Crash Analysis.....	2-4
2.4 Future Projects.....	2-5
<b>3.0 Travel Demand Forecasting Model .....</b>	<b>3-1</b>
3.1 Socio-economic Data .....	3-1
3.2 Projected Growth.....	3-1
3.3 Traffic Model Development.....	3-3
3.4 Traffic Model Results .....	3-3
<b>4.0 Recommendations .....</b>	<b>4-1</b>
4.1 Roadway Operational Improvements .....	4-1
4.2 Capital Improvements.....	4-7
4.3 Prioritizing Improvement Projects .....	4-16



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# TABLE OF CONTENTS

## List of Figures:

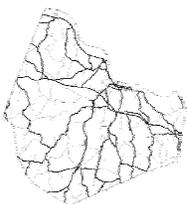
Figure ES-1 – Maysville Transportation Plan Study Area ..... ES-2  
Figure 1 – Maysville Transportation Plan Study Area ..... 1-2

## List of Tables:

Table ES-1 – Transportation Study Work Group Members ..... ES-1  
Table ES-2 – Transportation Infrastructure Improvement Projects ..... ES-3  
Table 1 – Transportation Study Work Group Members ..... 1-3  
Table 2 – Primary Roadways in the Maysville Urban Area Plan ..... 2-3  
Table 3 – Crash Frequency and Location ..... 2-5  
Table 4 – Committed Roadway Improvement Projects for Mason County ..... 2-7  
Table 5 – Population Statistics for Mason County ..... 3-2  
Table 6 - V/C Ratio Values Used for Levels of Service ..... 3-4  
Table 7 – Summary of Improvement Project Prioritization Rankings ..... 4-17  
Table 8 – Capital Roadway Improvement Projects ..... 4-18

## Appendices:

- Appendix A – Public & Official Meeting Summaries
- Appendix B – Exhibits
- Appendix C – Transportation Analysis Zone Tabulated Data
- Appendix D – Full Ranking Results



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# EXECUTIVE SUMMARY

In 2002, the Kentucky Transportation Cabinet (KYTC), Division of Multimodal Programs initiated a study to examine current and future transportation conditions in the Maysville Urban Area. HNTB Corporation was selected to prepare this study and to facilitate involvement of a project team consisting of representatives from the KYTC, the Buffalo Trace Area Development District, local elected officials and area stakeholders.

Inclusion of local stakeholders throughout the study process was achieved with the creation of a Transportation Study Work Group (TSWG) in September 2002. **Table ES-1** lists the members of the TSWG, and their affiliations. During the course of the study two public meetings were held to first solicit input into the study process, and later to obtain comments on the proposed projects.

**Table ES-1 – Transportation Study Work Group Members**

TSWG Member	Affiliation
David W. Carmell	Mayor, City of Maysville
James L. "Buddy" Gallenstein	Judge Executive, Mason County
Mike Denham	State Representative
Amy Kennedy	Buffalo Trace Area Development District
Sam Baker	City Engineer, City of Maysville
Mark Brandt	Codes Enforcement Officer
Romie R. Griffey	Comptroller
Duff Giffen	Main Street Manager/Renaissance Coordinator
Deanna Harris	KYTC District 9
Wayne McCleese	KYTC District 9
Gene Weaver	Executive Director, Industrial Authority
Melony Furby	Director, Maysville-Mason Co. Chamber of Commerce
Tom Hendrickson	Chairman, Maysville Renaissance Committee
Barbara Campbell	Maysville Community College
Mr. John Brannen	Resident
Barry House	KYTC Division of Multimodal Programs

As a part of this study, HNTB created a base year (2002) transportation model, using current socio-economic data, and a future year (2025) transportation model. **Figure ES-1** shows Mason County and surrounding areas, with the Maysville Transportation Study Area highlighted. A more detailed explanation of how the base model was developed and calibrated and how the future year model was developed is outlined in the HNTB report, *The Maysville Model Organization and Calibration Report*, submitted under separate cover.

Present day crash analysis shows there are no locations in the study area that have an abnormally high crash rate. It was not deemed necessary to calculate Critical Rate Factors

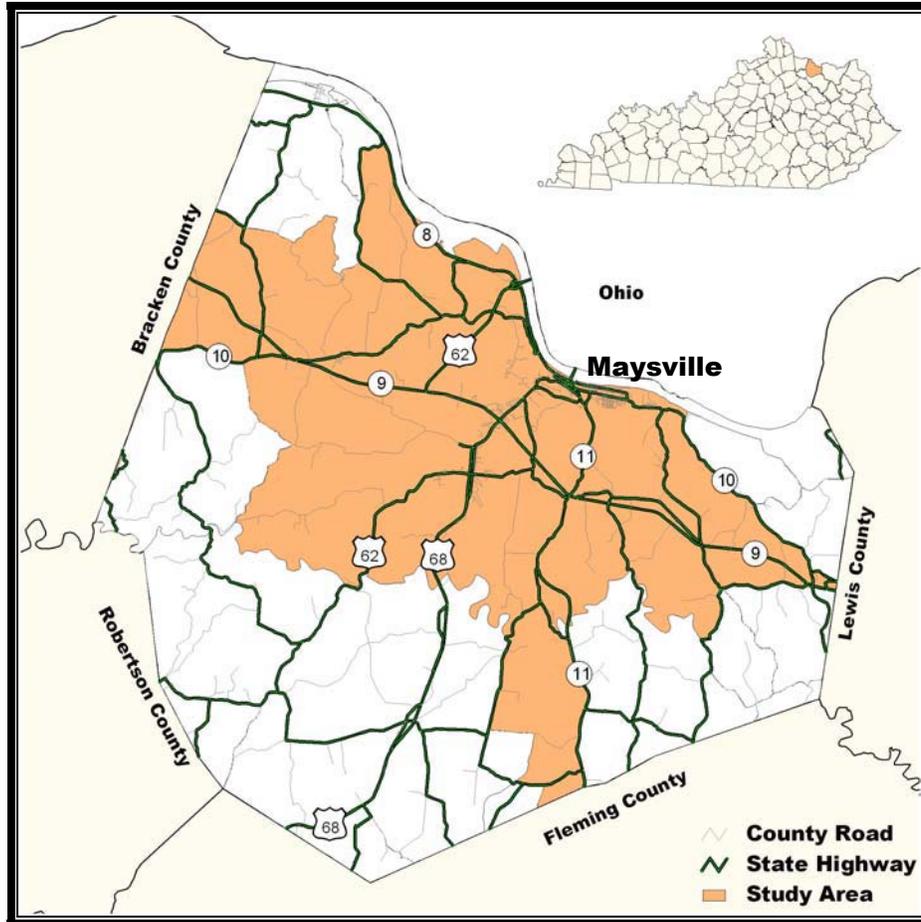


## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



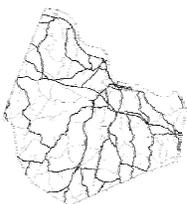
# EXECUTIVE SUMMARY

(CRF), as the highest crash location had only 17 crashes per year from 1997-2002, with all other locations at or below 11 crashes per year. The current year (2002) transportation model shows that all roadway corridors in the study area operate at or above a Level of Service (LOS) C. However, more detailed capacity analysis shows that the intersection of US 62 and KY 9 operates at a LOS E. The future year (2025) model shows increasing traffic volumes, with the highest congestion, LOS D, occurring along the main thoroughfares. As might be expected, the intersection LOS at US 62 and KY 9 deteriorates to a LOS F in the future projection.



