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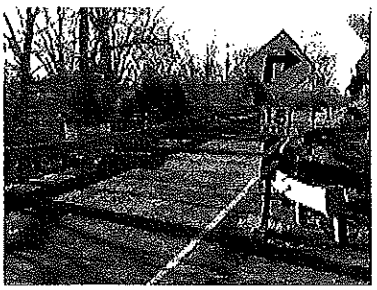
INTRODUCTION

BACKGROUND INFORMATION

The Louisville Metro's roadway systems are one of our most important but frequently under rated economic assets. They provide us with needed mobility for emergency service vehicles, bus transit systems and means of travel to our jobs, schools, market places and medical facilities. Louisville Metro government shares responsibility with the Commonwealth of Kentucky for decision making powers to the roadway systems. These decisions include the physical infrastructure and the operational characteristics of the roadways. Infrastructure issues include planning, financing, scheduling of construction, improving and maintaining the roadways. Operational issues include regulation, enforcement and taxing of users.

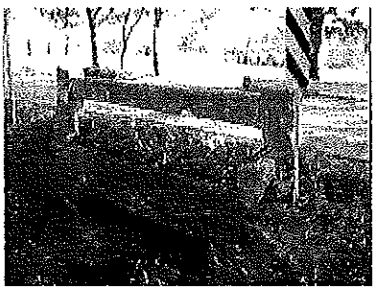
Now that utility services and wastewater treatment facilities have been extended into many previous unserved areas, new development is occurring at an ever increasing rate. Currently, most available funding is already committed to operating, maintaining and managing the existing roadway systems. The Metro Works Department has insufficient funds to widen many of the rural roadways now being utilized to serve new developments. The combination of existing, ongoing, proposed and future development in Louisville Metro has created a serious need for additional funding to provide new roadway facilities and to upgrade the existing roadway infrastructure.



Many segments of the existing roadway systems are substandard from a safety and capacity standpoint. Traffic lanes are too narrow and shoulders are non-existent at many locations. Also, existing drainage structures are outdated, undersized and positioned too close to the driving lanes. Narrow lanes leave motorists little room for error when they meet oncoming traffic. Narrow shoulders have the same effect, as drivers shy away from ditch slopes and roadside objects such as signs, trees, power poles, guardrails and ends of drainage structures. The narrow lanes and shoulders create unsafe conditions. The Federal Highway Administration rates the performance of roadways by the level of service they provide to the users. The service levels are given letter designations, from A to F,

with Level of Service A representing the best operating conditions and F the worst. Traffic volumes along with lane and shoulder widths are main factors in determining the capacity and level of service a roadway will provide. The increased traffic created by new development, combined with the narrow lane and shoulder widths that exist can worsen congestion and safety and lead to an unacceptable level of service. Traffic accidents are one of the leading causes of death among the younger people in America and results in more permanent disabling injuries than any other type of accident. According to The Road Information Program (TRIP), Kentucky is in the top five highest rankings in the nation, of fatalities annually that are the result of collisions with fixed objects along narrow roads with inadequate shoulder widths. In fact, Kentucky's traffic fatality rate is 30 percent higher than the national average.[1] These problems can be addressed by upgrading the overall conditions of our roadway systems, increasing capacity and prioritizing roadway improvements to meet current and future traffic demands created by new and expanding development.

Planning and development regulations of Metro Government currently require new development to dedicate additional right of way and to widen the traffic lane and shoulder adjacent to the new development. The developer is also required to make roadway improvements between the development and an improved facility. These policies are good in that they contribute to roadway improvement funding; however, these improvements are essentially spot improvements and leave the remainder of the route with the same substandard and unsafe conditions with an increased volume of traffic created by new and expanding development. In order to promote safety, meet current and increasing traffic demands and to provide adequate lane widths for school buses, public service, emergency and fire protection vehicles, it will be necessary to widen existing pavements and shoulders. In some instances, it will be necessary to purchase additional right of way in order to construct these improvements, and to reconstruct substandard and unsafe horizontal and vertical alignments. It is not anticipated that the acquisition of any residences will be necessary in order to accomplish roadway and shoulder widening.



[1] The Road Information Program. (2004). *Paying the price for inadequate roads in Kentucky: The cost to motorists in reduced safety, lost time and increased vehicle wear.* Washington, D.C.: The Road Information Program (TRIP) of Washington, DC.

PURPOSE AND NEED

The report consists of three separate and independent "Documents:"

- "System Development Charges for Roadways Report" – Introduction
- "System Development Charges for Roadways" – Ordinance (Appendix A)
- "Preliminary Roadway System Development Charge Analysis" (Appendix B)

The purpose of these documents is two fold: 1)to present to the Metro Council members and the public at large the background information, need, rationale and justification for the enactment of a new ordinance "System Development Charges for Roadways," and 2) to examine the feasibility of financing five, ten and twenty year bond issues with funds collected from system development charge fees and tax revenues generated by new and expanding residential development in the Louisville Metro Expansion Area. (See Appendix C-1)

The need for this report was prompted by the task force studying this issue in an effort to find alternative sources of revenue to help finance construction of roadway infrastructure improvements in the Expansion Area. An increasing number of urbanized communities are turning to system development charge fees on new development to supplement tax revenues in order to finance the construction of public roadway improvements.

System Development Charges are an alternative source of funding to avoid raising taxes on the general public, and are commonly used by metropolitan communities to supplement tax revenues to finance the construction of public improvements. System development charge fees are normally imposed by an ordinance and enforced by a governmental agency. The amount of the fees, the time fees are collected and the disposition of funds are controlled by requirements of the ordinance. System Development Charges, as defined by this Ordinance, are a one-time fee charged to the recipient of a building permit for new and expanding residential development located within the expansion area of Louisville Metro Expansion Area.

System development charges are not a new tool for financing public services. They have been a significant part of public finance for the Metro's utility, water and sanitary services for decades. They allow local agencies to impose fees and rates on the public sector that receive the most benefit for those services. This prevents the use of general tax funds to subsidize the cost of services to specific interest. ***New and expanding residential development in Louisville Metro Expansion Area will increase traffic and place additional demands on intersections and existing roadway infrastructure. Therefore, new residential development should contribute to roadway improvement costs.***

DOCUMENTS

The report consists of three separate and independent documents. The following are brief descriptions of the contents and purpose of each document.

1. Report Introduction
   This document, the report introduction was prepared by staff members of Gresham, Smith and Partners (GS&P) under the supervision of the Metro Works Department. The report provides an overview, background information, methodology, conclusion, next step, tables, exhibits, and generally summarizes the efforts of all parties involved in the preparation of the documents. GS&P staff members with over 40 years of experience in the design of roadways and roadway infrastructure improvements prepared preliminary cost estimates for improvements to designated roadways in the Louisville Metro Expansion Area. From field observations and LOGIC Mapping, GS&P prepared an Inventory of Existing Roadway conditions (Example: Appendix D-1), Roadway Pavement Design (Example: Appendix D-2), Roadway Improvement Cost (Example: Appendix D-3) and Summary of Cost (Example: Appendix C). The information and roadway costs shown in these examples were prepared for all designated roadways in the four Benefit Districts. Roadway costs shown were used in the preparation of bond revenue requirements.

2. The Ordinance "System Development Charges for Roadways" (Appendix A)
   This document was prepared by the law firm of Greenebaum Doll & McDonald PLLC in conjunction with significant input and review by the Stakeholders Committee. The Ordinance establishes system development charge fees, disposition of funds, rules, regulations, requirements and all other policies imposed by the Ordinance. The contents of the Ordinance have been mutually agreed upon by both the public and private sectors' members of the Stakeholders Committee.

3. Preliminary Roadway System Development Charge Analysis (Appendix B).
   This document was prepared by Integra Realty Resources Kentucky – Southern Indiana. This firm was founded in 1972 and specializes in real estate economics to include litigation support, litigation consulting, marketing and marketability studies and appraisals. The purpose of the analysis was to come to a preliminary conclusion on the sufficiency of proposed system development charge fees and tax revenues from new residential development to support the costs associated with bond issues for roadway improvements. The result of the analysis was that the estimated total revenue substantially exceeds forecasted bond issue costs.

STAKEHOLDERS COMMITTEE

The content of the report was developed by the Stakeholders Committee. The committee was made up of both the public (Metro government) and private (residential development interest) sectors of the community that will be affected most by the requirements of the new ordinance. For a complete list of the Stakeholders Committee members see Page 6. The committee members were chosen for their expertise in:

- Residential Development
- Real Estate Law and Regulations
- Preparation of Legal Documents
- Metro Government Development Regulations
- Metro Government Planning & Design
- Metro Government Legal Requirements
- Real Estate Economics
- Financing and Land Development Issues
- Roadway Design and Costs

The purpose and common goals of the Stakeholders Committee were to:

- Form a Public-Private Partnership with the common interest of finding alternative means to raise additional funds to finance roadway improvements
- Mutually establish system development charge fees for the various types of residential development (See Table 1)
- Mutually establish the rules, regulations, requirements and all other policies imposed by the ordinance "System Development Charges for Roadways"
- Examine the feasibility of financing roadway improvements through bond issues supported by funds from system development charge fees combined with at least an equal amount of tax revenues generated by new residential development

Land Use	System Development Charge Due
Single Family Detached/ Detached Condominium/ Mobile Home	$1,000/unit
Attached Condominium	$500/unit
Multi-Family For Rent	$250/unit

Table 1

STAKEHOLDERS COMMITTEE

Representatives of Home Builders Association

Representatives of Louisville Apartment Association

Representatives of Commercial Development Community

Representatives of Metro Department of Planning and Design Services

Representatives of Metro Public Works Department

SUPPORT COMMITTEE

Representatives of Jefferson County Attorney's Office

Representatives of Greenebaum Doll & McDonald PLLC

Representatives of Integra Realty Resources Kentucky-Southern Indiana

Representatives of Gresham, Smith and Partners

TRANSPORTATION BENEFIT DISTRICTS

The Metro Works Department divided the Louisville and Jefferson County Metro Expansion Area into four logical Transportation Benefit Districts: Traffic Zones A, B, C & D. Designated roadways were selected in each Benefit District and prioritized based on traffic demands and reasonably foreseeable future development (Appendix C-1 through C-5). Cost estimates for improvements were made for each designated roadway in each Benefit District based on infrastructure deficiencies.

System development charge fees can only be used for roadway improvements in the Benefit District from which they were collected. The Preliminary Roadway System Development Charge Analysis (Appendix B) examines each Benefit District and confirms that revenues from system develop charge fees on new residential development combined with approximately half of the property tax revenues generated by new residential development will support the 5, 10 and 20 year bond issues necessary to establish a long-term roadway improvement program in each Benefit District.

CONCLUSION

The enactment of the Ordinance will provide for alternative funding, through system development charge fees, necessary for the Louisville Metro Works Department to meet the goals and objectives recommended by Cornerstone 2020.

> ***"Select the highest, medium and long range roadway improvement projects that will best serve the surrounding community and establish a comprehensive long-term financing program that will allow for the implementation of those projects."***

Based upon the preliminary analysis prepared by Integra Realty Resources Kentucky – Southern Indiana, the roadway system development bond issue costs for the five, ten and twenty year building cycles will be adequately funded by anticipated revenues from system development charges and approximately half of the property taxes generated in each Benefit District by new residential development.

STUDY AREA	% CONTRIB.	5 YEARS	% CONTRIB.	10 YEARS	% CONTRIB.	20 YEARS
Roadway System Development Charge	100.0%	$9,685,138	100.0%	$21,886,045	100.0%	$53,889,724
Ad Valorem Tax Revenue	39.0%	$11,025,397	46.0%	$37,632,974	58.0%	$175,878,917
Total Revenue		**$20,710,536**		**$59,519,019**		**$229,768,640**
Less: Bond Issue Costs		**$17,159,374**		**$49,059,127**		**$191,439,867**
SURPLUS	**20.7%**	**$3,551,162**	**21.3%**	**$10,459,893**	**20.0%**	**$38,328,774**

While all of the prospective roadway system development charges may be required, only about half of the residential ad valorem tax revenues forecasted will be needed.

METHODOLOGY

The following is a brief methodology of the process and procedures used to develop the results of this report:

- Assemble a Stakeholders Committee comprised of both the public and private sectors of the community that will be affected by the Ordinance
- Engage the services of a law firm with legal expertise in all aspects of land development, to assist in the preparation of the Ordinance
- Divide the Louisville and Jefferson County Metro Expansion Area into four logical Transportation Benefit Districts
- Assign designated streets and roads within each Benefit District to be reviewed for needed infrastructure improvements
- Engage an engineering firm with expertise in roadway design and cost estimating to inventory existing conditions of the designated streets and roads and prepare costs estimates for improvements
- Engage a firm with expertise in real estate economics and financing to prepare an analysis of the sufficiency of revenues from development charge fees and property taxes to cover bond issue costs for each Benefit District
- Determine the acreage of developable land in each Benefit District and estimate the future unit density for the various types of residential development for 5, 10 and 20 year building cycles
- Estimate the average property values of future residential development for 5, 10 and 20 year building cycles in each Benefit District
- Estimate the revenue amounts generate from system develop charge fees and property taxes for 5, 10 and 20 year building cycles for each Benefit District
- Determine roadway cost per developed acre of residential development for 5, 10 and 20 year building cycles in each Benefit District
- Estimate the property tax revenue generated from other types of development that will follow residential development for 5, 10 and 20 year building cycles in each Benefit District
- Estimate the average household income and occupational tax revenue for each residential unit for 5, 10 and 20 year building cycles in each Benefit District
- Estimate bond issue costs for 5, 10 and 20 year building cycles in each Benefit District
- Compare bond issue costs to revenues generated for 5, 10 and 20 year building cycles in each Benefit District.

NEXT STEP

In order to implement the Ordinance, it will be necessary to develop the tools, documents, procedures and all other data required to maintain the integrity of the Ordinance and Bond Program. It will be necessary to maintain records of fees and funds collected as well as anticipated revenues from future new development. A records system to track all requirements of the Ordinance and Bond Program should be in place prior to implementation of the Ordinance. Data and information in the system should be readily available to the Metro Works Department for planning purposes and the Ordinance Oversight Committee on an annual bases. Some or all of the following tasks will be required for each Benefit District:

- Prepare system development charge mapping for each Benefit District suitable to:
  - Record new development and roadway improvements as they occur
  - Record zoning changes
  - Maintain record of remaining developable lands
- Prepare and maintain projections of future residential development and anticipated revenues
- Maintain records of the disposition of all fees, funds and roadway construction costs
- Maintain list of designated roadway projects and implementation schedule
- Update roadway construction costs on an annual basis
- Implement and maintain all aspects of the Bond Issues
- Develop software necessary to maintain all aspects of the Ordinance, including available and projected revenues

Ordinance No. 159, Series 2006

AN ORDINANCE AMENDING CHAPTER 164, WITHIN LOUISVILLE METRO CODE OF ORDINANCES (LMCO) TITLE XV, TITLED "SYSTEM DEVELOPMENT CHARGES FOR ROADWAYS."

Sponsored by: Council Member Robin Engel

BE IT ORDAINED BY THE LEGISLATIVE COUNCIL OF THE LOUISVILLE/JEFFERSON COUNTY METRO GOVERNMENT [THE COUNCIL] AS FOLLOWS:

SECTION I. That Chapter 164 within Title XV of the Louisville Metro Code of Ordinances shall be amended as follows:

Section 164.16 Applicability

(A) Requirement

On and after the effective date of this Ordinance, any party who shall construct a new residential dwelling unit, including but not limited to single family homes, apartments, patio homes, condominiums and mobile or manufactures homes, in one of the Transportation Benefit Districts, shall be obligated to pay a Systems Development Charge for roadways. Parties who apply for building permits up to sixty (60) days after the effective date of this Ordinance shall not be required to pay a Systems Development Charge.