**Figure ES-1 – Maysville Transportation Plan Study Area**

The conclusion of the study was the development of recommended improvements to the Maysville Urban Area transportation infrastructure. These improvement projects were evaluated by how each project would improve safety, increase capacity, provide access to future developments, be fiscally responsible, provide pedestrian/cyclist access, enhance connectivity with the surrounding region, preserve or enhance existing land uses, and



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN

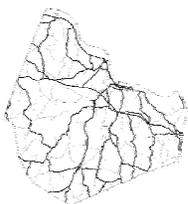


# EXECUTIVE SUMMARY

provide economic development opportunities. **Figure 9** in **Appendix B** shows the improvement locations. A summary of the projects (prioritized through the study process) and their respective cost estimates are listed in **Table ES-2**.

**Table ES-2 – Transportation Infrastructure Improvement Projects**

<b>Project Description</b>	<b>Cost Estimate (in millions)</b>
1. Widen KY 9 from KY 10 to Bracken Co.	\$20.30
2. Maple Leaf Road Improvements	\$5.37
3. Widen KY 9 from Lewis Co. to KY 11	\$43.75
4. US 62/68 and KY 9 Intersection	\$1.20
5. Deceleration Lane at Hospital Entrance	\$0.17
6. KY 8 Stabilization Improvements	\$2.87
7. Widen KY 11 from Fleming Co. to KY 9	\$51.88
8. Realign US 62X and KY 10 Intersection	\$1.15



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 1.0 INTRODUCTION

*The 2025 Maysville Urban Area Transportation Plan was initiated and sponsored by the Kentucky Transportation Cabinet (KYTC) to analyze the existing transportation facilities in Mason County, and to develop a plan that will serve as a guide in identifying and programming future transportation projects for the community.*

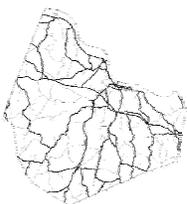
## 1.1 Background

Small urban area plans are generally conducted for areas with populations in the range of 15,000 to 50,000, and have four basic components:

1. Identify existing traffic problems, both in terms of safety and congestion.
2. Identify how population and employment will grow in the future (usually 20 to 25 years).
3. Identify future transportation needs associated with the predicted growth.
4. Develop a transportation improvement plan that addresses the community's mobility needs.

With a population of approximately 16,700 (2000 Census), Mason County is the 65th largest county in Kentucky. There are numerous industries in the county, including manufacturing, mining, agriculture and power generation. There are three (3) primary highway routes through Mason County: KY 9, US 68 and US 62. The business route, US 62X, travels through downtown Maysville.

The central business district (CBD) of Maysville, located on the banks of the Ohio River, is a typical small urban business district, with one-way and narrow streets, parking concerns, pedestrian traffic, and delivery truck traffic. It serves local businesses, government and civic institutions. In addition, downtown Maysville and its riverfront provide residential and recreational opportunities for the community. Though there has not been a formal zoning/districting plan developed for Mason County, the Maysville Renaissance Committee has written a report covering the downtown area. The primary objective of this study was to improve vehicular traffic flow on the downtown area street system, while maintaining and/or enhancing the existing CBD. According to the report, the existing street system downtown would basically remain intact. A few of the streets currently operating as one-way pairs would be converted to traditional two-way streets, improving access to downtown destinations. All changes that were proposed by the Renaissance Committee report are integrated into the future projections for the Maysville Urban Area Transportation Plan.



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 1.0 INTRODUCTION

## 1.2 Study Area

The Kentucky Transportation Cabinet (KYTC) and the Buffalo Trace Area Development District (BTADD) both provided input in the definition of the study area. A priority, or focus, area was established as the Maysville Urban Study Area, reflecting growth in Mason County. This area includes the incorporated city of Maysville, as well as areas beyond the city limits that typically follow the corridors of KY 9 in the east-west direction, and US 62, US 68 and KY 11 in the north-south direction. The study area is shown in the figure below.

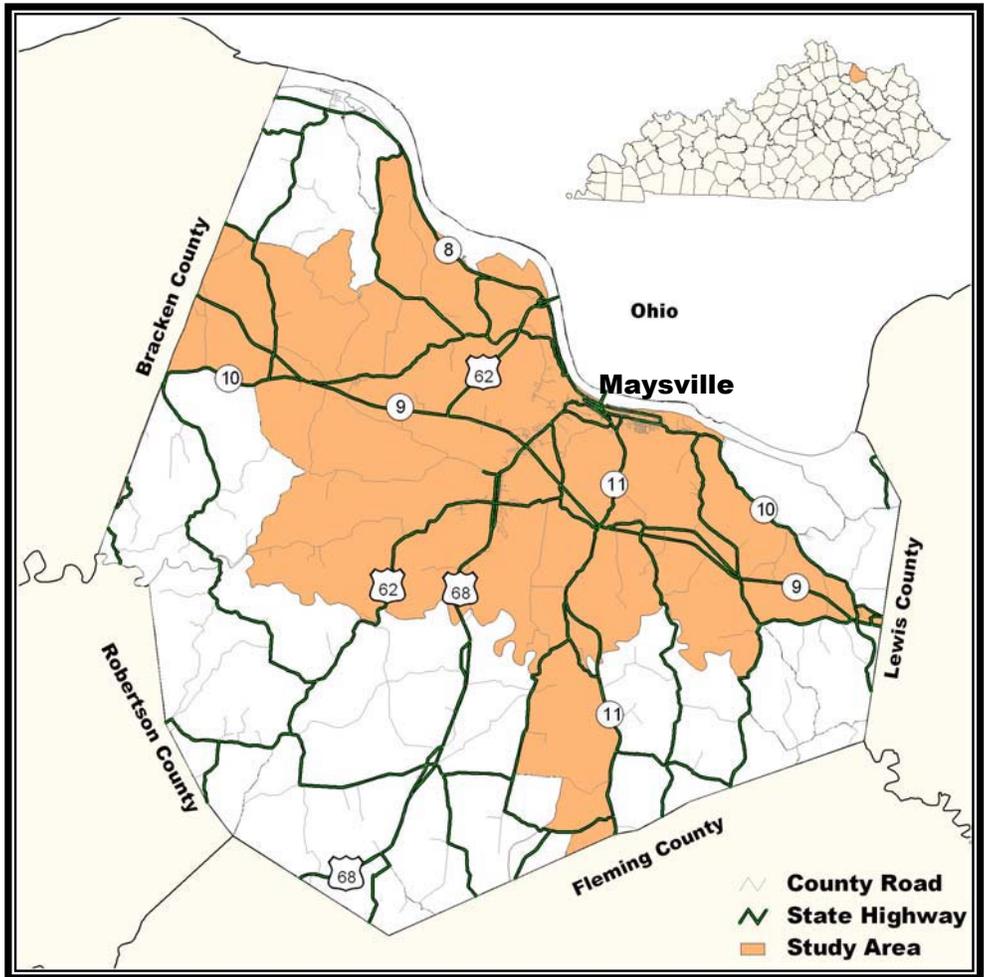


Figure 1 - Maysville Transportation Plan Study Area

## 1.3 Study Scope

The Maysville Urban Area Transportation Plan has been prepared with the assistance of elected officials from the City of Maysville and Mason County, community leaders, the



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 1.0 INTRODUCTION

Buffalo Trace Area Development District (BTADD), the KYTC Division of Multimodal Programs, and KYTC District 9 staff in accordance with federal and state guidelines. The plan examines land development patterns in the area and their effects on the existing and future transportation system. A transportation model was developed to analyze the capacity of existing transportation facilities. It also was used to forecast the effects of population changes and development patterns on the future year (2025) transportation system. In addition, existing transportation conditions have been analyzed in terms of both safety and operational characteristics. As a result of the analysis of these characteristics, the plan recommends a list of transportation projects (both Operational and Capital Improvements) to address existing and 2025 transportation needs for the Maysville Urban Area.