(C) Determination of Charge

(4) If a development required to pay a System Development Charge under this Ordinance is located on a road not classified as a Designated Road, the road must be improved to meet the requirements set forth in all applicable ordinances of the Louisville Metro Government. Credit will be given for the cost of non-site-related roadway improvements against the System Development Charge due, however, no credit will be given for the cost of improvements that exceed the System Development Charge due for developments on Non-Designated Roads, and no refund of costs or expenses will be made. The requirements of this paragraph regarding the widening of a Non-Designated Road may, for owners of lots of five acres or more, be waived by the System

Development Charge Administrator; however, in no case may the System Development Charge Administrator waive the requirement of payment of the System Development Charge.

(5) All new standard subdivision developments on Designated Roads that are not eighteen (18) feet in width and which are approved after the effective date of this Ordinance shall be allowed only one (1) single family residential home per five (5) acres (or the equivalent thereof in subdivisions with large acreages) prior to when the road and associated structures are widened to meet the requirements of all ordinances of the Louisville Metro Government.

With the prior written approval of the System Development Charge Administrator, to meet the standards listed above, a developer may choose to improve a Designated Road to meet the eighteen (18) foot width requirement, rather than waiting until the road and associated structuresd are improved by the Louisville Metro Government. After the Designated Road is widened to at least eighteen (18) feet, the developer shall be entitled to obtain permits and build to the extent approved for the standard subdivision. In such case, the developer will be eligible for a full refund of the cost of roadway improvements, in accordance with the provisions of Section 164.35(B)(3), and the System Development Charge due for the development will be payable at the time building permits are requested.

Section II: That the map and table entitled "Designated Roads" and labeled as Exhibit "A" to Chapter 164 of the Louisville Metro Code of Ordinances shall be amended as reflected in the revised Exhibit "A" attached hereto.

Section III: This Ordinance shall take effect upon its passage and approval.

Kay R. Grissett
Kathleen J. Herron
Metro Council Clerk

Kevin J. Kramer
Kevin J. Kramer
President of the Council

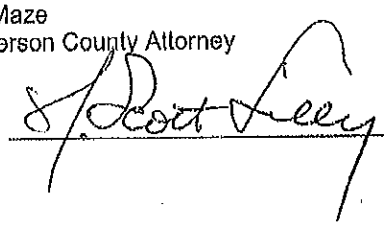
Jerry E. Abramson
Mayor

9-18-06
Approval Date

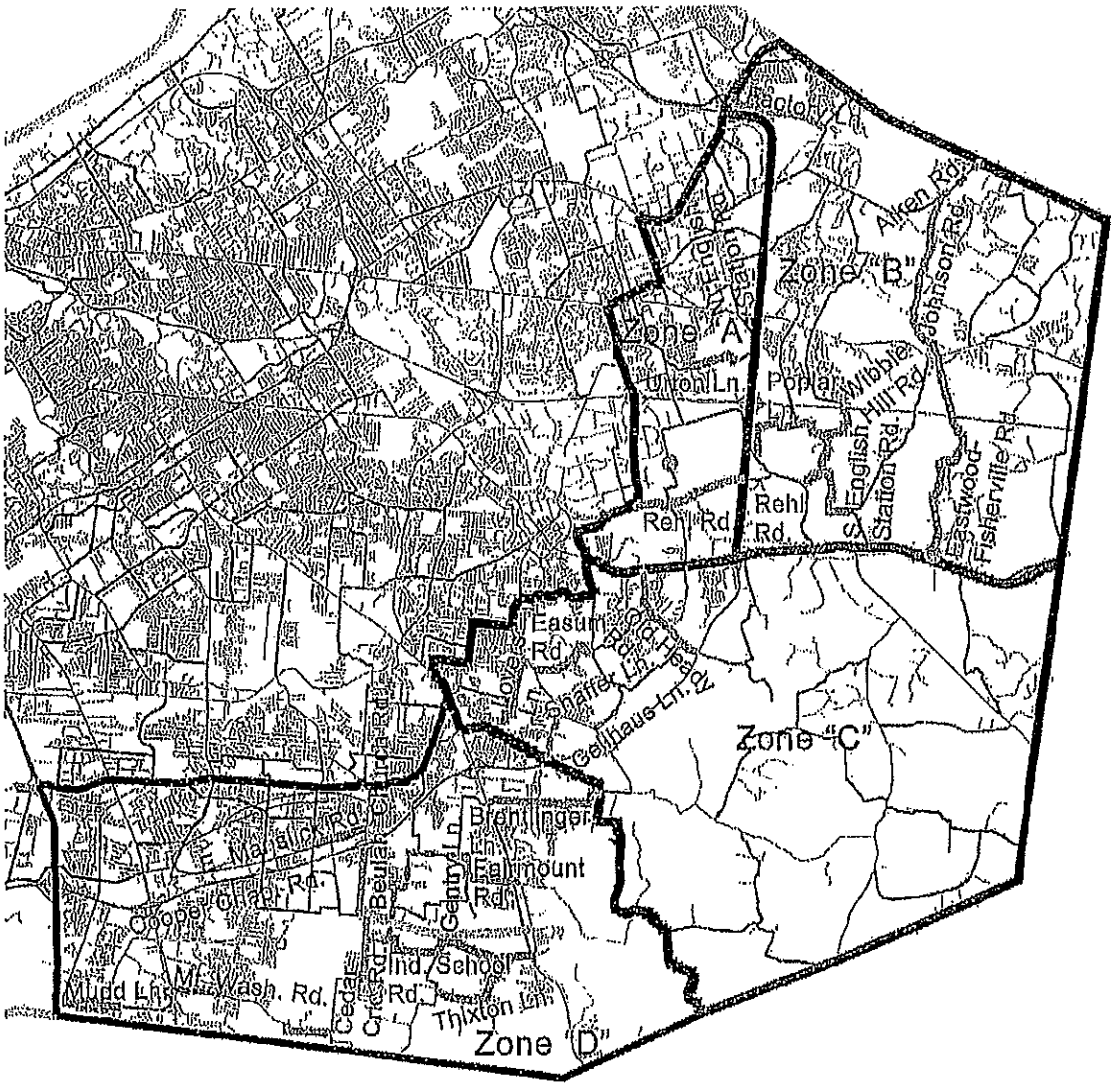
LOUISVILLE METRO COUNCIL
READ AND PASSED
September 14, 2006

APPROVED AS TO FORM AND LEGALITY:

Irv Maze
Jefferson County Attorney

BY: 

DESIGNATED ROADS



REVISED 5-16-06

EXHIBIT "A"

DESIGNATED ROADS

DESIGNATED THROUGH ROAD PROJECTS	
ZONE "A"	
Rehl Road (Blankenbaker Pkwy. to I-265)	1.30 Miles
Tucker Station Road (Bridge Replacement)	
Urton Lane (N. Pope Lick Rd. to Urton Ln Extension)	0.85 Miles
TOTAL	2.15 Miles
ZONE "B"	
Alken Road* (Johnson Road to Co. Line)	0.85 Miles
Eastwood-Fisherville Road (US 60 to Taylorsville Road)	3.49 Miles
Eastwood-Fisherville Road (Railroad Underpass)	
Factory Lane (LaGrange Rd. to Old Henry Rd.)	1.64 Miles
Johnson Road (Shelbyville Rd. to Alken Rd.)	2.70 Miles
Poplar Lane (S. Pope Lick Rd. to S. English Station Rd.)	1.13 Miles
Rehl Road (S. Pope Lick Rd. to S. English Station Rd.)	0.37 Miles
South English Station Road (Poplar Lane to Echo Trail)	2.10 Miles
Wibble Hill Road (S. English Station Rd. to I-64)	0.71 Miles
TOTAL	12.89 Miles
ZONE "C"	
Easum Road (Billtown Rd. to Chenoweth Run Rd.)	1.17 Miles
Gellhaus Lane* (Bus Compound Improvements)	0.44 Miles
Lovers Lane (Seatonville Rd. to Billtown Rd.)	1.44 Miles
Old Heady Road (I-265 to Taylorsville Rd.)	1.70 Miles
Shaffer Lane* (Seatonville Rd. to Billtown Rd.)	0.77 Miles
Urton Lane Extension: Lovers Lane to Billtown Road (R/W Preservation)	
Urton Lane Extension: Old Heady Rd. to Taylorsville Rd. (R/W Preservation)	
TOTAL	5.52 Miles
ZONE "D"	
Beulah Church Road (I-265 to Heritage Creek)	2.00 Miles
Brentlinger Lane (Bardstown Rd. to Seatonville Rd.)	1.90 Miles
Cedar Creek Road* (Beulah Church Rd. to Gentry Ln.)	2.61 Miles
East Mansiick Road (Pennsylvania Run Road to Beulah Church Road)	0.86 Miles
Fairmount Road (Bardstown Road to Gentry Lane)	0.71 Miles
Gentry Lane (Fairmount Rd. to Cedar Creek Rd.)	0.46 Miles
Independence School Road (Cedar Creek Rd. to Thixton Ln.)	2.23 Miles
Mount Washington Road (90 degree bend to Cedar Creek Road)	0.80 Miles
Mount Washington Road* (Preston Hwy to Waycross Drive)	0.79 Miles
Mudd Lane (Blue Lick Road to Cody Lane)	1.00 Miles
Thixton Lane (Bardstown Road to Oak Grove Road)	1.88 Miles
TOTAL	15.24 Miles
DESIGNATED CORRIDOR PROJECTS	
ZONE "A"	
North English Station Road: Alken Road to Old Henry Road	0.85 Miles
(Federal Aid Program / 80% Fed. - 20% Local)	
ZONE "D"	
Cooper Chapel Road: Phase 1- Preston Hwy. to Smyrna Road*	1.85 Miles
(Federal Aid Program / 80% Fed. - 20% Local)	
Cooper Chapel Road: Phase 3- Beulah Church to Old Bardstown	2.60 Miles
(Federal Aid Program / 80% Fed. - 20% Local)	
TOTAL	4.45 Miles

* Currently Programmed for Improvement

RESOLUTION NO. 132, SERIES 2006

A RESOLUTION REQUESTING THE LOUISVILLE METRO PLANNING COMMISSION TO HOLD A PUBLIC HEARING AND MAKE A RECOMMENDATION ON PROPOSED REVISIONS TO THE LAND DEVELOPMENT CODE REFLECTING NEW REQUIREMENTS IMPOSED BY THE SYSTEM DEVELOPMENT CHARGE ORDINANCE.

Sponsored by: Councilman Robin Engel

WHEREAS, Chapter 164 of the Louisville Metro Code of Ordinances, entitled "System Development Charges for Roadways," provides for the improvement of certain roads being in Louisville Metro; and,

WHEREAS, the Land Development Code requires the widening of streets to a minimum of 18 feet prior to the creation of new lots and the connection of new streets associated with a new subdivision; and,

WHEREAS, it is the desire of the Metro Council to reconcile the requirements of the Land Development Code with the requirements of the System Development Charges for Roadways Ordinance; and,

WHEREAS, to effectuate this reconciliation, it is necessary to make certain amendments to the Land Development Code,

NOW THEREFORE BE IT RESOLVED BY THE LOUISVILLE METRO COUNCIL

Section I: The Metro Council hereby requests that the Louisville Metro Planning Commission hold a public hearing to consider the following amendments to the Land Development Code:

Section 6.2.1 Applicability and General Standards

B. In no case shall any new lots be created or new street constructed that does not meet a pavement width of at least 18 feet, except that a five lot, five acre per lot subdivision may be accessed by a 12 foot gravel road with 3 foot earthen shoulders. The provisions of this paragraph shall not apply to roads that are Designated Roads under the System Development Charges for Roadways Ordinance, Chapter 164 of the Louisville Metro Code of Ordinances.

Section 7.3.10 Streets

In or adjoining any major subdivision of land hereafter proposed, access from any new lots or a new street connecting an existing street shall not be approved unless the Planning Commission, with input from the Director of Works, determines that the subdivision will be served by an adequate street network. In order to be considered adequate, the street or combination of streets providing the most direct means of access to an arterial street shall have a minimum roadway width of 18 feet of pavement. The Commission may determine, based on input from the Director of Works, that the traffic flow associated with a proposed subdivision will utilize more than one route to one or more arterial streets. As a result of such determination, the Planning Commission may require that more than one route (street or combination of streets) must have a minimum roadway width of 18 feet. In addition to roadway width, the Planning Commission may require other off-site improvements to correct conditions that would impede the safe flow of traffic associated with the new subdivision. Subdivisions that

create no more than five lots of five acres or more each are not subject to the requirements of this paragraph. (Arterial level streets are shown on Core Graphic 10: Roadway Classifications and Projected Corridors.) The provisions of this paragraph shall not apply to roads that are Designated Roads under the System Development Charges for Roadways Ordinance, Chapter 164 of the Louisville Metro Code of Ordinances.

Section 7.8.12 Administrative Approval

Commission Approval may be given by the Director of the Division of Planning and Design Services or any authorized staff member of the division when all of the following criteria are met:

* * * * *

E. All resulting lots have frontage on an existing public or private street with pavement at least 18 feet wide, except that roads serving no more than 5 lots of 5 acres or more may be 12 feet wide with 3 foot shoulders on each side; provided, however, that the provisions of this subparagraph shall not apply to roads that are Designated Roads under the System Development Charges for Roadways Ordinance, Chapter 164 of the Louisville Metro Code of Ordinances.

Section II: This ordinance shall take effect upon its passage and approval.

Kathleen J. Herron
Metro Council Clerk

Kevin J. Kramer
President of the Council

Jerry E. Abramson
Mayor

9-29-06
Approval Date

APPROVED AS TO FORM AND LEGALITY:

Irv Maze
Jefferson County Attorney

BY: /s/ Scott Kelly

TLG

LOUISVILLE METRO COUNCIL
ADOPTED
September 28, 2006

Preliminary Roadway System Development Charge Analysis

Louisville, Jefferson County, Kentucky

PREPARED FOR:
Gresham Smith and Partners
101 South Fifth Street
Louisville, Kentucky 40202

EFFECTIVE DATE OF THE CONSULTATION:
November 22, 2004

INTEGRA REALTY RESOURCES
KENTUCKY-SOUTHERN INDIANA
File Number: 1200-0010-04-LOU (C)

September 12, 2005

Mr. David Taylor
Project Manager
Gresham Smith and Partners
101 South Fifth Street
Louisville, Kentucky 40202

SUBJECT: Preliminary Roadway System Development Charge Analysis
Louisville, Jefferson County, Kentucky
Integra Realty Resources File No. 1200-0010-04-LOU (C)

Dear Mr. Taylor:

Attached is summary report describing the efforts of Integra Realty Resources Kentucky-Southern Indiana in support of the above referenced project. This preliminary report has an effective date of November 22, 2004 with the most current revision dated August 25, 2005. These findings are derived from a preliminary analysis and may not be considered with the same confidence as one would with a complete analysis conducted by our firm.

Please contact us with any questions that you may have.

Respectfully submitted,

INTEGRA REALTY RESOURCES KENTUCKY-SOUTHERN INDIANA

George M. Chapman, MAI, SRA, CRE
Certified General Real Property Appraiser
Kentucky Certificate #614

Charles A. Williams, III, MBA
Senior Analyst

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INTRODUCTION

Integra Realty Resources Kentucky-Southern Indiana was asked to conduct a preliminary analysis to determine if the proposed roadway system development charges and tax revenue sources would be sufficient to cover the costs of proposed roadway construction within the Louisville Metro area. The analysis process proved to be an iterative one. Successive analyses conclusions were considered by committee conferees and reanalyzed by Integra Realty Resources Kentucky-Southern Indiana in alignment with the direction in which the collective understanding of the committee unfolded.

The body of this summary report describes the full analysis that was conducted in which a number of alternatives were considered that were later dropped from further consideration by the committee conferees. The summary of conclusions describes the final agreement among committee conferees on the manner in which to best proceed with the proposed project and best communicate the support for these conclusions.