## 1.4 Public Involvement Process

A constructive public involvement process was established at the outset of the study to ensure that the results of this planning effort would reflect local consensus on the identification and prioritization of need for highway improvements within the area. To develop the Maysville Urban Area Transportation Plan, a Transportation Study Work Group (TSWG) was formed including government officials, businesses and development personnel, and the Maysville Renaissance Committee. The TSWG met several times throughout the course of the study to identify issues affecting Maysville and to provide input in the development of recommendations, including definition of a project priority list. The individual members of the TSWG are listed in **Table 1**.

**Table 1 – Transportation Study Work Group Members**

<b>TSWG Member</b>	<b>Affiliation</b>
David W. Carmell	Mayor, City of Maysville
James L. "Buddy" Gallenstein	Judge Executive, Mason County
Mike Denham	State Representative
Amy Kennedy	Buffalo Trace Area Development District
Sam Baker	City Engineer, City of Maysville
Mark Brandt	Codes Enforcement Officer
Romie R. Griffey	Comptroller
Duff Giffen	Main Street Manager/Renaissance Coordinator
Deanna Harris	KYTC District 9
Wayne McCleese	KYTC District 9
Gene Weaver	Executive Director, Industrial Authority
Melony Furby	Director, Maysville-Mason Co. Chamber of Commerce
Tom Hendrickson	Chairman, Maysville Renaissance Committee
Barbara Campbell	Maysville Community College
John Brannen	Resident
Barry House	KYTC Division of Multimodal Programs



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 1.0 INTRODUCTION

---

Two public general informational sessions were also held to seek input on the needs and priorities of the recommended transportation projects. These meetings were conducted at the Maysville Community College and at the Wal-Mart shopping center in Maysville. Advertisement with the local paper, radio announcements, and information distribution to local churches, schools and other organizations, was carried out to ensure public knowledge of these events, and to increase participation within the community. The summaries of the Transportation Study Working Group meetings and General Public meetings are included in **Appendix A**.



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



## 2.0 ANALYSIS OF EXISTING CONDITIONS

*An understanding of the existing transportation system in Mason County was central to the development of the Maysville Urban Area Transportation Plan. Data collection and analyses were completed to determine the existing and proposed street systems, the volumes and levels of services on the existing routes, and the number of crashes occurring throughout the system. Each of these items is discussed in detail in the following sections.*

### 2.1 Roadway System

Downtown Maysville has developed where three major routes (US 62X, KY 8, and KY 11) meet near the Ohio River, approximately 45 miles from the nearest interstate system. Many other state routes, collector streets and local roads make up the remainder of the system. To understand the role of these various types of facilities, a hierarchy of functional classifications is used. The Functional Class System, as determined by the Federal Highway Administration (FHWA), includes the following categories of roadways. The miles of each classification within the Study Area are indicated parenthetically.

- **Urban Principal Arterial (16.1 miles)** – Serves the majority of travel in an urban area mainly due to more lanes of travel, and provides connections with the majority of rural arterials entering the urban area. Carries the majority of travelers in and out of the metropolitan center, as well as carrying through-travelers attempting to avoid the other urban street systems.
- **Urban Minor Arterial (11.8 miles)** – Interconnects with the principal urban arterial system and provides congestion relief to the higher system. Carries local bus routes and high traffic, and supplies connectivity in the local community; but does not penetrate individual neighborhoods.
- **Urban Collector (10.1 miles)** – Collects and distributes traffic from residential and business areas to the arterials. Differs from the arterial system in terms of traffic volume and use. A common example of a system of urban collectors is a city street grid.
- **Urban Local** – Contains all urban roadways not included in the classification of one of the higher systems. Offers lowest level of mobility, and serves mainly to provide direct access to higher order systems.
- **Rural Principal Arterial (25.9 miles)** – Serves the majority of travel in a rural area and almost all of the through trips. Connects major and minor cities, as well as other high-traffic generators.
- **Rural Minor Arterial (8.5 miles)** – Provides lower levels of travel mobility and connects rural principal arterial system with high-density population centers. Strategically placed to maximize access by the regional population.



### MAYSVILLE URBAN AREA TRANSPORTATION PLAN



## 2.0 ANALYSIS OF EXISTING CONDITIONS

- **Rural Major Collector (42.1 miles)** – Collects and distributes traffic from rural residential and in some cases business (manufacturing) areas to the rural arterial system. Provides access to the larger towns bypassed by the higher systems, and to other traffic generators of equal intracounty importance, such as consolidated schools, shipping points, county parks, important mining and agricultural areas, etcetera.
- **Rural Minor Collector (48.9 miles)** – Collects and distributes traffic the same way as a rural major collector but with less mobility and greater land access. Should be interspersed proportionate to the population density in order to provide access to the higher systems for everybody.
- **Local Road** – Provides full land access with low mobility.

**Table 2** lists the primary roadways in the Study Area. As noted previously, the predominant highway routes in Mason County are KY 9 (AA Highway), US 68 and US 62. KY 9 is the most heavily traveled corridor in Mason County and has a major impact on the regional economy as it carries commuter and commercial vehicles to and from nearby counties and to the Cincinnati metropolitan area. US 68, running from south Mason County to downtown Maysville, carries a substantial volume of traffic to neighboring counties and serves as the primary link to the Lexington metropolitan area. Near the historic town of Washington, US 62 merges with US 68 and continues northward to KY 9. At this point, US 62 joins KY 9 northwest-bound, until it departs northward toward the William Harsha Bridge. US 62X, formerly US 62, carries traffic from the US 62/KY 9 intersection northward through downtown Maysville, and to the Simon Kenton Memorial Bridge.

The functional classifications of the roads discussed above, as well as all other arterials and collectors in Mason County, are shown in **Appendix B, Figure 1**.



### MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 2.0 ANALYSIS OF EXISTING CONDITIONS

**Table 2 – Primary Roadways in the Maysville Urban Area Plan<sup>1</sup>**

Official Signage	Functional Classification	Begin MP	End MP
<b>US 62</b>	Rural Major Collector	0	11.589
	Urban Minor Arterial	11.589	12.672
	Urban Principal Arterial	12.672	17.456
	Urban & Rural Principal Arterial	17.456	20.71
<b>US 68</b>	Rural Principal Arterial	0	10.359
	Urban Principal Arterial	10.359	11.854
<b>KY 8</b>	Rural Major Collector	0	7.653
	Urban Minor Arterial	7.653	12.33
<b>KY 9</b>	Rural Principal Arterial	0	7.564
	Urban Principal Arterial	7.564	10.256
	Rural Principal Arterial	10.256	17.402
<b>KY 10</b>	Rural Major Collector	0	3.846
	Urban Minor Arterial	3.846	6.075
	Rural Major Collector	6.075	12.437
	Rural Local	12.437	13.261
<b>KY 11</b>	Rural Minor Arterial	0	8.452
	Urban Minor Arterial	8.452	11.225

<sup>1</sup>All information obtained from the KYTC Highway Information System (HIS) website.

## 2.2 Traffic Analysis

The analysis of existing traffic conditions encompasses the average daily traffic (ADT), current roadway capacity, posted speed limit, and the physical characteristics of the roadway. These factors are used to calculate the Level of Service (LOS) for each particular segment of roadway.

Level of Service (LOS) is an alphabetic representation of the traffic congestion on a roadway segment. LOS A results in a completely free-flowing roadway, and is most desirable for a roadway segment. LOS B is slightly more congested, but is still considered desirable. LOS C comes next, with acceptable levels of congestion. LOS D indicates moderate congestion for the roadway segment, primarily occurring during rush hour traffic. LOS E describes a roadway segment that may experience congestion at any portion of the day, and high congestion during rush hour traffic. Finally, LOS F roadway segments experience severe congestion and gridlock at potentially any time of the day.

Existing daily traffic volumes for Mason County were obtained from the KYTC CTS database, and are shown in **Appendix B, Figure 2**. Supplemental traffic counts were performed at



## 2.0 ANALYSIS OF EXISTING CONDITIONS

locations that had not been updated since the year 2000. The traffic volume data was presented to the Transportation Study Working Group (TSWG) at the first meeting on September 17<sup>th</sup>, 2002. The locations and results of the supplemental traffic volumes can be viewed in **Appendix B, Figure 3**.

The LOS values for the existing transportation system were determined from the Traffic Model, as described in **Chapter 3**. It should be noted that roadway segments adjacent to the County Line have been adjusted to more accurately display the existing LOS of those segments. Briefly, the anomalies of the border segments come from a known limitation in the modeling software as it assigns traffic volumes from external zones (outside Mason County) to internal zones (inside Mason County), and therefore those roadway segments must be corrected to reflect the actual LOS encountered. Additionally, the LOS at the intersection of US 62 and KY 9 was calculated using HCS2000 software. This methodology is more clearly defined in Chapter 3.

With one exception, roadways in the study area are currently operating with adequate capacity and have an acceptable level of service. The one exception is the intersection of US68/62 and KY 9, where the LOS is E. This represents occasional congestion, especially during the peak hours.

A summary map showing the LOS values for Maysville and Mason County is shown in **Appendix B, Figure 4**.

### 2.3 Crash Analysis

Crash data was obtained from the KYTC Highway Information System (HIS), and accident report data was provided by the City of Maysville Police Department. Information was compiled and analyzed for all state maintained roadways in Mason County. Crash frequency, or number of crashes per year at a particular location, was determined. This information showed that the crash frequency in the study area is highest at the intersection with the highest volume of traffic, KY 9 and US 62, with 17 crashes per year on one approach, and 11 crashes per year on another. In all other locations in the study area, segments experience no more than seven crashes per year.

Typically, crash rates would be calculated by using Critical Rate Factors (CRF), which correlates the number of crashes to the vehicle miles traveled for a particular roadway segment. However, for the Maysville Urban Area, it was established early in the process that there are no apparent areas with high CRF values. Therefore, the crash rates were aggregated by average accidents per Calendar Year by location, in order to give a relative, local sense of where crashes are more likely to occur. The nine highest crash locations are listed in **Table 3**, and are shown in **Appendix B, Figure 5**.



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 2.0 ANALYSIS OF EXISTING CONDITIONS

**Table 3 – Crash Frequency and Location**

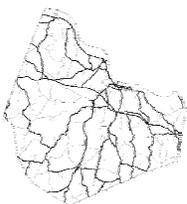
<b>Crashes per Year</b>	<b>Location Description</b>
17	US 62/68 southwest of KY 9
11	US 62/68 and KY 9 intersection
7	KY 11 and KY 9 intersection
5	US 62X northeast of KY 9
5	US 62X north of Chenault Drive
5	US 62X southwest of Jersey Ridge Road
5	KY 8 (West 2nd Street) west of Wall Street
5	KY 8 (Wall Street) south of West 2nd Street
5	KY 8 (West 3rd Street) east of Market Street

The TSWG indicated additional locations that, although not statistically high crash rate areas, historically have a public perception of incurring high crash rates. These locations are listed below, and are also shown in **Appendix B, Figure 5**.

- KY 9, eastern-most entrance to the Meadowview Regional Medical Center. This intersection was indicated due to the differential traffic speeds on KY 9, and the lack of a turn-lane for the hospital.
- Tucker Drive at US 62, vehicles turning left from Tucker Drive onto US 62 currently must cross two lanes of traffic, a middle turn lane, and then merge into two lanes of traffic.
- US 62X/KY 10/KY 8 intersection, gateway to downtown. Roadway geometry (approximately 135 degree angle intersection), along with the physical features of the area (Ohio River inlets, railroad tracks and a concrete plant with rock quarry), prevent the intersection from operating in an efficient manner.
- KY 9, at new Wal-Mart shopping center. KY 9 is a 4-lane facility, with traffic volumes approaching 25,000 vehicles per day.

## 2.4 Future Roadway Improvement Projects

Future committed roadway projects were identified in the Kentucky Transportation Cabinet’s *2003-2008 Six Year Highway Plan (SYP)*. For future year (2025) transportation system analysis, it is assumed that the following projects will be constructed:



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



## 2.0 ANALYSIS OF EXISTING CONDITIONS

- Construction of a new route from US 68 near Washington east to KY 11 and the AA Highway.
- Relocation of US 68 from one mile south of Washington to the AA Highway, opposite the new Maysville bridge.
- Construction of a new connector road between KY 10 and the AA Highway, approximately 1.21 miles east of Plumville.
- Widening of the AA Highway to 4 lanes from the new Maysville bridge approach intersection (US 62) west to KY 10.

In addition to the projects listed above, KYTC recently completed a study on a new interstate in the Maysville Urban Area. The Northern Kentucky Outer Loop (I-74) corridor potentially traverses from Carroll/Gallatin County near the Markland Dam, east across northern Kentucky to Mason County, near the William H. Harsha Bridge. It would then continue north into Ohio. This interstate facility is in the early planning stages, therefore the construction and operation of this facility will most likely not occur before 2025. As a result, I-74 was not incorporated into the future transportation system analysis.

Project documentation from the 2003-2008 SYP and a location map are shown in **Table 4** and in **Appendix B, Figure 6** respectively. It should be noted that all of these projects are in the design phase, and that construction funds have been tentatively scheduled for all except the widening of KY 9. Construction of most of these projects is anticipated to be completed or underway by 2008.

In addition to the committed state highway improvement plans for Mason County, there is one scheduled roadway improvement project by the City of Maysville. This is a continuation of Tucker Drive behind the existing Wal-Mart/Kroger shopping center complex, to the vicinity of the new Wal-Mart shopping center, and terminating on KY 9. This route is also shown on **Figure 6** in **Appendix B**.

Finally, not included in **Table 4**, are several bridge rehabilitation and replacement projects. The locations of these projects are shown in **Appendix B, Figure 6**. It was not necessary to include these improvement projects in the transportation system analysis, because these do not increase or decrease the capacity of the bridges, and thus do not impact this planning study.



### MAYSVILLE URBAN AREA TRANSPORTATION PLAN

# 2.0 ANALYSIS OF EXISTING CONDITIONS

**Table 4 – Committed Roadway Improvement Projects for Mason County**

Funding Year	Item No.	Route	Length	Description
2002	09-108.00	US 62X	.500	Make major and superstructure deck repairs, power washing, and painting the Simon Kenton Memorial Bridge carrying US 62 over the Ohio River between Maysville, KY and Aberdeen, OH.
2004	09-124.01	US-68	3.800	Paris-Maysville; Relocate US-68 from 1 mile S. of Washington to the AA Highway opposite new Maysville Bridge approach.
2002	09-145.00	-	.900	Construct new connector between KY-10 and the AA Highway approx. 1.21 miles east of Plumville.
2008	09-147.11	US-68	3.200	New route from US 68 near Washington east to KY 11 and the AA Highway (extension of 9-124.00).
"Not Scheduled"	09-169.00	KY 9	3.500	Widen the AA Highway to 4-lanes from the new Maysville Bridge approach intersection west to KY 10.
2004	09-1009.00	KY 3113	.100	Construct a new bridge over Lee Creek to reroute traffic from the historic covered bridge.
2004	09-1046.00	CR 1230	.100	Replace Bridge and approaches at Shannon Creek 0.6 miles SW of KY 596