GENERAL INFORMATION

PURPOSE AND EFFECTIVE DATE

The purpose of this analysis is to come to a preliminary conclusion on the sufficiency of proposed roadway system development charges and tax revenue sources to support the costs associated with a bond issue for roadway construction in four designated areas in eastern Jefferson County.

INTENDED USE AND INTENDED USER

The intended use of the preliminary analysis is to determine if the proposed roadway system development should be pursued. The intended user is Gresham Smith and Partners in support of Louisville Metro Government.

SCOPE OF ANALYSIS

To perform this assignment, we took the following steps:

- Created a model that estimated total bond issue costs for five year, ten year, and twenty year terms.
  - Estimated annual residential dwelling growth within each of the four designated study areas in terms of owned detached dwellings, owned attached dwellings, and rented attached dwellings.
  - Estimated an average amount of land that would be developed from among residential, retail, office, and industrial uses per unit of household growth.
  - Distributed total roadway construction cost estimates over the total acreage available for development in the study areas.
  - Assumed that annual roadway development would progress and concomitant costs would accrue in proportion to the annual amount of acreage developed.
  - Estimated total roadway costs for possible five year, ten year, and twenty year bond issue terms.
  - Estimated the attendant bond administration and bond interest costs associated with each of the five year, ten year, and twenty year bond issue terms.
- Created a model that estimated total possible revenues available to finance the proposed bond issue from roadway system development charges and ad valorem taxes.
  - Roadway system development charge revenues were estimated by:
    - Assuming that revenue to support bond issue costs would be derived from residential development only.
    - Estimating annual residential dwelling growth within each of the four designated study areas in terms of owned detached dwellings, owned attached dwellings, and rented attached dwellings

- Estimating revenue generated from a one-time roadway system development charge for each dwelling unit developed. This charge varied in amount among owned detached, owned attached, and rented attached dwellings.

- Ad valorem tax revenues were estimated by:

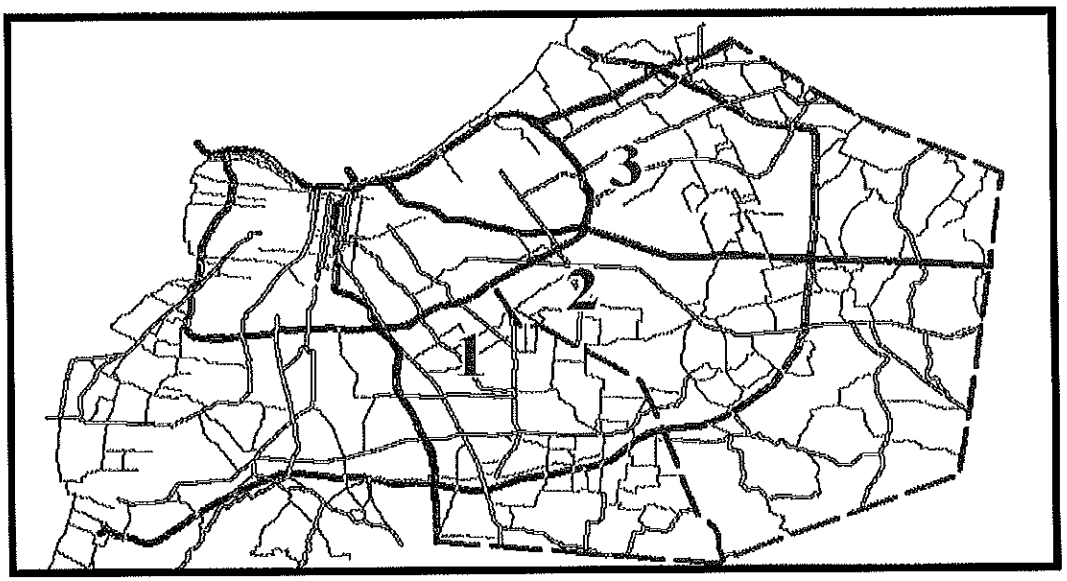
  - Estimating an average assessment for each of the three residential dwelling categories e.g. owned detached, owned attached, and rented attached dwelling.

  - Estimating revenue generated from that portion of ad valorem taxes annually levied upon residential dwellings by Louisville Metro Government. Unlike development charges, revenue from this source is generated every year and increases generally in proportion to annual household growth.

- Compared bond issue cost estimates with revenue estimates to determine what portion of revenues from each of these revenue sources would be required to provide a 20% surplus in revenues to insure revenue sufficiency given the preliminary, less exacting nature of the analysis to date. Committee conferees agreed that the roadway system development charge would be $1,000 for each owned detached dwelling unit, $500 for each owned attached dwelling unit, and $250 for each rented attached dwelling unit.

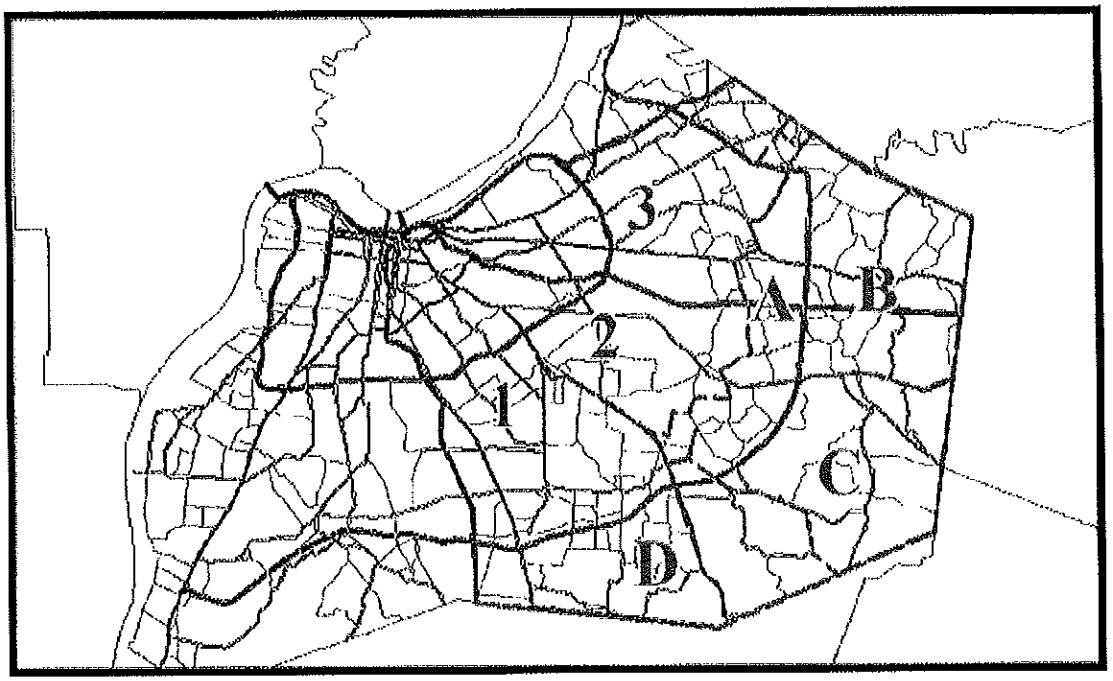
BOND ISSUE COST ANALYSIS

Bond issue costs for bond issue terms of five years, ten years, and twenty years were estimated. Three bond terms were studied because of the uncertainty of revenue sufficiency and the uncertainty of the amount of roadway development that might be required. Within the cost model it is assumed that only the amount of roads necessary to serve the amount of forecasted developed acreage will be constructed. It is further assumed within the cost model that all development will be located contiguously and will be located closest to the center of the county in each of the four study areas. This assumption is based upon recognition that development typically expands radially along growth corridors as illustrated in the following map. Growth corridor #1 is delineated by Interstate 65 on the west and Bardstown Road on the east. Growth corridor #2 is delineated by Bardstown Road on the west and Interstate 64 on the east. Growth corridor #3 is delineated by Interstate 64 on the west and Interstate 71 on the east.



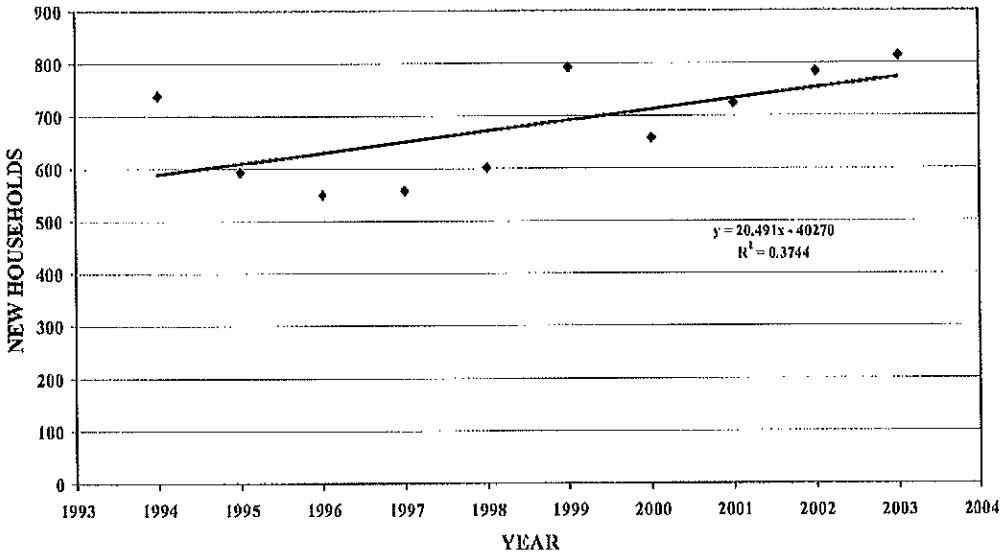
ANNUAL RESIDENTIAL DWELLING GROWTH

Annual residential dwelling growth was estimated for each of the four designated study areas. These study areas are depicted in the following map.



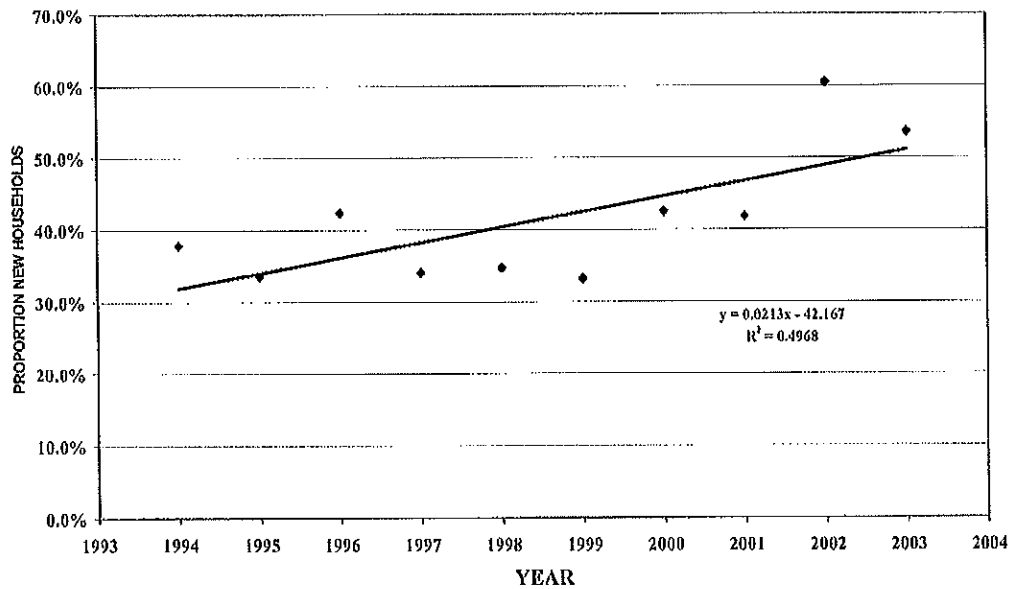
Originally, LaGrange Road was the northwestern boundary of study area "B", but this was subsequently changed to extend between LaGrange Road and Westport Road. This change will result in some differences in study area forecasts between this preliminary analysis and an eventual final analysis. Dwelling growth was based upon forecasted household growth. First household growth within each of the three growth corridors, e.g. "1", "2", and "3" shown in the map above, was forecasted based upon a linear regression of household growth from 1993 through 2003. An example of this analysis is shown in the following graph.

CORRIDOR 2 GROWTH TREND
1993 - 2003



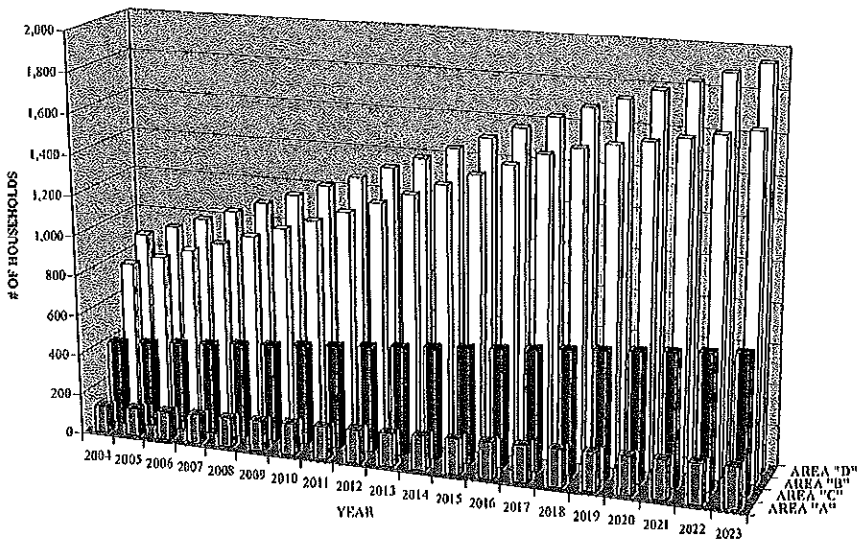
Given the recognition of the radial expansion of development, it was posited that the proportion of total household growth within a growth corridor would proportionally increase in the study areas with time. This hypothesis proved true, and the analysis of this proportional growth is illustrated in the following graph.

AREA C-2 PROPORTIONAL GROWTH TREND GRAPH



The resulting household growth forecasts for each of the four study areas was based upon historic data and are depicted in the following graph. A basic assumption of this household forecast is that household growth remains in Jefferson County.

ANNUAL HOUSEHOLD GROWTH BY STUDY AREA (2004-2024)



This household growth was disaggregated into the three dwelling types expected to predominate in the study areas, which were owned detached dwelling, owned attached dwellings, and rented attached dwellings. For preliminary analysis this disaggregation was accomplished by analyzing the proportion of land dedicated to these three residential uses within a circular study area six-miles in diameter in a portion of eastern Jefferson County that is substantially fully developed.

For each of the three residential dwelling types an estimate was made of the typical amount of land required to support a unit of that dwelling type. From this analysis, a weighted average amount of land developed with every unit of housing in the four study areas was estimated.

However, in addition to residential development, it is expected that associated retail, office, and industrial development will occur. A preliminary forecast of the land developed into these uses was made as a proportion of forecasted residential development again derived from the six-mile diameter study area previously described. In this manner, the total amount of land expected to be developed annually in residential, retail, office, or industrial use within the four study areas was estimated.

As earlier stated, this analysis assumes that only those roadway improvements needed to support expected growth within each of the four study areas during the five year, ten year, and twenty year terms will be constructed. Gresham Smith and Partners estimated the total roadway development costs required to improve all of the designated roads in each study area to the standards necessary to support the traffic generated by future development. In order to estimate how much of the total roadway development costs estimated for each study area would be incurred in each of the three time periods, the total roadway

development costs for each study area were divided by the developable land in each study area. The current expected costs per acre to develop all of the roadways in each area that have been identified for improvement are shown in the following table.