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



## 3.0 TRAVEL DEMAND FORECAST MODEL

*A county-wide transportation model was developed for Mason County. This model encompasses the state maintained transportation system in the county and the socio-economic data for the county. With this model, an understanding of how the existing roadway network will function in the future can be formed. This allows planners to "look ahead" to see what transportation needs may be necessary to ensure the area will maintain an adequate and efficient transportation system.*

### 3.1 Socio-economic Data

A number of factors affect the travel frequency and destination choice of drivers, such as land use development patterns, mode availability, trip purpose and perceived travel costs. Socio-economic data is a tool for identifying the travel patterns of the driving public. Socio-economic data was organized according to Transportation Analysis Zones (TAZs) compiled by KYTC & BTADD. Population and housing data was provided at a block level from the U.S. Bureau of the Census. The 2002 employment data was provided by the Department of Employment Services for Mason County. This data was then aggregated to 103 TAZs encompassing all of Mason County – each TAZ containing unique socio-economic data (see **Appendix C**). The socio-economic data utilized within the model, includes the following elements:

- Population
- Households
- Dwelling Units
- Retail Employment
- Non-Retail Employment

### 3.2 Projected Growth

The combination of existing traffic volumes and socio-economic data provided the basis for the model calibrating parameters. Using the latest US Census Bureau figures, Mason County's population was estimated at 16,606 persons for the year 2002. This figure was used as the base to project Future Year (2025) population changes. Two sources were utilized to forecast the 2025 population, the Maysville & Mason County Comprehensive Plan and the Kentucky State Data Center.

First, the Maysville & Mason County Comprehensive Plan estimates an annual population growth factor of 0.9%, for the next 25 years. The county's population will grow from 16,606 to 21,000, representing an approximate increase of 25% in the next 25 years. Second, the Kentucky Data Center, which performs population forecasts by county for all counties in Kentucky, projects no increase in population. In fact, a slight loss of around 450 people in the next 25 years is projected.

Because of the large difference between the two projected populations, a meeting with local planning officials, representatives of the local chamber of commerce, and elected officials



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 3.0 TRAVEL DEMAND FORECAST MODEL

was convened to refine the population estimates. It was agreed that an approximate median between the Kentucky Data Center and the existing Comprehensive Plan would make a reasonable target population for the purposes of the transportation plan development.

All areas in Mason County where new housing units are to be built, along with the number of new housing units was identified. These areas were assigned to Traffic Analysis Zones (TAZ). After the increase in housing units for each TAZ was identified, the existing average vacancy rate, as well as the average population per housing unit, was calculated for each TAZ.

It was assumed future housing vacancy rates and population per housing unit relationships will remain constant in each TAZ. By taking these percentages, and applying them to the increase in housing units, the population forecast for each TAZ was calculated.

A total population growth was calculated by summing the individual TAZ growths. As shown in Table 2, this method estimates a population forecast between the Comprehensive Plan and the KY Data Center projections. It was agreed that this population forecast is the most reasonable forecast for the county, and would be used in the future transportation model. (See **Table 5** for summary).

**Table 5 – Population Statistics for Mason County**

Year	Sources	Population	Annual Growth
<b>2002</b>	Existing	16,606	N/A
<b>Forecasted (2025)</b>	Comprehensive Plan	21,000	1.02%
	KY Data Center	16,362	(-0.06%)
	<b>Revised Model</b>	<b>18,894</b>	<b>0.56 %</b>

Next is the identification of areas that will be developed for further employment opportunities. To determine the approximate increase in employment levels for each new business type identified by the local officials, the average employees for that particular industrial classification for Mason County was used. For example, the average number of employees at medical offices in Maysville applied for each proposed new medical office.

The largest percentage increases in population and employment from 2002 to 2025 occur in central and western Mason County as shown in **Appendix B, Figure 7**, and tabulated in **Appendix C**. The major increases in employment occur in TAZ 47, with an increase of 1500 non-retail jobs (planned industrial park), TAZ 44 with an increase of 450 jobs (Super



## 3.0 TRAVEL DEMAND FORECAST MODEL

Wal-Mart) and TAZ 29 with an increase of 120 jobs. The only decrease is in TAZ 37, which is projected to lose 237 jobs (Wal-Mart relocation).

It is important to note that a large percent increase in population and/or employment does not necessarily translate to a large numerical increase of the population and/or employment. For example, a zone may show an employment increase of 200%, yet the actual numerical increase may go from 6 employees (2002) to 18 employees (2025).

### 3.3 Traffic Model Development

The software package TransCAD version 4.5 was used to develop the base transportation model for the Year 2002 and Future Year 2025. TransCAD's purpose is to analyze how the current and future roadway system will be utilized, based on socio-economic data. The model identifies how transportation systems will be affected with the future changes in land use and the intensity and pattern of development in a given geographical boundary.

The socio-economic data for the 103 different TAZs provided the foundation to estimate trip productions and attractions within Mason County. External stations were another geographical unit used in modeling. External stations load trips onto the study network that originate from or are destined to locations outside the study area. **Appendix B, Figure 7** shows the locations of the external stations used the Maysville model.

The model roadway network included the functionally classified roads within Mason County. Local roads were not included in the model network. The roadway network contains several attributes: length of the segment, vehicular capacity, posted speed limits, roadway functional class and existing daily traffic volumes.

*The Maysville Model Organization and Calibration Report*, submitted under separate cover, documents the Mason County travel demand model. The report includes a summary of parameters to replicate existing travel patterns.

### 3.4 Traffic Model Results

The 2002 model was calibrated to existing traffic volumes before a projected model could be created. This is to ensure the base year computer model accurately represents existing on-site conditions. Once the future year model was created, potential deficiencies in the transportation network could be identified using Level of Service (LOS), a method that relates traffic flow with a corresponding letter grade (discussed in further detail in **Section 2.2**). The future model uses the base year 2002 model, with the addition of future socio-economic data and future committed roadway projects.

The TransCAD model identifies the Level of Service (LOS) on each roadway segment by using a Volume to Capacity (V/C) ratio. This is a numerical quantification similar to the



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 3.0 TRAVEL DEMAND FORECAST MODEL

alphabetic LOS method discussed previously. The Highway Capacity Manual gives the correlation between the two, and is reproduced in **Table 6**.

**Table 6 - V/C Ratio Values Used for Levels of Service**

Level of Service	Volume/Capacity Ratio
LOS A-C	0.00 – 0.67
LOS D	0.68 – 0.87
LOS E	0.88 – 1.00
LOS F	1.00+

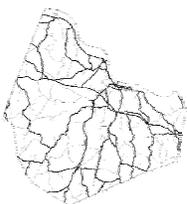
The model developed to identify future (2025) capacity considered the following elements:

- Capacity of the transportation system
- Projected volumes based on future development and population forecasts
- Input from local agencies and the transportation work group
- 2003-2008 SYP projects that will be constructed by 2025

The resulting LOS values for Mason County show there are no significant new roadway capacity problems forecasted for 2025. This was primarily due to the fact that most of the existing roads are already operating at a LOS of C or better. By 2025, all roadways in Mason County are projected to operate at a Level of Service D or better, except for one short segment of US 62X in front of the Maysville City Police Department and the US 62/KY 9 intersection which are forecasted to be LOS E and F, respectively.

With the recent opening of the William Harsha Bridge, a traffic pattern switch has occurred. Prior to this bridge opening, the primary route to southern Ohio was US 62X into the CBD of Maysville, and then across the river. The traffic pattern shift from this route to US 62 and the William Harsha Bridge will most likely result in the stabilization, or even improvement, of the US 62X Level of Service.

Another segment of roadway that is anticipated to improve is KY 9. One segment of the roadway from US 62 to KY 10 is currently experiencing an LOS of D, but will improve due to a planned widening project scheduled for right of way purchasing in 2007. This project, six other committed projects from the KYTC's 2003-2008 Six Year Plan and one City of Maysville project are discussed in **Section 2.4** and shown on **Figure 6**. Implementation of these committed projects will prevent significant, future declines in LOS. In fact, improvements in LOS are expected in several locations. **Figure 8** in **Appendix B** is a graphical representation of the LOS results for the county for the 2025 transportation model.



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 4.0 RECOMMENDATIONS

*Factors such as economic growth opportunities and enhancement of facility functionality were considered in the development of roadway improvement alternatives, because the transportation forecasting did not indicate areas of significant roadway capacity problems. The recommendations were divided into two categories, Roadway Operational Improvements and Capital Roadway Improvements. A map showing the locations of these improvements is in **Figure 9, in Appendix B.***

## 4.1 Roadway Operational Improvements

Roadway Operational Improvements are relatively low cost projects designed to increase the functionality of the existing transportation network. These improvements can include increased signage, minor roadway widening, etc. These lower cost roadway improvements have the potential of being incorporated into the annual budget(s) of the KYTC District 9 Office and the City of Maysville, without requiring appropriation of special funding from the State of Kentucky.

Roadway Operational Improvements identified in this study are described on the following pages. These roadway improvements were not ranked by the TSWG, and therefore have no associated prioritization.



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 4.0 RECOMMENDATIONS

**FACILITY**

**US 62/68**

**LIMITS**

KY 9 to William H. Harsha Bridge

**BACKGROUND**

Since the opening of the William H. Harsha Bridge and the reconstruction of US 62/68, recurring heavy fog has been a problem during morning and evening hours along the route. The Ohio River, along with several valleys and hills contribute to the creation of the heavy fog layer. There are several roadway intersections with US 62/68 along this corridor, combined with high vehicular speeds on the route.



**RECOMMENDATIONS**

Additional lighting at intersections should be added. Also, caution lights and fog warning signs would be a possible improvement. Although drivers generally will take precaution on their own during the fog period, additional warnings, especially through highly visible devices, will reinforce the importance of cautionary operation.

It is recommended that a device that features a strobe light that will alert motorists of the fog be installed. The system will need to be automated with proper sensors, and have a routine maintenance program to assure proper operation. The number and proper location of devices should be determined by the KYTC District 9 Office, Traffic Operations staff. In addition, "Signal Ahead" signs possibly equipped with a flasher should be installed prior to the US 68/KY 9 intersection.



# 4.0 RECOMMENDATIONS

**FACILITY**

**INTERSECTION AT KY9/KY11**

**LIMITS**

Intersection at KY 9/KY 11

**BACKGROUND**

KY 9 is the principal arterial route for travel between northern and eastern Kentucky. This intersection with KY 11 is the first signalized intersection encountered when entering the Maysville Urban Area from the east. Driver inattention or fatigue combined with high vehicle speeds creates potential safety conflicts at this intersection.



**RECOMMENDATIONS**

Intersection ahead or other means of warning signs (flashing lights, strobe-type traffic signal, etc.) should be added on KY 9 east of KY 11. This added warning would increase driver awareness of the traffic when approaching the City of Maysville on KY 9.



# 4.0 RECOMMENDATIONS

**FACILITY**

**INTERSECTION AT KY 9/US 62**

**LIMITS**

Intersection at KY 9/US 62

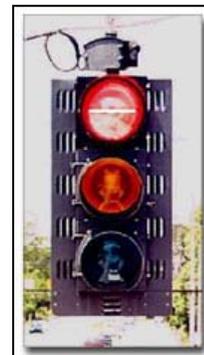
**BACKGROUND**

KY 9 is the principal arterial route for traveling between northern and eastern Kentucky. This intersection with US 62 is the first signalized intersection encountered when entering the Maysville Urban Area from the west. Driver inattention or fatigue combined with high vehicle speeds creates potential safety conflicts at this intersection.



**RECOMMENDATIONS**

Intersection ahead or other means of warning signs (flashing lights, strobe-type traffic signal, etc.) should be added on KY 9 west of US 62. This added warning would increase driver awareness of the traffic when approaching the City of Maysville on KY 9.



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 9**

**LIMITS**

Hospital Entrances

**BACKGROUND**

KY 9 is a four lane facility as it passes the Meadowview Regional Medical Center and nearby medical services buildings. There are three entrances on KY 9 to the facilities: main, employee, and emergency.



On KY 9, minimal signage for these driveways is evident, and the driveways themselves lack definable or delineated markings. As a result, operational confusion is created. This situation does not adequately assist unfamiliar motorists to access the hospital through the proper access point. This condition may worsen at night due to limited visibility and absence of intersection lighting.

**RECOMMENDATIONS**

It is recommended that local officials communicate the issues discerned above with the hospital administration staff to make corrective measures. Recommended measures include, but are not limited to, relocating existing hospital signs to a more prominent location, additional lighting at the intersections, and additional "Hospital Ahead" signs and/or additional "Intersection Ahead" signs along KY 9. These actions will potentially increase driver awareness of the entrances/exits of the medical complex.



# 4.0 RECOMMENDATIONS

**FACILITY**

**US 62/68 AND TUCKER DRIVE**

**LIMITS**

Intersection of US 62/68 and Tucker Drive

**BACKGROUND**

US 62/68 is a four lane facility with a center turn lane at the intersection with Tucker Drive. Tucker Drive will be extended to the new Wal-Mart location by the City of Maysville. Tucker Drive is a two-lane facility, servicing numerous commercial establishments, including a hotel, quick oil change, car dealership, restaurants, etc.

City Public Works officials indicated concerns regarding the operation of this intersection. Because of the high traffic volumes on US 62/68, this intersection is a safety concern as motorists on Tucker Drive attempt to enter US 62/68, or left-turning vehicles from US 62/68 attempt to enter Tucker Drive. In addition, delays may be excessive during peak hours for motorists on Tucker Drive, as US 62/68 is the primary route.

**RECOMMENDATIONS**



Upon the completion of Tucker Drive as a through route, a signal warrant analysis should be performed at the intersection of US 62/68 and Tucker Drive. With an estimated 3000 vehicles per day, this route will be a connector for communities to the south of Maysville, including the Washington area, with the new retail stores at/near the new Wal-Mart. Both safety and capacity considerations must be met to determine the feasibility of installing a traffic signal at this location.

District 9 officials and the City of Maysville Public Works Department should jointly decide on the programming of the traffic light installation and timing, should it be warranted.



# 4.0 RECOMMENDATIONS

---

## 4.2 Capital Improvements

The Capital Improvement projects were identified in order to alleviate current and/or future year transportation network deficiencies. These improvements differ from the Operational Improvements in general by being more costly, consisting of much longer completion timeframes, and having greater potential of enhancing the transportation network. The majority – if not all – of these projects will require state and/or Federal funding to be completed.

Several of the Capital Improvement projects consist of widening an existing corridor from two lanes to four. These are the most costly improvements, and yet seem to be the most beneficial to the enhancement of the transportation network. However as the implementation time frame of each project approaches, more in-depth studies should be performed to determine the true effectiveness of the project, and to involve the public in the project development process.

Descriptions of the eight (8) Capital Improvement projects follow. The order in which they appear does not reflect any ranking by the project team.



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 9 - AA HIGHWAY**

**LIMITS**

Mason/Lewis County Line to four-lane section at KY 11  
(Approx. 7.2 miles)

**BACKGROUND**

KY 9 (AA Highway) provides regional mobility to the northeastern counties in Kentucky linking Ashland, KY to Alexandria, KY (near Cincinnati, Ohio). In Mason County, it is the major transportation route that connects



Lewis County in the East to Bracken County in the West. The section of KY 9 from the Lewis County line to KY 11 is currently a 2-lane roadway. Projected Year 2025 traffic volumes indicate that the facility will have a LOS D, nearing its capacity. In addition, the existing roadway geometry restricts sight distance at some locations, especially at truck climbing lane divergence and convergence points.