AREA	[A] AREA DEVELOPABLE ACREAGE [1]	[B] COSTS-3 [2]	[C] B/A OPTIMUM R/W COSTS PER ACRE
"A"	4,390.19	$16,199,809	$3,690.00
"B"	14,865.28	$37,610,951	$2,530.12
"C"	18,305.32	$48,205,995	$2,633.44
"D"	14,317.91	$26,327,141	$1,838.76

1 Gresham Smith.

2 Additional cost from right of way acquisition and construction including 20% of costs required for Federal highway construction.

These costs include the widening of roads and the acquisition of right-of-way. They also include a pro rata share of road improvement costs for roads the improvement of which will primarily be borne by the federal government.

For each year, the amount of acreage forecasted to be developed in each study area was multiplied times the expected roadway cost per acre above to estimate total roadway development costs for that year within each of the four study areas. Roadway development costs were appreciated at 2.0% per year. These annual roadway development cost forecasts were aggregated together in five, ten, and twenty year terms for each study area.

However, the costs of this proposed roadway development consists not only of roadway costs, but also bond issue costs, which include bond administration costs, and bond interest costs. Interviews with brokerage firms familiar with the issuance of municipal bonds resulted in an estimate of bond administration costs at approximately 12.0% of roadway development costs. Bond interest costs were estimated at 3.0% for the five year term, 3.8% for the ten year term, and 4.75% for the twenty year term. The resulting total roadway development bond issue cost estimates are shown in the following chart.

STUDY AREA	5 YEAR TERM	10 YEAR TERM	20 YEAR TERM
Area "A"	$1,570,030	$4,235,422	$15,091,139
Area "B"	$6,625,669	$19,384,981	$77,799,912
Area "C"	$3,491,482	$9,574,396	$34,961,598
Area "D"	$5,472,192	$15,864,328	$63,587,217
TOTAL	**$17,159,374**	**$49,059,127**	**$191,439,867**

It may be noted that there is a substantial increase in bond issue costs associated with the twenty year term. This increase is primarily due to increased bond interest costs because bond interest must be paid on the entire amount borrowed to cover roadway development and bond administration every year for the twenty year term. An additional issue not addressed within this analysis is if permitted the possibility of reinvesting portions of the total loan amount not immediately required for construction costs, thereby, generating income that might be used to ameliorate the debt burden.

BOND REVENUE ANALYSIS

The possible sources of revenue with which to fund the costs of the roadway development bond issue were agreed upon by committee conferees to include: roadway development system charges to assessed builders/developers upon construction within the four study areas and ad valorem taxes generated by this same construction. Each of these revenue sources will be addressed separately, and the total of possible revenue for each of these sources during terms of five, ten, and twenty years will be reported.

ROADWAY SYSTEM DEVELOPMENT CHARGE

After review of a number of analysis iterations, committee conferees agreed that roadway system development charges would be assessed on only residential uses. Retail, office, and industrial uses and concomitant construction would not be assessed a roadway system development charge. Among the reasons for this decision were: the substantial off-site, roadway development costs typically incurred by retail, office, and industrial developers as a result of the planning process; the difficulty of assessing an appropriate charge for this type of development; and the difficulty of estimating when this development would take place as a result of on-going household growth within the four study areas.

Again, after a number of analysis iterations, committee conferees agreed that the roadway system development charge would be $1,000 for each owned detached dwelling unit, $500 for each owned attached dwelling unit, and $250 for each rented attached dwelling unit. This charge would be assessed only once upon construction, probably upon obtaining a building permit.

As earlier described, the forecasted annual household growth in each study area was disaggregated into these three dwelling types. Owned detached dwellings were estimated at approximately 68% of all dwellings. Owned attached dwellings were estimated at 14% of all dwellings. And rented attached dwelling were estimated at 18% of all dwellings. For each year, the total number of forecasted new households in each study area were multiplied times the appropriate roadway system development charge and summed into five, ten, and twenty year totals. These roadway system development charges revenue totals are depicted in the following table.

STUDY AREA	5 YEAR TERM	10 YEAR TERM	20 YEAR TERM
Area "A"	$561,520	$1,196,267	$2,691,215
Area "B"	$3,451,561	$7,948,740	$20,001,301
Area "C"	$1,749,137	$3,785,580	$8,711,167
Area "D"	$3,922,920	$8,955,458	$22,486,040
TOTAL	**$9,685,138**	**$21,886,045**	**$53,889,724**

AD VALOREM TAX REVENUE

RESIDENTIAL AD VALOREM TAX REVENUE

Ad valorem taxes are levied on the assessed value of real property as determined by the Property Valuation Administrator's Office of Jefferson County. An average assessment was estimated for each dwelling type using recent assessment data on new property located in eastern Jefferson County. The average assessment for owned detached dwellings was estimated at $228,539. The average assessment for owned attached dwellings was estimated at $153,269. And, the average assessment for rented attached dwellings was estimated at $53,838. The 2003 ad valorem tax rate attributable to the Louisville Metro Government of approximately 0.13% of assessed value was used in the analysis. Because annual ad valorem tax revenues by statute may not increase beyond 2.0%, a 2.0% annual growth in the average assessments for each of the three dwelling types was applied to approximate this expected annual revenue increase. Five, ten, and twenty year residential ad valorem tax revenue totals are depicted in the following table.

STUDY AREA	5 YEAR TERM	10 YEAR TERM	20 YEAR TERM
Area "A"	$1,647,786	$4,540,714	$15,631,439
Area "B"	$10,059,343	$29,570,763	$111,862,434
Area "C"	$5,123,643	$14,309,563	$50,135,027
Area "D"	$11,439,479	$33,389,774	$125,610,612
TOTAL	**$28,270,250**	**$81,810,813**	**$303,239,512**

OTHER AD VALOREM TAX REVENUE

Though not considered in this analysis, additional ad valorem tax revenue will be collected for the retail, office, and industrial development that will follow residential development in each of the four study areas. For example, a neighborhood shopping center in Jefferson County, which consists of approximately 100,000 square feet of commercial space to include outlots will generate approximately $10,000 of ad valorem taxes attributable to Metro Government annually or approximately $75,000 of total ad valorem taxes. A neighborhood shopping center of this size will typically serve approximately 1,500 to 1,700 households with the type of household incomes expected for the four study areas, so it is expected that several neighborhood shopping centers of this size will be required to support the forecasted household growth. Similarly a 50,000 square feet class A office building will generate approximately $6,000. However, this report does not consider these other revenues source.

TOTAL BOND REVENUE

The total revenue available from the Roadway System Development fees and the ad valorem taxes for funding the proposed bond issue from the foregoing sources is summarized below.

STUDY AREA	5 YEAR BOND	10 YEAR BOND	20 YEAR BOND
Area "A"	$2,209,306	$5,736,981	$18,322,654
Area "B"	$13,510,903	$37,519,503	$131,863,735
Area "C"	$6,872,780	$18,095,142	$58,846,194
Area "D"	$15,362,399	$42,345,232	$148,096,653
TOTAL	**$37,955,388**	**$103,696,858**	**$357,129,235**

BOND ISSUE COST VERSUS REVENUES ANALYSIS

The next table shows the comparison between roadway system bond issue costs that are expected to be incurred during the five, ten, and twenty year periods and the total revenues expected to be collected from these study areas.

STUDY AREA	5 YEAR BOND	10 YEAR BOND	20 YEAR BOND
Area "A"	$2,209,306	$5,736,981	$18,322,654
Area "B"	$13,510,903	$37,519,503	$131,863,735
Area "C"	$6,872,780	$18,095,142	$58,846,194
Area "D"	$15,362,399	$42,345,232	$148,096,653
Total Available Revenue	**$37,955,388**	**$103,696,858**	**$357,129,235**
Less: Bond Issue Costs	**$17,159,374**	**$49,059,127**	**$191,439,867**
SURPLUS/DEFICIT	**$20,796,014**	**$54,637,732**	**$165,689,369**

As can be seen, total revenues available from the four study areas is more than sufficient to support the estimated roadway system bond issue costs. As a result, committee conferees agreed that revenues be analyzed on a basis of their source e.g. roadway systems charges and residential ad valorem taxes. Total available revenue for each of these sources is compared to estimated roadway system bond issue costs in the chart that follows.

STUDY AREA	5 YEARS	10 YEARS	20 YEARS
Roadway System Development Charge	$9,685,138	$21,886,045	$53,889,724
Ad Valorem Tax Revenue	$28,270,250	$81,810,813	$303,239,512
Total Revenue	**$37,955,388**	**$103,696,858**	**$357,129,235**
Less: Bond Issue Costs	**$17,159,374**	**$49,059,127**	**$191,439,867**
SURPLUS/DEFICIT	**$20,796,014**	**$54,637,732**	**$165,689,369**
SURPLUS/DEFICIT %	**54.79%**	**52.69%**	**46.39%**

Roadway system development charges were to be considered the primary source of revenue followed by residential ad valorem taxes. You may observe that when 100% of new ad valorem tax revenue is applied toward bond issue costs, there appears to be an average revenue surplus of approximately 50%. After consideration, committee conferees agreed that even though this analysis is preliminary and somewhat inexact, only a contingency of 20% above estimated roadway system bond issue costs would be necessary to meet future revenue sufficiency. Accordingly, ad valorem tax revenues

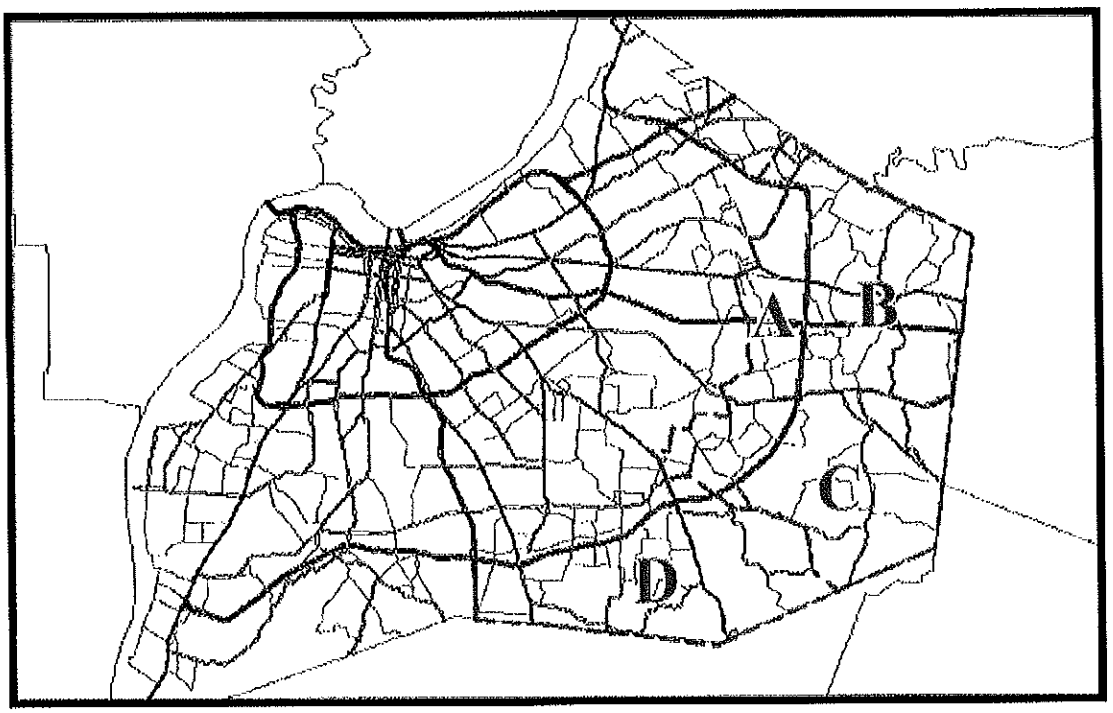
applied to bond issue costs were reduced until forecasted total revenue exceeded expected bond issue costs by approximately 20%. This analysis is depicted in the next table.

STUDY AREA	% CONTRIB.	5 YEARS	% CONTRIB.	10 YEARS	% CONTRIB.	20 YEARS
Roadway System Development Charge	100.0%	$9,685,138	100.0%	$21,886,045	100.0%	$53,889,724
Ad Valorem Tax Revenue	39.0%	$11,025,397	46.0%	$37,632,974	58.0%	$175,878,917
Total Revenue		**$20,710,536**		**$59,519,019**		**$229,768,640**
Less: Bond Issue Costs		**$17,159,374**		**$49,059,127**		**$191,439,867**
SURPLUS	**20.7%**	**$3,551,162**	**21.3%**	**$10,459,893**	**20.0%**	**$38,328,774**

As illustrated above, all of the prospective roadway system development charges may be required, but only about half of the residential ad valorem tax revenues forecasted will be needed.

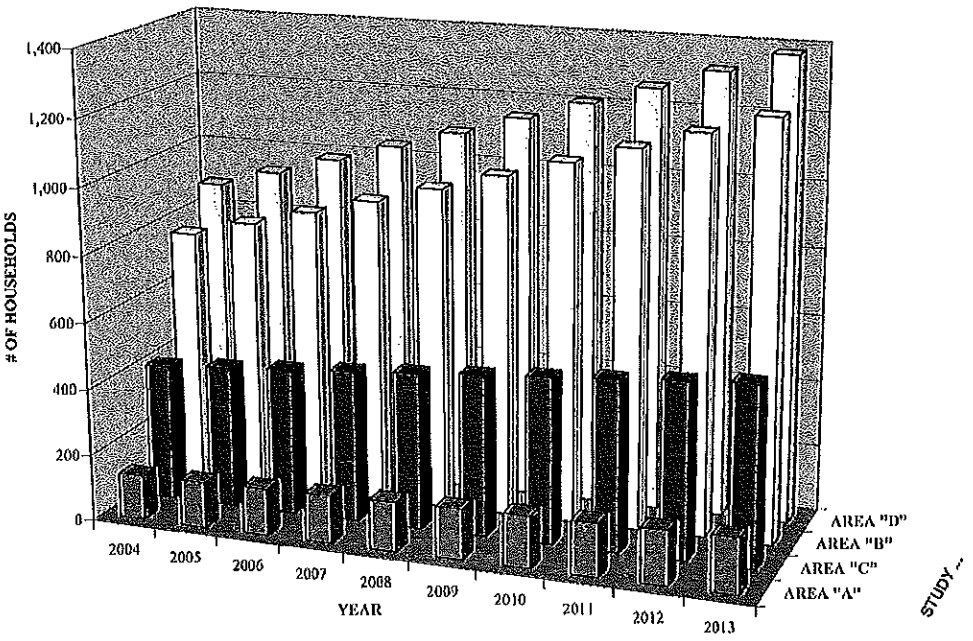
SUMMARY OF CONCLUSIONS

Roadway development is proposed for four areas within the Louisville Metro area such that housing needs generated by the Louisville Metro community may be fulfilled by housing located in Jefferson County rather than lost to surrounding counties. These areas are depicted in the following map.



The dynamics of growth were studied in each of these areas for terms of five, ten, and twenty years. Upon review, a study term of ten years was determined to best accommodate the competing needs of constructing sufficient roadways to support future growth and of minimizing the associated bond issues costs particularly with respect to interest payments. The following graph illustrates the household growth based upon historic data within the four designated areas that is expected as a result of the proposed roadway system development during the next ten years.