**RECOMMENDATIONS**

Reconstruct KY 9 to a 4-lane facility similar in design standards to the existing 4-lane sections. This includes shoulders and a wide depressed median, with partially controlled access at 1200 foot spacing. The new facility would address capacity concerns in 2025, improve intersection safety, and reduce speed differentials.

Adequate right-of-way seems to be available. Reconstruction would be limited to the existing alignment. The facility provides access to major traffic generators in the region, including shopping centers, hospitals, educational services and industrial centers. As such, KY 9 is a vital transportation link serving Mason County residents.

**ESTIMATED COST**

**\$43.8 MILLION**



**MAYSVILLE URBAN AREA  
TRANSPORTATION PLAN**



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 9 - AA HIGHWAY**

**LIMITS**

KY 10 to the Mason/Bracken County Line (Approx. 3.4 miles)

**BACKGROUND**

The KYTC recently completed a Planning Study on KY 9. That study recommended that KY 9 be widened to four lanes from KY 10 in Mason County to California, Kentucky, which is located in southwest Campbell County about 30 miles



from KY 10. Currently, design plans to widen KY 9 from two lanes to four lanes from the existing 4-lane section to KY 10 are being prepared. The 2025 LOS for this portion of KY 9 is forecasted to be D, which means it would be nearing capacity. Also, existing sight distance is restricted by roadway geometry in some places, and drivers face considerable speed differentials along the corridor. Safety is a major concern along KY 9 and incidents are often the result of poor passing decisions or traffic entering the highway without sufficient separation from the oncoming traffic.

**RECOMMENDATIONS**

Reconstruct KY 9 to a 4-lane facility with partially-controlled access in order to create uniformity of the highway through Mason County. This will improve the National Truck Network and the National Highway System, and enhance the connectivity of Maysville with the surrounding region. It should also improve safety along the corridor. According to the previous planning study, this project should have limited right-of-way and environmental impacts.

**ESTIMATED COST**

**\$20.3 MILLION**



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 11**

**LIMITS**

Mason/Fleming County Line to KY 9 (Approx. 8.5 miles)

**BACKGROUND**

This roadway is currently a two-lane facility, with truck or passing lanes existing on the steeper grades. It is the primary connection between Maysville and Flemingsburg, the two largest cities in the area. High traffic volumes and increasing development in Fleming County will cause an increase in traffic in the coming years. KY 11 will near its capacity by the year 2025, with an LOS of D. The corridor however does not experience a higher than average rate of incidents.



**RECOMMENDATIONS**

Monitor traffic volumes and, when warranted, widen KY 11 to four lanes, in order to accommodate future traffic volumes and to increase mobility between Maysville and the communities to the south.

**ESTIMATED COST**

**\$51.9 MILLION**



# 4.0 RECOMMENDATIONS

**FACILITY**

**US 62X/KY 10**

**LIMITS**

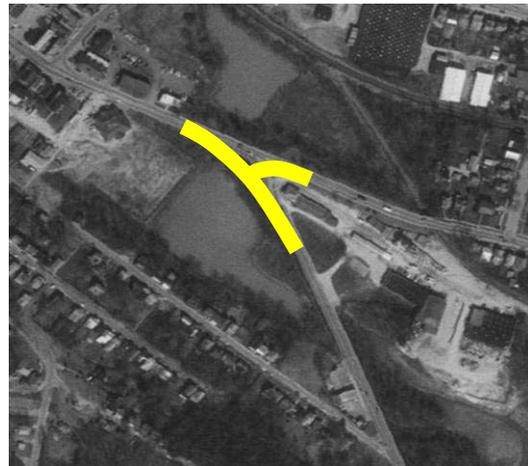
Intersection of US 62X and KY 10

**BACKGROUND**

Due to topography, proximity to the Ohio River backwater inlets, close railroad tracks and the urban nature of the surrounding land, sight distance is limited by both the horizontal and vertical alignment of the intersecting roadways. This problem is further exacerbated by the angle of the intersection, as traffic headed to/from downtown Maysville must make a sharp turn to negotiate the intersection. Traffic operation is further complicated with the entrance to a concrete plant being directly adjacent to the intersection.

**RECOMMENDATIONS**

Realign US 62X as the through route into the Central Business District, and correct the alignment of KY 10 to intersect at approximately 90 degrees with the curve of US 62X, as shown in the aerial view at right.



Benefits of this realignment include the following:

- improve access to the CBD
- improve truck access on KY 10 east-bound, to the industrial/warehouse district
- provide an opportunity to create a gateway to downtown Maysville

**ESTIMATED COST**

**\$1.2 MILLION**



**MAYSVILLE URBAN AREA  
TRANSPORTATION PLAN**



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 8**

**LIMITS**

US 62/68 to KY 3056 (Approx. 1.8 miles)

**BACKGROUND**

KY 8 is a secondary entrance into the Central Business District of Maysville from the West. This portion of KY 8 is a two-lane facility with narrow shoulders, high and steep side slopes, and unstable soils that contribute to road slides and pavement failures.



**RECOMMENDATIONS**

Roadway rehabilitation and foundation stabilization should be performed to prevent washouts and to facilitate a safer, more stable roadway. The scenic nature of the route should be preserved, if possible. This project will also provide a more accessible route to the new Ohio River bridge and enhance the viability of downtown Maysville.

**ESTIMATED COST**

**\$2.9 MILLION**



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 9**

**LIMITS**

Eastern Hospital Entrance

**BACKGROUND**

Meadowview Regional Medical Center (located on KY 9) is the major health care provider in the region. The hospital has multiple entrances for emergencies and deliveries, and has a main or visitor entrance. Due to high speeds and unexpected driver behavior, there are both perceived and real operational problems at this location. A predominate problem deals with the potential for rear-end crashes involving decelerating northbound traffic on KY 9 en route to the hospital's main entrance.



**RECOMMENDATIONS**

A turn lane constructed on KY 9 will allow for the northbound turning vehicles to be removed from the traffic flow while decelerating in order to turn into the Hospital entrance. This will increase safety for those vehicles, and will facilitate smoother traffic flow on KY 9. Also, to heighten awareness for motorists, the hospital should consider installing highly visible signs highlighting the presence of the entrance. Similarly, additional signs may be installed to better delineate the emergency entrance. These signs should be lighted to be effective at night.

**ESTIMATED COST**

**\$170 THOUSAND**



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 1448 (MAPLE LEAF ROAD)**

**LIMITS**

KY 9 to US 62X (Approx. 1.6 miles)

**BACKGROUND**

KY 1448, commonly referred to as Maple Leaf Road, is classified as a State Rural Secondary Road that serves as a thoroughfare from KY 9 to US 68/62. KY 1448 is a narrow 2-lane facility with no usable shoulders. Land uses along the corridor vary from institutional to residential. Additionally, the facility provides access to a school, Boys & Girls Club, shopping center and the YMCA. There is a considerable amount of interaction among these institutions, as school children utilize the YMCA and Boys & Girls Club. The 2002 ADT for KY 1448 is 3000 vehicles. Due to the existing geometry, KY 1448 does not lend itself to pedestrian or bicycle use. Only one exit lane is provided at the unsignalized intersection of Maple Leaf Road and US 62X. Therefore, traffic wishing to turn right must often wait behind those vehicles turning left. Turn lanes for both movements are needed at this location. In addition, due to the nature of some of the uses discussed above, and to increased residential development, the community leaders and residents have indicated the need for pedestrian and cyclist facilities along the route. KY 1448 is also part of the Bluegrass Tour Bike Route.



There is a considerable amount of interaction among these institutions, as school children utilize the YMCA and Boys & Girls Club. The 2002 ADT for KY 1448 is 3000 vehicles. Due to the existing geometry, KY 1448 does not lend itself to pedestrian or bicycle use. Only one exit lane is provided at the unsignalized intersection of Maple Leaf Road and US 62X. Therefore, traffic wishing to turn right must often wait behind those vehicles turning left. Turn lanes for both movements are needed at this location. In addition, due to the nature of some of the uses discussed above, and to increased residential development, the community leaders and residents have indicated the need for pedestrian and cyclist facilities along the route. KY 1448 is also part of the Bluegrass Tour Bike Route.

**RECOMMENDATIONS**

It is recommended that KY 1448 be reconstructed to have an additional turn lane at US 62X, proper lane width, shoulders, bike travel lanes, and pedestrian facilities. This will improve the overall efficiency and safety of the facility, and will contribute to the livability of the surrounding community. At the intersection of US 62X, there are significant utilities (including a water tower) that, depending on the scope of the improvement, may require relocation.



**ESTIMATED COST**

**\$5.4 MILLION**



**MAYSVILLE URBAN AREA  
TRANSPORTATION PLAN**



# 4.0 RECOMMENDATIONS

**FACILITY**

**KY 9 – AA HIGHWAY & US 62/68**

**LIMITS**

KY 9 and US 62/68 intersection

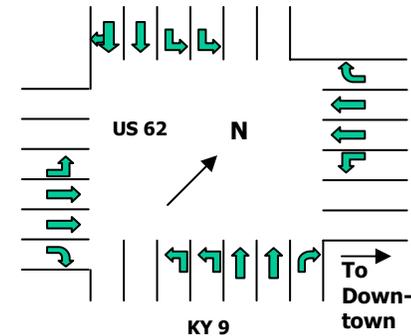
**BACKGROUND**

This is one of the busiest intersections in Mason County, as two principal arterials intersect in a commercial retail district. High turning movement volumes in virtually all directions have driven the current lane configuration, which in turn requires the use



of a four-phase signal timing plan. The four-phase signal timing plan is useful for providing increased safety and efficiency when turning volumes are equal to or exceed through volumes for each approach.

Intersections using this timing plan often include approaches with shared thru/left turn lanes. The disadvantage of four-phase signal timing is that it requires a longer cycle length typically and, therefore, creates longer delays and queues. Right-



**Proposed Intersection Configuration**

of-way near the intersection is limited by the adjacent businesses. Currently, this intersection operates at an LOS of E, but will decline to an LOS of F by 2025.

**RECOMMENDATIONS**

Reconstruct the intersection to six lanes in each direction, with an additional lane on KY 9 northbound, for a total of seven lanes on that approach. This allows for a more traditional signal timing at this intersection, and improves 2025 operations to an LOS E. Right of Way procurement and minimizing business impacts are two items that will need to be addressed in this reconstruction. Utility relocation is estimated to be minor.

**ESTIMATED COST**

**\$1.2 MILLION**



**MAYSVILLE URBAN AREA  
TRANSPORTATION PLAN**



# 4.0 RECOMMENDATIONS

## 4.3 Prioritizing Improvement Projects

A very important element of the study, as critical as recommending improvement solutions for Maysville’s transportation network, was prioritizing the Capital Improvements for implementation. A simple yet effective method was developed to rank the improvements. This method involved listing the projects in a random order and distributing a survey to the TSWG and other members of the community (see **Appendix D**). Three (3) different groups were surveyed – the TSWG, the general public, and the Maysville-Mason County Area Chamber of Commerce.

The TSWG was the first to complete the survey. They had been involved with the project since its inception, and were very knowledgeable of the study. The TSWG understood the transportation needs and issues, and had a certain professional insight into what would be most beneficial for the community.

The general public was the next group surveyed. This occurred at the second public meeting. Study representatives were available to answer questions and present information on all of the eight Capital Improvements. Thirty-five (35) people completed the survey, the results of which can be seen in **Appendix D**.

The last group to rank the Capital Improvements was the Maysville-Mason County Area Chamber of Commerce. Including them in the ranking exercise was a recommendation from the TSWG. A member of the TSWG took the survey to a Chamber of Commerce meeting and distributed it accordingly. The Chamber consists of members of the business community, which added an important element to the prioritization process.

After all of the survey results were collected, a method was needed to analyze each group’s response and prioritize the eight Capital Improvements. It was determined that the greater weight (50%) would be given to the TSWG’s ranking, since they were involved in the process from the beginning, had a strong understanding of the issues that were discussed during the course of the study, and had significant background information. The remaining weight was split evenly between the general public and the Chamber of Commerce. The eight Capital Improvements, with their respective final weighted rankings, can be viewed in **Table 6**. A summary of the eight Capital Improvements can be viewed in **Table 7**.



# 4.0 RECOMMENDATIONS

**Table 6 – Summary of Improvement Project Prioritization Rankings<sup>1</sup>**

	Widen KY 9 from KY 10 to Bracken County	Maple Leaf Road	Widen KY 9 from Lewis County to KY 11	US 68/KY 9 Intersection	Deceleration Lane at Hospital Entrance	KY 8 Stabilization	Widen KY 11	Realign US 62X
<b>TWSG</b>	2	1	3	4	5	6	8	7
<b>Public Chamber</b>	1	6	2	3	5	7	4	8
<b>Weighted</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>

<sup>1</sup>A rating of 1 signifies that the project was given highest priority with respect to the other projects, whereas an 8 means the project was given the lowest prioritization



## MAYSVILLE URBAN AREA TRANSPORTATION PLAN



# 4.0 RECOMMENDATIONS

Table 7 – Capital Roadway Improvement Projects

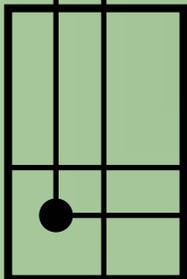
Improvement <sup>1</sup>	Start MP <sup>2</sup>	End MP <sup>2</sup>	Total Distance	Design	Right-of-Way	Utility	Construction	Total Estimate
Widen KY 9 from KY 10 to Bracken Co.	13.987	17.402	3.42 mi.	\$1,502,600	\$14,100	N/A <sup>3</sup>	\$18,783,000	\$20,299,700
Maple Leaf Road (KY 1448) Improvements	3.790	7.003	3.21 mi.	\$217,600	\$2,390,000	\$40,000	\$2,720,300	\$5,367,900
Widen KY 9 from Lewis County to KY 11	0.000	7.560	7.56 mi.	\$3,182,000	\$790,300	N/A <sup>3</sup>	\$39,775,800	\$43,748,100
US 62/68 and KY 9 Intersection	10.256	10.256	Intersection	\$26,000	\$686,300	\$164,900	\$324,700	\$1,200,900
Deceleration Lane at Hospital Entrance on KY 9	10.500 (est.)	10.689 (est.)	1000 ft.	\$12,500	\$1,400	\$0	\$155,800	\$169,700
KY 8 Stabilization Improvements	9.251	11.035	1.78 mi.	\$212,300	\$0	\$0	\$2,653,200	\$2,865,500
Widen KY 11 from Fleming County to KY 9	0.000	8.452	8.45 mi.	\$3,756,600	\$1,167,400	N/A <sup>3</sup>	\$46,957,500	\$51,881,500
Realign US 62X and KY 10 Intersection	2.847	2.847	Intersection	\$65,600	\$240,000	\$20,000	\$820,500	\$1,146,100

<sup>1</sup> Projects presented in order determined by the TWSG, Public and Chamber of Commerce ranking exercise.

<sup>2</sup> MP - Milepoints obtained from KYTC's Highway Information System

<sup>3</sup> Included as part of the construction costs





**HNTB**