ANNUAL HOUSEHOLD GROWTH BY STUDY AREA [2004-2013]



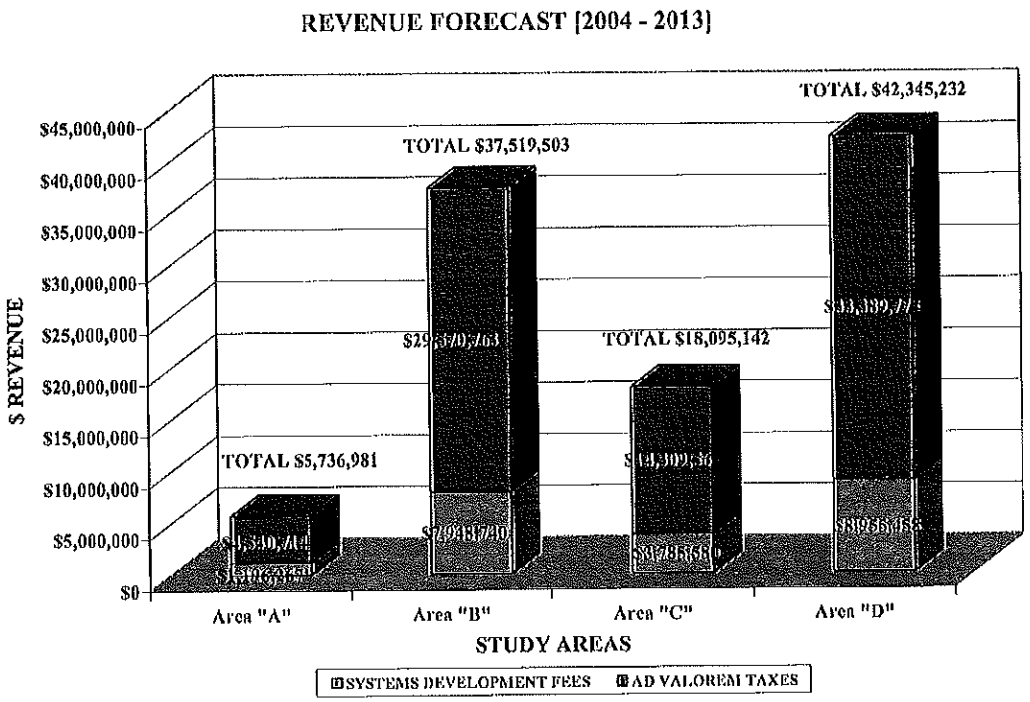
Sources of new revenues created by this growth, which may be used to fund the proposed roadway system development include builder generated roadway system development fees and Metro Government revenues.

- Only roadway system development fees derived from new **residential** development were considered. Fees derived from new commercial and industrial development were not considered. Committee conferees agreed that the roadway system development fee would be $1,000 for each single-family home, $500 for each condominium, and $250 for each apartment.

- After consideration, committee conferees recommended that a percentage of revenues derived from ad valorem taxes on **new residential** development be used. Ad valorem taxes derived from new commercial and industrial development would not be considered. An ad valorem tax rate attributable to Metro Government of approximately $0.13 per $100 of assessed value was used in the analysis. This is approximately 14% of the total ad valorem tax rate of approximately $0.95 per $100 of assessed value, which is distributed among Metro Government, the State of Kentucky, the Jefferson County Public Schools, and various fire districts.

- Ad valorem taxes were estimated for 2004 using an average assessment for newly constructed single-family homes of $228,539, an average assessment for newly constructed condominiums of $153,269, and an average assessment for newly constructed apartments of $53,838. An annual growth rate of 2.0% was applied to these average assessments in future years.

The magnitude of these revenues for each study area during the next ten years is shown in the following graph.



The costs of roadway system development include the cost of right-of-way and construction, developed by Gresham Smith and Partners, the administrative cost associated with the issuance of bonds to fund the roadway development, and the cost of interest that must be paid to bond holders.

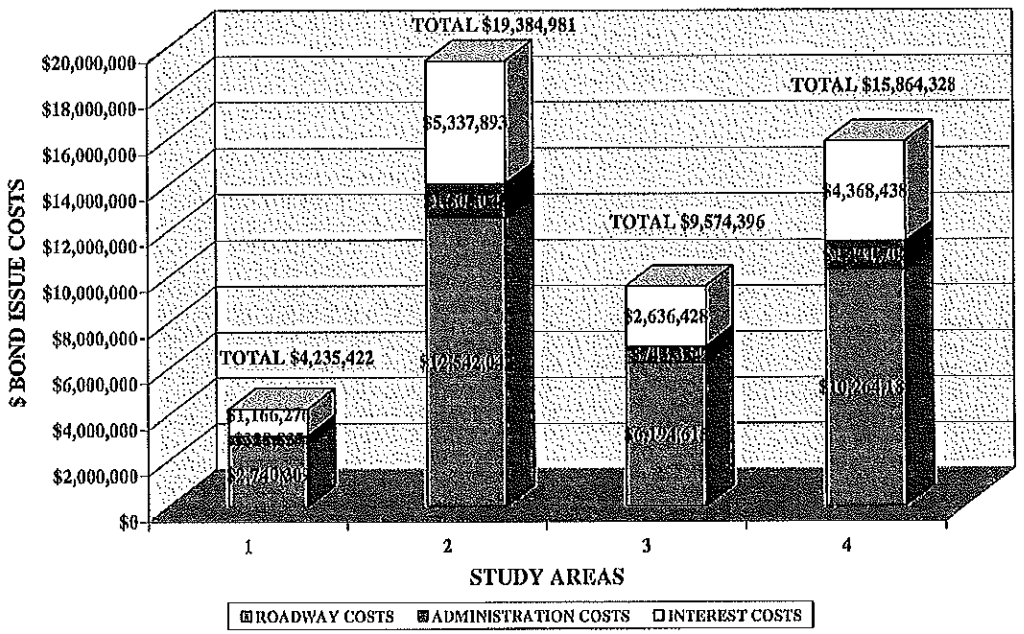
- The cost of the roads required to support ten years of growth in each study area were compared to the number of acres of growth/development forecasted during this ten year period. Roadway development costs ranged from approximately $1,800 to $3,700 per acre of development among the four study areas.

- Bond administration costs were estimated at approximately 12% of roadway development costs.

- Bond interest costs were estimated at approximately 3.8% of the total roadway development and administration costs for the ten year period.

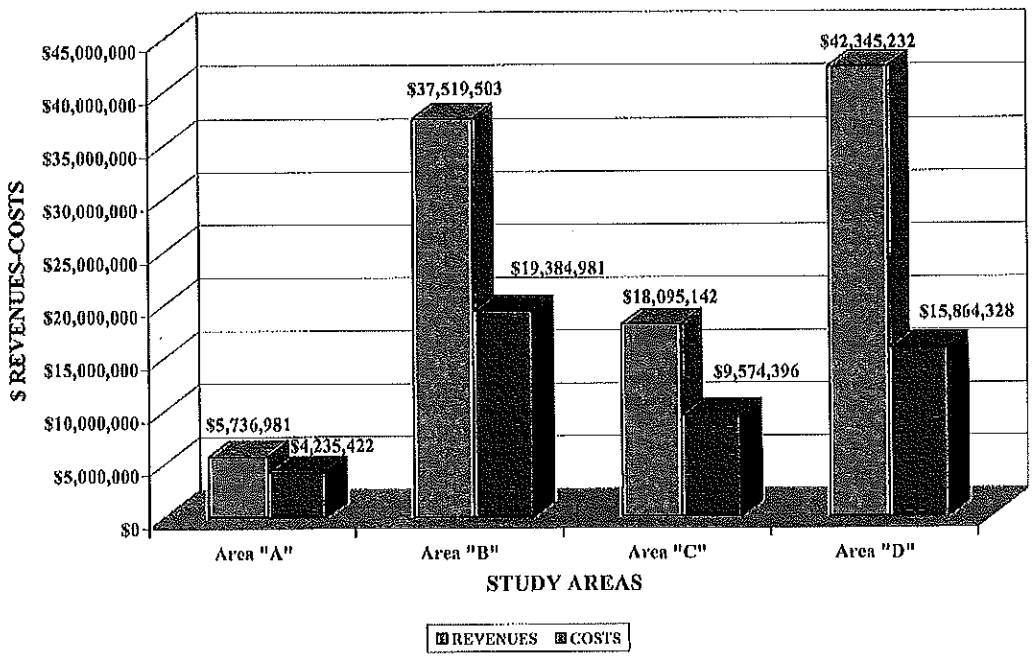
The magnitude of these expected costs for each study area during the next ten years is shown in the next graph.

BOND ISSUE COSTS [2004 - 2013]



As can be seen in the following graph, a comparison of expected revenues from development fees and total new residential ad valorem taxes apportioned to Metro Government indicates that available revenues substantially exceed expected costs.

REVENUES VERSUS COSTS [2004 - 2013]

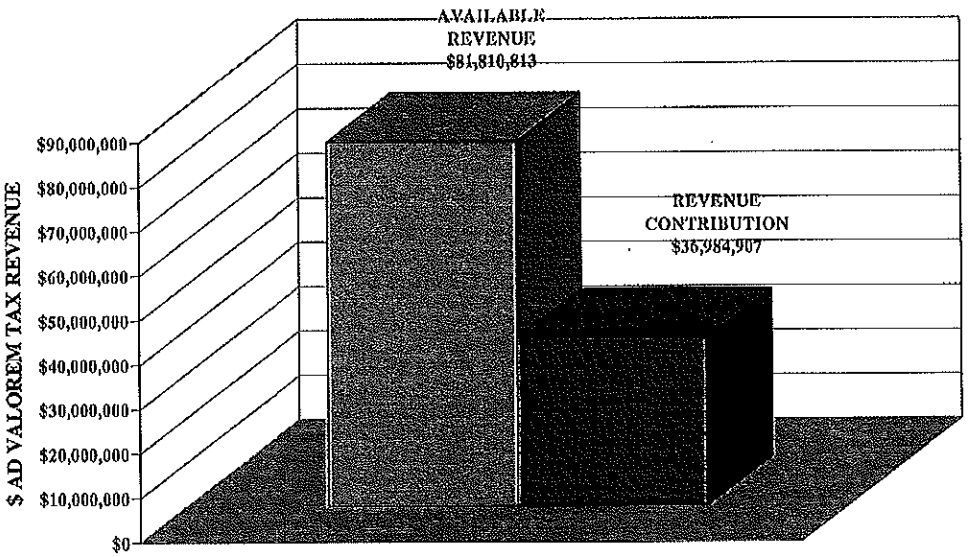


Committee conferees agreed that revenues contributed from roadway system development fees and Metro Government should be as equal as possible.

- In reducing total revenues to a level sufficient to address roadway system bond issue costs, it was decided that total fee revenue would be contributed toward roadway system bond issue costs.
- However, Metro Government contributions would include only ad valorem tax revenue sufficient to provide a contingency of 20% above estimated roadway system bond issue costs.
- The 20% contingency was included to address the fact that the roadway system bond issues costs used in the analysis were only preliminary in nature.

As a result of this agreement, Metro Government is expected to experience a considerable savings in new revenues, which is illustrated in the following graph.

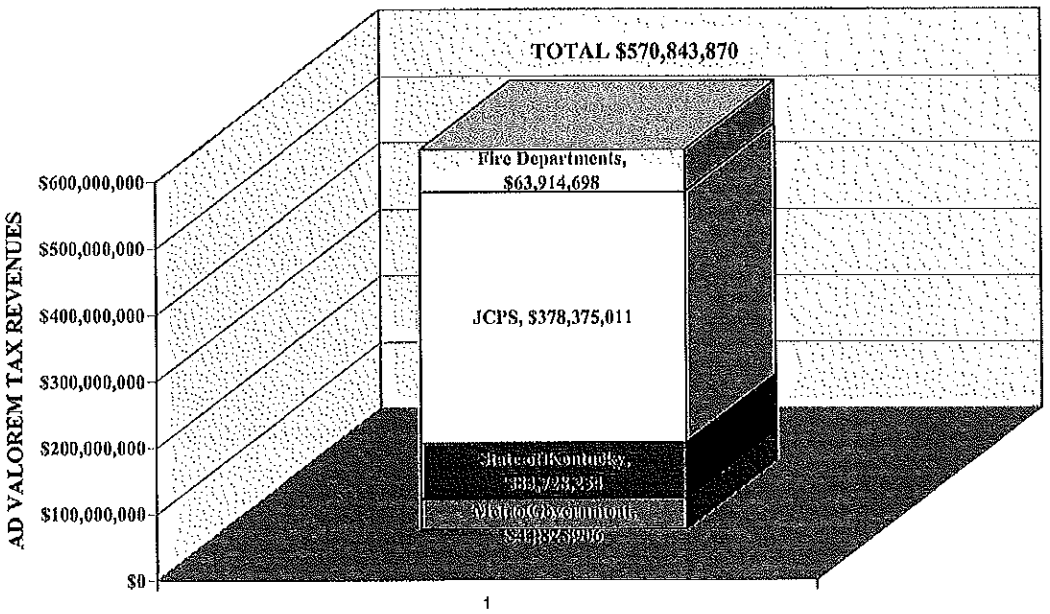
ADJUSTED METRO GOVERNMENT REVENUE CONTRIBUTION



As can be seen, **less than half** of new ad valorem taxes apportioned to Metro Government that are expected to be derived from the growth fostered by roadway system development within the four study areas will be needed to fund the expected costs of the requisite bond issue for this development. This leaves for Metro Government approximately $45,000,000 in surplus ad valorem taxes during the next ten years. The total amount of ad valorem taxes expected to be generated during this ten year period that will **not** be spent on roadway system development is approximately $570,843,870. The distribution of these surplus ad valorem tax revenues is illustrated in the following graph. And it should be remembered that other ad valorem taxes generated by non-residential development are not

even considered in this total. For example, a recently developed neighborhood shopping center is located east of the Gene Snyder Freeway in Jefferson County, which consists of approximately 100,000 square feet of commercial space to include outlots will generate approximately $10,000 of ad valorem taxes attributable to Metro Government annually or approximately $75,000 of total ad valorem taxes.

TEN YEAR SURPLUS AD VALOREM TAX REVENUES



Integra Realty Resources Kentucky-Southern Indiana concludes that based upon the parameters agreed upon among committee conferees representing the varied interests of Louisville Metro Government and the builder community, the proposed roadway system development may be successfully funded from roadway system development fees and new ad valorem tax collections derived solely from expected residential development. Alternatively, Metro Government need set aside only approximately $3,700,000 per year to meet bond issue obligations if other sources of revenue are used. If Metro Government chooses to just match the contribution expected from builder's fees, a contribution of only approximately $2,200,000 per year will be required.

Furthermore, we observe that development of the roadway system necessary for this forecasted growth will generate in **surplus revenues** approximately $45,000,000 for Metro Government, approximately $380,000,000 for Jefferson County Public Schools, and approximately $64,000,000 for Jefferson County fire departments that might otherwise be lost if households must look to surrounding counties for adequate housing if the proposed roadway development is not undertaken.

ISSUES FOR FUTHER CONSIDERATION

In conducting this preliminary analysis, Integra Realty Resources was asked to provide general insights and conclusions on the sufficiency of revenues from newly proposed sources to fund a municipal bond issue that would be used to improve road infrastructure in eastern Jefferson County. These road improvements would allow for continued development expansion into this area. As a general consequence, constraints deriving from client directive, limited analysis time, and concomitant fee emaciation render this preliminary analysis subject to the considerations enumerated below.

- Area Household Growth Forecasts were based upon linear regression analyses many of which had low correlation coefficients indicating low reliability. We would expect to reanalyze household growth forecasts in a subsequent analysis to improve the level of confidence we have in our forecasts.
- The annual land use acreage forecasts for the study areas are based upon land use proportionality reflective of mature suburban areas. The study areas may experience land use proportions in the early years of development which substantially differ from these proportions. We would need to conduct additional research on this issue to provide greater confidence in our revenue forecasts, which are in part dependent upon accurate forecasts of the proportion of acreage developed into the various land uses studied.
- The amount of road that will be improved and the associated costs of this development will undoubtedly be determined in some manner other than the conventions used in this preliminary analysis. Future analyses must be reconsidered in light of these expected changes.
- As a consequence, these findings **must** not be considered with the same confidence as one would a complete analysis conducted by our firm.

ADDENDUM A

QUALIFICATIONS OF CONSULTANTS

PROFESSIONAL QUALIFICATIONS OF GEORGE M. CHAPMAN, MAI, SRA, CRE

EXPERIENCE:	Managing Director for Integra Realty Resources Kentucky-Southern Indiana. Approximately 32 years experience in real estate economics, which includes real estate and business consulting, feasibility, market and marketability studies, and appraising complex real estate properties. In 1972 formed Chapman and Company after completing ten years corporate management experience in the field of chemical engineering. Subsequently Chapman & Bell was formed in 1980. In ensuing years the company grew to approximate 20 persons with experiences ranging from chemical processing, environmentally impacted real estate, landfills, heavy manufacturing, and recreational facilities such as theaters, sporting arenas, golf courses, automobile dealerships, and horse race tracks valuations. October 1, 1999 Chapman & Bell joined a national appraisal group and became Integra Chapman & Bell. In 2000 Integra Chapman & Bell expanded into Tennessee with an office in Nashville to cover the Tennessee area to include Nashville and the remainder of Tennessee east of Nashville. The ability and expertise to perform complex property valuation, highest and best use/market and market ability studies, and broadening our geographic market data has been a stepping stone for the company to expand into litigation, litigation support, multiple local and multiple state government initiatives.
PROFESSIONAL ACTIVITIES:	Member: Appraisal Institute (MAI No. 5381) (Held various positions to include Director 1991-1994, Region 5 Chairman 1992-1994, Region 5 Vice Chairman 1991, GAB 1995 & 1996, Vice Chair Membership and Development Committee 1999, 2000) Member: The Counselors of Real Estate (CRE) Licensed: Kentucky General Appraiser License No. 000614 Indiana General Appraiser License No. CG69201294 Tennessee General Appraiser License No. 00001136 Member: Greater Louisville Association of Realtors Associate: Home Builders Association of Louisville
EDUCATION:	B.S. Degree, Eastern Kentucky University, Richmond, Kentucky 15 hours toward MBA Degree, University of Louisville, Louisville, Kentucky Successfully completed numerous real estate related courses and seminars sponsored by the Appraisal Institute. Currently certified by the Appraisal Institute's voluntary program of continuing education for its designated members.
QUALIFIED BEFORE COURTS AND ADMINISTRATIVE BODIES:	FCC, Kentucky and Indiana District Courts, Federal Courts for Kentucky and Southern Indiana, approximately 25 of the 100 county courts in Kentucky, and Floyd and Clark Counties in Indiana.

PROFESSIONAL QUALIFICATIONS OF CHARLES A. WILLIAMS, III, MBA

EXPERIENCE:	An independent contractor contracted as a senior analyst for specific projects with Integra Realty Resources Kentucky-Southern Indiana. Seventeen years experience in the field of real estate economics; primarily in the design, management, and preparation of market and marketability studies and concomitant appraisals for proposed real estate developments. Also engaged as a consultant in support of rezoning requests often requiring audio-visual presentations before planning and zoning authorities. Special Expertise: Development of telephone surveys and associated models of demand for a variety of residential, commercial, and light industrial development types. Analysis of telephone survey results using "SPSS" statistical analysis software. Application of the retail gravitation model in commercial retail market and marketability studies. Application of GIS technologies in real estate analysis using "MapInfo" mapping software. Specific Land Use Expertise: Residential: Single-family subdivisions; cluster home subdivisions; garden/patio home communities; townhouse/condominium communities; apartment communities; independent living and assisted living communities. Commercial: Regional malls; community shopping centers; neighborhood shopping centers; strip centers, specialty groceries; hotels, restaurants, office buildings, office condominiums. Industrial: Industrial parks; self-storage facilities; flex-space condominiums. Recreational: resort single-family/condominium communities; marinas; golf courses; time-share resort communities.
PROFESSIONAL ACTIVITIES:	Associate Member: Appraisal Institute Associate Member: Urban Land Institute Participant/Member: Louisville & Jefferson County "Cornerstone 2020"
EDUCATION:	University of Pennsylvania United States Military Academy, BS University of Louisville, MBA University of Louisville, MS, General Systems Theory (Thesis Unfinished) Successfully completed all course work toward MAI designation and numerous courses and seminars sponsored by the Appraisal Institute.

INTEGRA REALTY RESOURCES, INC.
CORPORATE PROFILE

Integra Realty Resources, Inc. is the largest property valuation and counseling firm in the United States, with 51 offices in 30 states. Integra was created for the purpose of combining the intimate knowledge of well-established local offices with the powerful resources and capabilities of a national company. Integra's local offices have an average of 20 years of service in the local market. A Managing Director, with an average of 25 years of local market valuation and counseling experience, leads each office.

Integra Realty Resources, Inc. has over 130 professionals who hold the Appraisal Institute's MAI designation, of which 24 are CRE members of The Counselors of Real Estate. In addition to having expertise in the standard commercial property types, the firm has an extensive track record in specialty property classes including regional malls, hotels, health care facilities, golf courses, and pipeline rights-of-way. Integra also has a wealth of experience in market and feasibility studies, property tax consulting, litigation support, and machinery and equipment and business valuation.

A listing of Integra's local offices and their Managing Directors follows:

ATLANTA, GA – J. Carl Schultz, Jr., MAI, SRA, CRE
ATLANTIC COAST NJ - Anthony S. Graziano, MAI, CRE
AUSTIN, TX – Randy A. Williams, MAI
BALTIMORE, MD – Patrick C. Kerr, MAI, SRA
BOSTON, MA – David L. Cary, MAI, SRA, CRE
CHARLOTTE, NC – Fitzhugh L. Stout, MAI, CRE
CHICAGO, IL – Gary K. DeClark, MAI, CRE
CHICAGO, IL – Jeffrey G. Pelegrin, MAI
CINCINNATI, OH – Gary S. Wright, MAI, SRA
COLUMBIA, SC – Michael B. Dodds, MAI, CCIM
COLUMBUS, OH – Eric E. Belfrage, MAI, CRE, ISHC
DALLAS, TX – Mark R. Lamb, MAI, CPA
DAYTON, OH – Mark L. Middleton, MAI, SRA
DENVER, CO – Brad A. Weiman, MAI
DETROIT, MI – Anthony Sanna, MAI
FORT WORTH, TX – Donald J. Sherwood, MAI
GREENVILLE, SC – Michael B. Dodds, MAI, CCIM
HARTFORD, CT – Mark F. Bates, MAI, CRE
HOUSTON, TX – David R. Dominy, MAI
INDIANAPOLIS, IN – Michael C. Lady, MAI, SRA, CCIM
KANSAS CITY, MO/KS – Kevin K. Nunnink, MAI
LAS VEGAS, NV – Shelli L. Lowe, MAI, SRA
LOS ANGELES, CA – John G. Ellis, MAI
LOUISVILLE, KY – George M. Chapman, MAI, SRA, CRE
MEMPHIS, TN – J. Walter Allen, MAI
MIAMI, FL – Michael Y. Cannon, MAI, SRA, CRE
MILWAUKEE, WI – Sean Reilly, MAI
MINNEAPOLIS, MN – Michael F. Amundson, MAI, CCIM
MORGANTOWN, WV – Thomas A. Motta, MAI
NAPLES, FL – Thomas Tippett, MAI,
NASHVILLE, TN – R. Paul Perutelli, MAI, SRA
NEW YORK, NY – Raymond T. Cirz, MAI, CRE,
Dov E. Goldman, MAI, CRE
NORTHERN NJ – Barry J. Krauser, MAI, CRE
ORANGE COUNTY, CA – Larry D. Webb, MAI
ORLANDO, FL – Charles J. Lentz, MAI
PHILADELPHIA, PA – Joseph D. Pasquarella, MAI, CRE
PHOENIX, AZ – Walter Winius, Jr., MAI, CRE
PITTSBURGH, PA – Paul D. Griffith, MAI
PORTLAND, OR – Brian A. Glanville, MAI, CRE
PROVIDENCE, RI – Gerard H. McDonough, MAI
RICHMOND, VA – Robert E. Coles, MAI, CRE
SACRAMENTO, CA – Scott Beebe, MAI
SAN ANTONIO, TX – Martyn C. Glen, MAI, CRE, FRICS
SAN DIEGO, CA – Lance W. Doré, MAI
SAN FRANCISCO, CA – Jan Kleczewski, MAI
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SEATTLE, WA – Allen N. Safer, MAI
TAMPA, FL – Bradford L. Johnson, MAI
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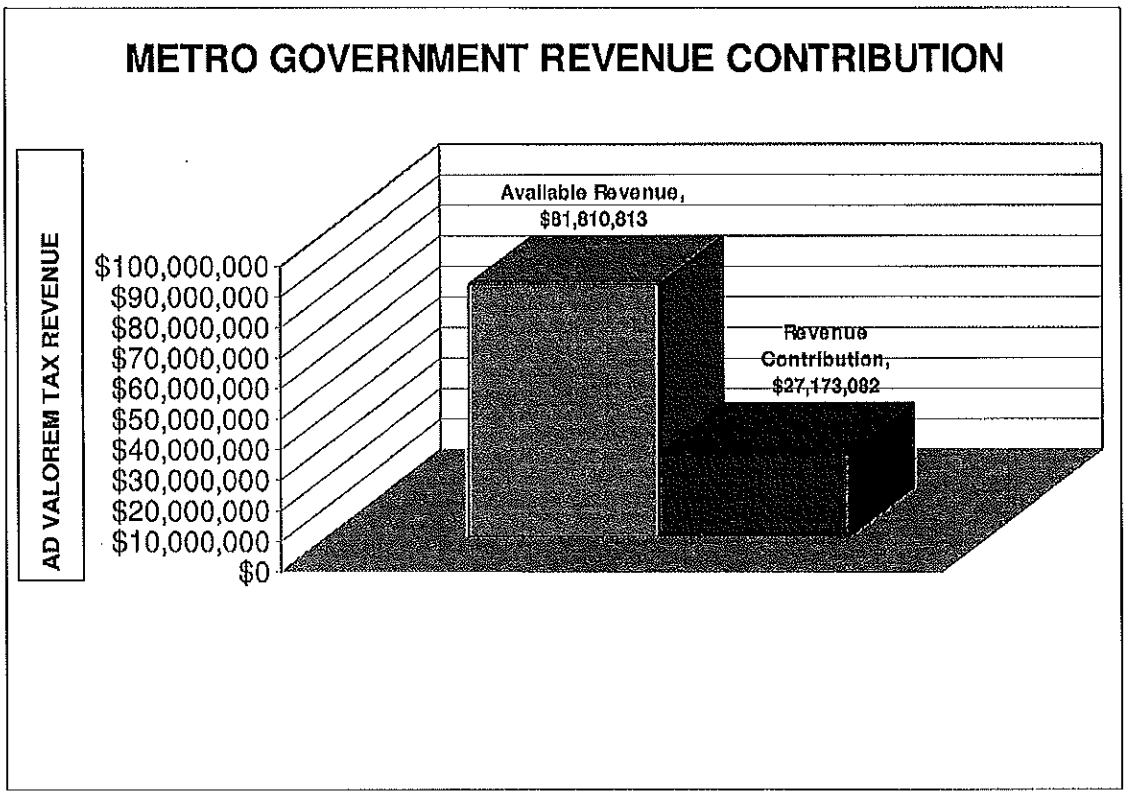
CORPORATE OFFICE
Kevin K. Nunnink, MAI, Chairman
Raymond T. Cirz, MAI, CRE, President
George G. Ward, MAI, Vice President
3 Park Avenue, 39th Floor, New York, NY 10016-5902
P: (212) 255-7858; F: (646) 424-1869; E-Mail: Integra@irr.com
Website: http://www.irr.com

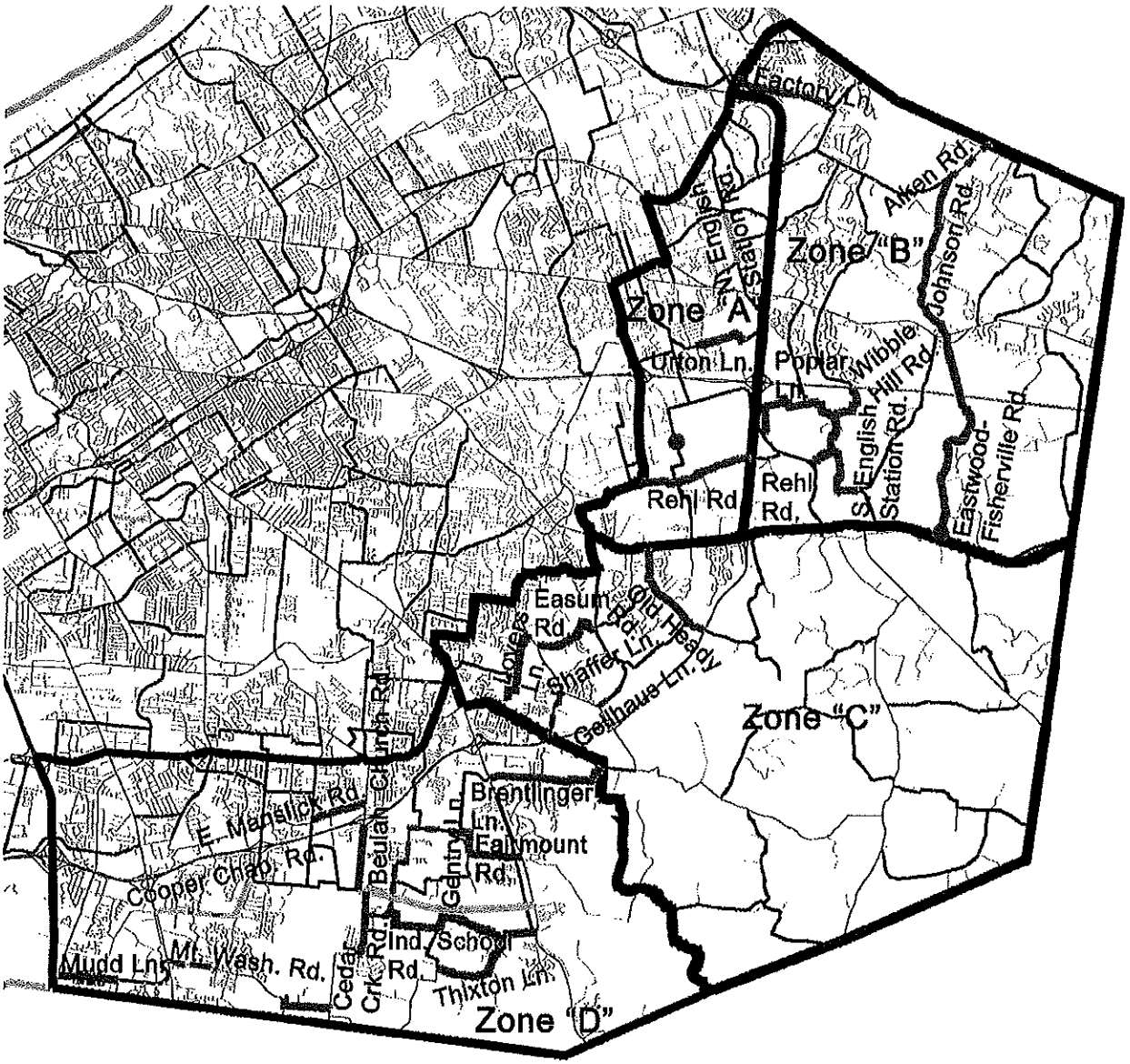
FINAL RECOMMENDATIONS

STUDY AREA	10 YEAR PROJECTION
Roadway System Development Charge	$21,886,045
Ad Valorem Tax Revenue	$27,173,082
Total Revenue	**$49,059,127**
Less: Bond Issue Costs	**$49,059,127**
SURPLUS*	**$0**

*Louisville Metro Public Works is recommending a 20% contingency on roadway construction.

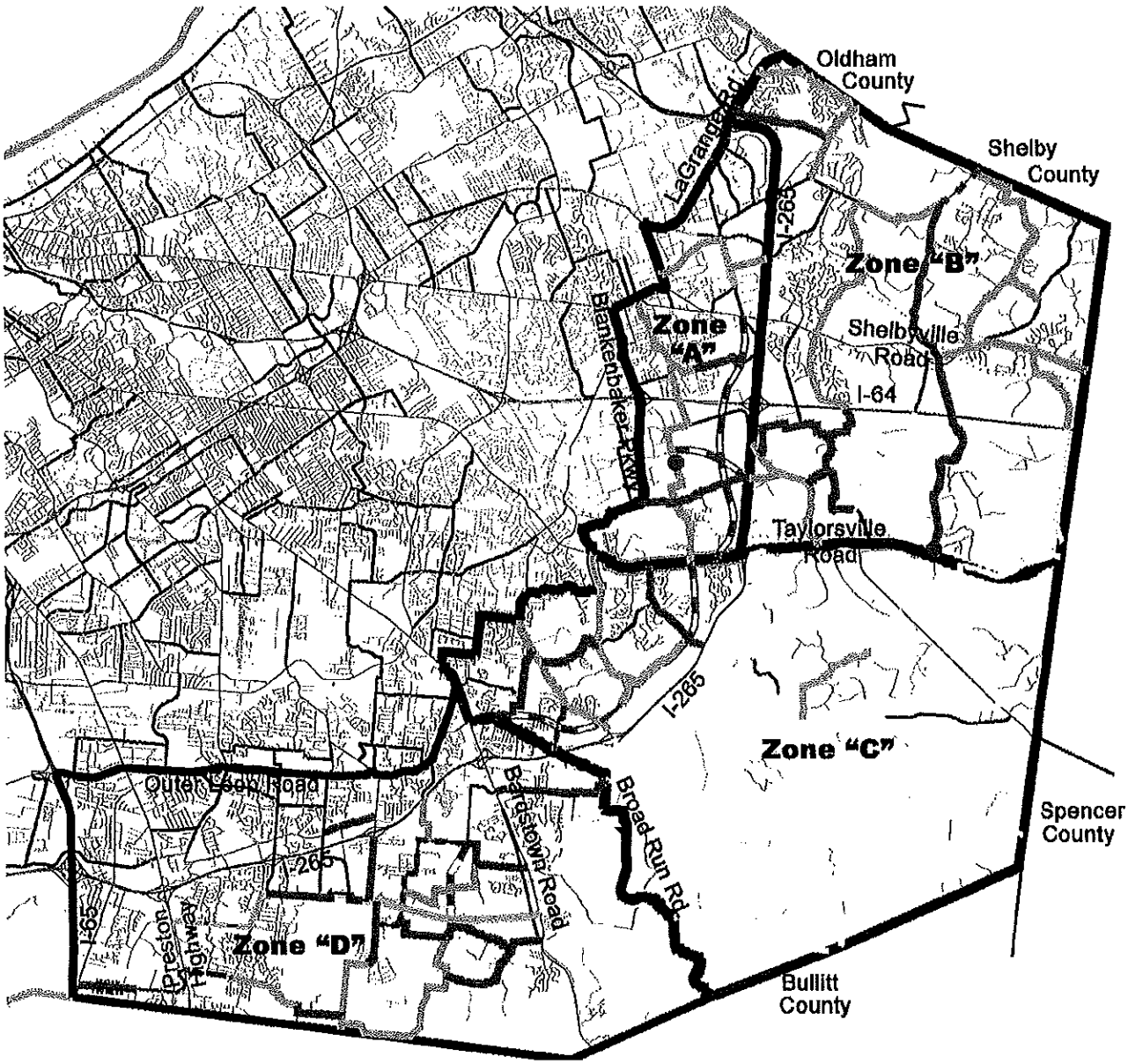


DESIGNATED ROADS



REVISED 5-16-06

LOUISVILLE METRO EXPANSION AREA



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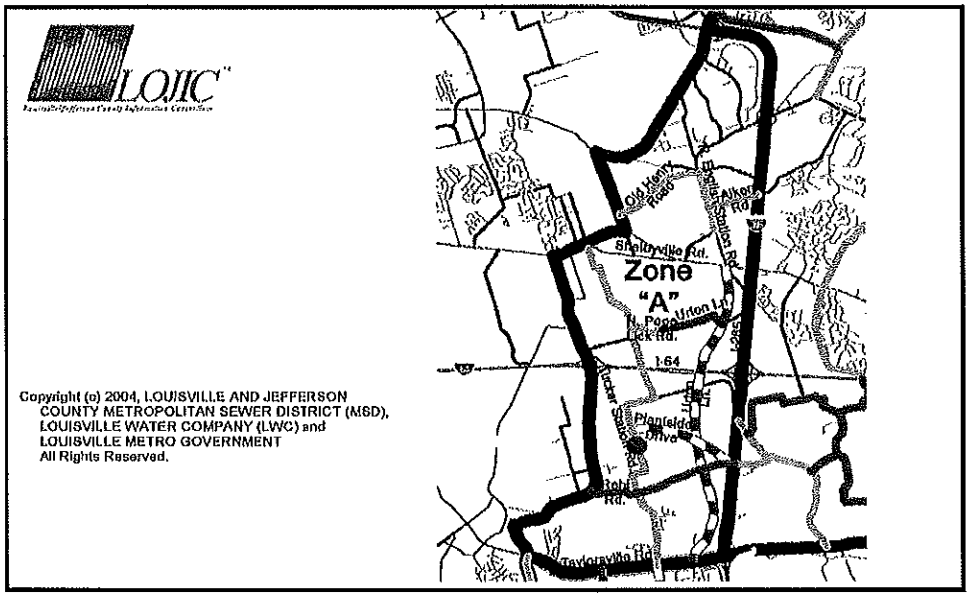
TRANSPORTATION BENEFIT DISTRICT

TRAFFIC ZONE "A" OVERVIEW



DESIGNATED THROUGH ROAD PROJECTS	
Rehl Road	1.30 Miles
Tucker Station Road (Bridge Replacement)	
Urton Lane	0.85 Miles
TOTAL	**2.15 Miles**
DESIGNATED CORRIDOR PROJECTS	
North English Station Road: Aiken Road to Old Henry Road (Federal $)	**0.85 Miles**
[illegible]	[illegible]
Aiken Road	0.62 Miles
Old Henry Road	1.10 Miles
North Pope Lick Road	0.44 Miles
Rehl Road**	0.50 Miles
Tucker Station Road**	4.78 Miles
TOTAL	**7.44 Miles**
[illegible]	
I-64 Bridge: Urton Lane Corridor	
Plantside Drive: Tucker Station Road to I-265	1.50 Miles
Urton Lane: I-64 to Taylorsville Road	2.50 Miles
Urton Lane: Shelbyville Road to I-64	2.00 Miles
TOTAL	**6.00 Miles**

*Currently Programed for Improvement **Future Project - Consideration for Priority

REVISED 3-13-06

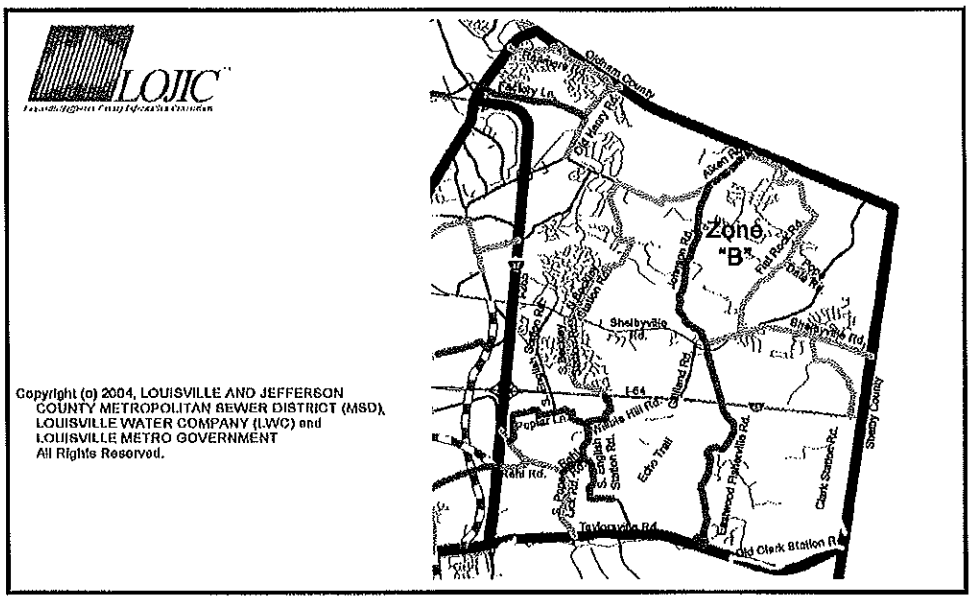
APPENDIX C

PAGE 4

TRAFFIC ZONE "A"
SUMMARY OF ROADWAY COST

ROADWAY NAME	FROM	TO	PRIORITY	EXISTING WIDTH	R/W COST	CONSTRUCTION COST	TOTAL COST
Rehl Road	Tucker Station Road	Interstate 265	Designated Through Rd Project	18',17.5'	$ 366,600	$ 831,210	$ 1,197,810
Tucker Station Road	(Bridge Replacement)		Designated Through Rd Project				$300,000.00
Urton Lane	North Pope Lick Road	Proposed Extension	Designated Through Rd Project	14.5',18.5'	$ 364,800	$ 704,025	$ 1,068,825
North English Station Road*	Aiken Road	Old Henry Road	Designated Corridor Project	18.5'	$ 59,280	$ 121,544	$ 180,824
			Total (Designated):		**$ 790,680**	**$ 1,656,779**	**$ 2,747,459**
Aiken Road	North English Station Road	Interstate 265	Undesignated Through Rd	19'	$ 108,000	$ 381,100	$ 489,100
			Project - Future (Bond)				
Old Henry Road	Evergreen Road	North English Station Road	Undesignated Through Rd	17.5',21'	$ 394,200	$ 669,986	$ 1,064,186
			Project - Future (Bond)				
North Pope Lick Road	Tucker Station Road	Urton Lane	Undesignated Through Rd	16.5'	$ 167,400	$ 297,363	$ 464,763
			Project - Future (Bond)				
Rehl Road	Blankenbaker Road	Tucker Station Road	Undesignated Through Rd	18',17.5'	$ 141,000	$ 319,696	$ 460,696
			Project - Future (Bond)				
Tucker Station Road	Taylorsville Road	Old Shelbyville Road	Undesignated Through Rd	19',18',17.5',21'	$ 1,144,800	$ 3,087,722	$ 4,232,522
			Project - Future (Bond)				
Plantside Drive	Tucker Station Road	Interstate 265	Corridor Projects (Future)		$ 54,000	$ 1,244,027	$ 1,298,027
Urton Lane Extension	Taylorsville Road	Shelbyville Road	Corridor Projects (Future)		$ 384,000	$ 4,635,761	$ 5,019,761
*Cost less 80% state funding				**TOTAL:**	**$3,184,080**	**$12,292,434**	**$15,776,514**

TRANSPORTATION BENEFIT DISTRICT
TRAFFIC ZONE "B" OVERVIEW



DESIGNATED THROUGH ROAD PROJECTS	
Alken Road* (Johnson Road to Co. Line)	0.85 Miles
Eastwood-Fisherville Road (US 60 to Taylorsville Road)	3.49 Miles
Eastwood-Fisherville Road (Railroad Underpass)	
Factory Lane	1.54 Miles
Johnson Road	2.70 Miles
Poplar Lane	1.13 Miles
Rehl Road	0.37 Miles
South English Station Road (Poplar Lane to Echo Trail)	2.10 Miles
Wibble Hill Road	0.71 Miles
TOTAL	**12.89 Miles**
[illegible]	
Alken Road	3.35 Miles
North Beckley Station Road	2.65 Miles
South Beckley Station Road	1.52 Miles
Clark Station Road	1.54 Miles
Flat Rock Road	3.92 Miles
Pope Dale Road	0.57 Miles
Reamers Road**	1.85 Miles
Rehl Road (I-265 to Pope Lick Road)**	0.46 Miles
South Pope Lick Road	2.21 Miles
TOTAL	**18.07 Miles**
Old Henry Road/Crestwood Bypass	1.52 Miles
Shelbyville Road: Eastwood to Shelby Co. Line	2.83 Miles
TOTAL	**4.35 Miles**

*Currently Programed for Improvement **Future Project - Consideration for Priority

REVISED 3-13-06

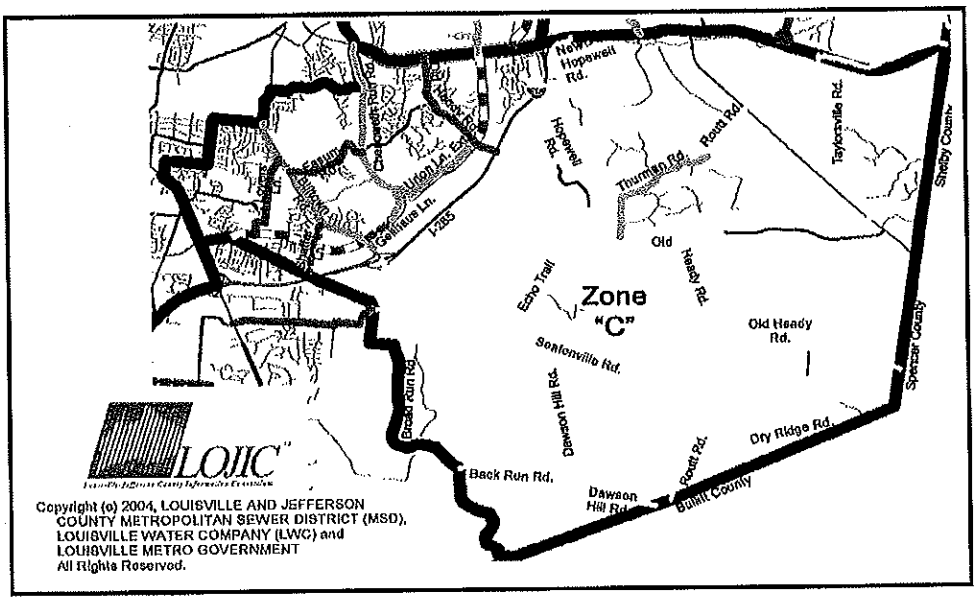
APPENDIX C

TRAFFIC ZONE "B"
SUMMARY OF ROADWAY COST

ROADWAY NAME	FROM	TO	PRIORITY	EXISTING WIDTH	R/W COST	CONSTRUCTION COST	TOTAL COST
Aiken Road*	Johnson Road	Jefferson County Line	Designated Through Rd Project	19',17',20.5',14'	$ 76,500	$ 571,345	$ 647,845
Eastwood Fisherville Road	US 60	Taylorsville Road	Designated Through Rd Project	16.5',22'	$ 1,149,809	$ 2,568,355	$ 3,718,164
Eastwood Fisherville Road	(Railroad underpass)		Designated Through Rd Project		$ 60,000	$ 1,940,000	$ 2,000,000
Factory Lane	LaGrange Road	Old Henry Road	Designated Through Rd Project	23',17'	$ -	$ 902,686	$ 902,686
Johnson Road	Shelbyville Road	Aiken Road	Designated Through Rd Project	15',13.5',18'	$ 684,800	$ 1,802,751	$ 2,487,551
Poplar Lane	South Pope Lick Road	South English Station Road	Designated Through Rd Project	14',22'	$ 395,625	$ 663,158	$ 1,058,783
Rehl Road	South Pope Lick Road	South English Station Road	Designated Through Rd Project	14'	$ 93,125	$ 272,253	$ 365,378
South English Station Road	Poplar Lane	Echo Trail	Designated Through Rd Project	18',22'	$ 487,995	$ 1,105,034	$ 1,593,029
Wibble Hill Road	South English Station Road	Interstate 64	Designated Through Rd Project	17',22'	$ 204,375	$ 557,528	$ 761,903
				Total (Designated)	$ 3,075,729	$ 9,811,765	$ 12,887,494
Aiken Road	I-265	Johnson Road	Undesignated Through Rd	19',17',20.5',14'	$ 301,500	$ 2,251,773	$ 2,553,273
			Project - Future (Bond)				
North Beckley Station Rd	Shelbyville Road	Aiken Road	Undesignated Through Rd	16.5',18'	$ 285,600	$ 1,719,786	$ 2,005,386
			Project - Future (Bond)				
South Beckley Station Rd	Interstate 64	Shelbyville Road	Undesignated Through Rd	19.5'	$ 306,000	$ 935,665	$ 1,241,665
			Project - Future (Bond)				
Clark Station Road	Interstate 64	Shelbyville Road	Undesignated Through Rd	18',20'	$ 488,400	$ 1,414,195	$ 1,902,595
			Project - Future (Bond)				
Flat Rock Road	Shelbyville Road	Aiken Road	Undesignated Through Rd	19'	$ 549,000	$ 2,269,387	$ 2,818,387
			Project - Future (Bond)				
Pope Dale Road	Flat Rock Road	Long Run Road	Undesignated Through Rd	15'	$ 177,900	$ 362,265	$ 540,165
			Project - Future (Bond)				
Reamers Road	Old Henry Road	LaGrange Road	Undesignated Through Rd	18'	$ 699,600	$ 1,368,101	$ 2,067,701
			Project - Future (Bond)				
Rehl Road	Interstate 265	South Pope Lick Road	Undesignated Through Rd	18'	$ 76,750	$ 291,524	$ 370,274
			Project - Future (Bond)				
South Pope Lick Road	Taylorsville Road	Interstate 265	Undesignated Through Rd	16',19'	$ 627,500	$ 1,702,868	$ 2,330,368
			Project - Future (Bond)				
Old Henry Rd/Crestwood Bypass	Bush Farm Road	Jefferson County Line	Future KYTC Project	18',21'	$ 153,000	$ 915,174	$ 1,068,174
Shelbyville Road	Eastwood Cut Off Road	Jefferson County Line	Future KYTC Project	24',21',38'	$ 18,000	$ 1,726,783	$ 1,744,783
				TOTAL:	$ 6,760,979	$ 24,769,284	$ 31,530,263

*Funds not included in total - cost sharing agreement with KYTC

TRANSPORATION BENEFIT DISTRICT
TRAFFIC ZONE "C" OVERVIEW



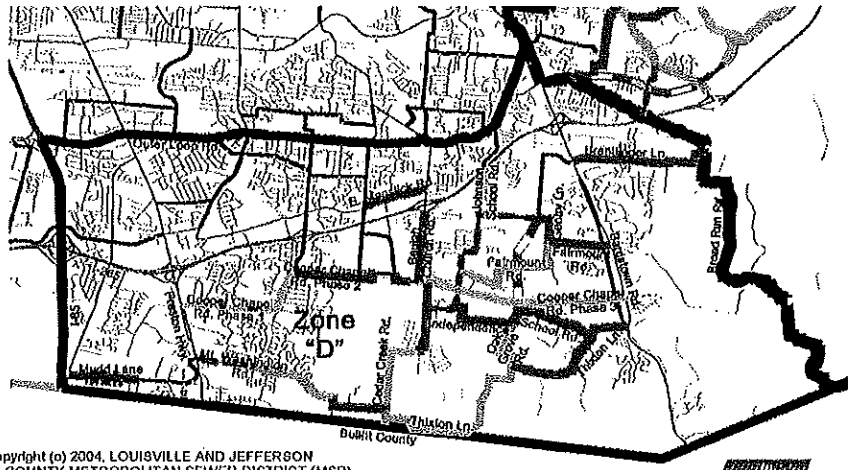
DESIGNATED THROUGH ROAD PROJECTS	
Easum Road	1.17 Miles
Gellhaus Lane* (Bus Compound Improvements)	0.44 Miles
Lovers Lane	1.44 Miles
Old Heady Road	1.70 Miles
Shaffer Lane*	0.77 Miles
Urton Lane Extension: Lovers Lane to Billtown Road (R/W Preservation)	
Urton Lane Extension: Old Heady Rd. to Taylorsville Rd. (R/W Preservation)	
TOTAL	**5.52 Miles**
FUTURE PROJECTS	
Chenoweth Run Road**	3.49 Miles
Gellhaus Lane	0.44 Miles
Thurman Road**	1.81 Miles
TOTAL	**5.74 Miles**
Urton Lane Extension-Phase 1: Seatonville Road to Billtown Road	2.50 Miles
Urton Lane Extension-Phase 2: Billtown Road to Taylorsville Road	3.50 Miles
TOTAL	**6.00 Miles**
Billtown Road: Fairground Road to I-265	2.58 Miles
Taylorsville Road: Blankenbaker Extension to I-265	2.10 Miles
TOTAL	**4.68 Miles**

*Currently Programed for Improvement **Future Project - Consideration for Priority

TRAFFIC ZONE "C"
SUMMARY OF ROADWAY COST

ROADWAY NAME	FROM	TO	PRIORITY	EXISTING WIDTH	R/W COST	CONSTRUCTION COST	TOTAL COST
Easum Road	Billtown Road	Chenoweth Run Road	Designated Through Rd Project	16.5'	$ 495,269	$ 1,204,678	$ 1,699,947
Gellhaus Road	Billtown Road	Bus Compound	Designated Through Rd Project		$ 53,484	$ 346,508	$ 399,991
Lovers Lane	Seatonville Road	Billtown Road	Designated Through Rd Project	17',16.5',18'	$ 419,063	$ 1,080,962	$ 1,500,025
Old Heady Road	Interstate 265	Taylorsville Road	Designated Through Rd Project	19.5',17.5'	$ 315,526	$ 984,485	$ 1,300,011
Urton Lane Ext. Ph. 1	Lovers Lane	Billtown Road	Designated Through Rd Project	(R/W Preserv.)	$ 450,000		$ 450,000
Urton Lane Ext. Ph. 2	Old Heady	Taylorsville Road	Designated Through Rd Project	(R/W Preserv.)	$ 450,000		$ 450,000
Shaffer Lane**	Seatonville Road	Billtown Road	Designated Through Rd Project	22.5',14.5',21'	-	-	$ 200,000
				Total (Designated)	$ 2,183,342	$ 3,616,633	$ 5,999,974
Chenoweth Run Road	Old Heady Road	Easum Road	Undesignated Through Rd	15.5',17'	$ 926,400	$ 2,931,449	$ 3,857,849
			Project - Future (Bond)				
Gellhaus Road	Bus Compound	Chenoweth Run Road	Undesignated Through Rd		$ 53,484	$ 346,508	$ 399,991
			Project - Future (Bond)				
Thurman Road	Echo Trail	Routt Road	Undesignated Through Rd	16',17'	$ 461,875	$ 1,304,662	$ 1,766,537
			Project - Future (Bond)				
Urton Lane Ext. Ph. 1*	Seatonville Road	Billtown Road	Corridor Projects (Future)		$ 48,000	$ 1,124,255	$ 1,172,255
Urton Lane Ext. Ph. 2*	Billtown Road	Taylorsville Road	Corridor Projects (Future)		$ 163,303	$ 2,132,565	$ 2,295,868
Billtown Road	Interstate 265	Fairground Road	Future KYTC Projects	38',22.5',34'	$ -	$ 2,539,384	$ 2,539,384
*Cost less 80% state funding				TOTAL:	$3,836,403	$13,995,455	$18,031,859
**Credit to Developer							

TRANSPORTATION BENEFIT DISTRICT
TRAFFIC ZONE "D" OVERVIEW



DESIGNATED THROUGHROAD PROJECTS	
Beulah Church Road (I-265 to Heritage Creek)	2.00 Miles
Brentlinger Lane	1.90 Miles
Cedar Creek Road*	2.61 Miles
East Manslick Road (Pennsylvania Run Road to Beulah Church Road)	0.86 Miles
Fairmount Road (Bardstown Road to Gentry Lane)	0.71 Miles
Gentry Lane	0.46 Miles
Independence School Road	2.23 Miles
Mount Washington Road (90 degree bend to Cedar Creek Road)	0.80 Miles
Mount Washington Road* (Preston Hwy to Waycross Drive)	0.79 Miles
Mudd Lane (Blue Lick Road to Cody Lane)	1.00 Miles
Thixton Lane (Bardstown Road to Oak Grove Road)	1.88 Miles
TOTAL	**15.24 Miles**
DESIGNATED CORRIDOR PROJECTS	
Cooper Chapel Road: Phase 1- Preston Hwy. to Smyrna Road (Federal $)*	1.85 Miles
Cooper Chapel Road: Phase 3- Beulah Church to Old Bardstown (Federal $)	2.60 Miles
TOTAL	**4.45 Miles**
[illegible] FUTURE (BOND)	
Cedar Creek Road	1.40 Miles
Fairmount Road (Cedar Creek Road to Gentry Lane)	1.92 Miles
Johnson School Road	0.72 Miles
Mount Washington Road (Waycross Drive to 90 degree bend)	1.24 Miles
Oak Grove Road	0.74 Miles
Thixton Lane (Oak Grove Road to Cedar Creek Road)	2.46 Miles
TOTAL	**8.48 Miles**
Cedar Creek Road Extension: Cedar Creek Road to Fairmount Road	1.00 Mile
Cooper Chapel Road: Phase 2 - Smyrna Road to Beulah Church Road	1.75 Miles
Oak Grove Road Extension: Independence School Rd. to Fairmount Rd.	1.00 Mile
TOTAL	**3.75 Miles**

*Currently Programed for Improvement **Future Project - Consideration for Priority

REVISED 5-16-06

REVISED 5-16-06

TRAFFIC ZONE "D"
SUMMARY OF ROADWAY COST

ROADWAY NAME	FROM	TO	PRIORITY	EXISTING WIDTH	R/W COST	CONSTRUCTION COST	TOTAL COST
Beulah Church Road	Interstate 265	Heritage Creek	Designated Through Rd Project	36.5',21',20'	$ 257,143	$ 1,006,833	$ 1,263,976
Brentlinger Lane	Bardstown Road	Seatonville Road	Designated Through Rd Project	17.4'	$ 250,526	$ 770,679	$ 1,021,205
E. Manslick Road	Pennsylvania Run Road	Beulah Church Road	Designated Through Rd Project	15'	$ 177,900	$ 519,987	$ 697,887
Fairmount Road	Gentry Lane	Bardstown Road	Designated Through Rd Project	14',15.5'	$ 175,310	$ 568,052	$ 743,362
Gentry Lane	Fairmount Road	Cedar Creek Road	Designated Through Rd Project	15'	$ 105,800	$ 339,283	$ 445,083
Independence School Rd	Cedar Creek Road	Thixton Lane	Designated Through Rd Project	16.5'	$ 830,720	$ 1,344,838	$ 2,175,558
Mt. Washington Road	90 degree bend	Cedar Creek Road	Designated Through Rd Project	20.5',28.5',23',19'	$ 121,636	$ 318,129	$ 439,765
Mt. Washington Road***	Preston Hwy	Waycross Drive	Designated Through Rd Project		-	-	-
Thixton Lane**	Oak Grove Road	Bardstown Road	Designated Through Rd Project	16.5'	$ 8,500	$ 274,720	$ 283,220
Mudd Lane	Blue Lick Road	Cody Lane	Designated Corridor Project		$ 200,000	$ 800,000	$ 1,000,000
Cooper Chapel Rd Ph. 1*	Preston Highway	Smyrna Parkway	Designated Corridor Project	18.5',18',24'	$ 359,856	$ 831,654	$ 1,191,510
Cooper Chapel Rd Ph. 3*	Beulah Church Road	Bardstown Road	Designated Corridor Project		$ 152,800	$ 1,510,119	$ 1,662,919
				Total (Designated)	**$ 2,640,191**	**$ 8,284,294**	**$ 10,924,484**
Cedar Creek Road	Cedar Creek Road	Gentry Lane	Undesignated Through Rd	18.5'	$ 1,015,200	$ 1,740,881	$ 2,756,081
			Project - Future (Bond)				
Cedar Creek Road	Jefferson County Line	1100' West of Justice Way	Undesignated Through Rd	38',17.5',16'	$ 250,440	$ 805,054	$ 1,055,494
			Project - Future (Bond)				
Fairmount Road	Cedar Creek Road	Gentry Lane	Undesignated Through Rd	14',15.5'	$ 609,290	$ 1,671,352	$ 2,280,642
			Project - Future (Bond)				
Johnson School Road	Cedar Creek Road	Interstate 265	Undesignated Through Rd	16.5'	$ 239,400	$ 608,614	$ 848,014
			Project - Future (Bond)				
Mt. Washington Road	Waycross Drive	90 degree bend	Undesignated Through Rd	20.5',28.5',23',19'	$ 288,884	$ 755,557	$ 1,044,441
			Project - Future (Bond)				
Oak Grove Road	Thixton Lane	Independence School Rd	Undesignated Through Rd	13'	$ 435,000	$ 541,506	$ 976,506
			Project - Future (Bond)				
Thixton Lane	Cedar Creek Road	Oak Grove Road	Undesignated Through Rd	17.5',24'	$ 411,120	$ 1,782,276	$ 2,193,396
			Project - Future (Bond)				
Cedar Creek Road Ext.	Fairmount Road	Cedar Creek Road	Corridor Project (Future)		$ 82,080	$ 354,363	$ 436,443
Cooper Chapel Rd Ph. 2*	Smyrna Parkway	Beulah Church Road	Corridor Project (Future)	17.5',16.5',15.6'	$ 282,144	$ 789,229	$ 1,071,373
Oak Grove Road Ext.*	Independence School Rd	Fairmount Road	Corridor Project (Future)		$ 46,560	$ 305,103	$ 351,663
*Cost less 80% state funding		***Other funds					
**Roadside safety improvements only				**TOTAL:**	**$ 6,300,309**	**$ 17,638,229**	**$ 23,938,538**

INVENTORY OF EXISTING ROADWAY

Pictures:	# 1-3,5-8	# 5,6	# 4,7,8	# 4,6,7		EXIST. ROADWAY CONDITIONS CODES
	Pavements	Shoulders	Ditches	Structures	Entr.&Drive	X — A = Alignment Modification
						X — D = Drainage Modification
Pictures:	# 1,4,7	# 1-3,5,8	# 1-3,5,8		# 2,5	G = Grade Modification
	Guardrails	Power Pole	Service Pole	Fire Hydrant	Special	P = Pavement Repair
						X — R = Right of Way Required
EXPANSION AREA TRAFFIC ZONE:	" A "					X — S = Structure Replacement
ROAD NAME:	Tucker Station Road					X — U = Utility Relocation
TYPE:	Through Road Projects					
FROM:	Taylorsville Road					PAVEMENT DESIGN DATA
TO:	South Madison Avenue					2002 ADT = 2,288
						Growth Rate 3.0% Annually
APPARENT R/W WIDTH:	50 Ft.	45 Ft.	45 Ft.	80 Ft.		Design 2014 ADT = 3,075
						Design CBR = 4
EXIST. ROADWAY WIDTH:	19 Ft.	18 Ft.	17.5 Ft.	21 Ft.		Percent Trucks = 3
						(2-Axles) ESAL's / Truck = 1.2
EXIST. ROADWAY LENGTH:	19' width	13,000 Ft.	2.46 Miles			Asphalt Depth = 8.5 in.
	18' width	5750 Ft.	1.09 Miles			DGA Depth = 10 in.
	17.5' width	3750 Ft.	0.71 Miles			
	21' width	2750 Ft.	0.52 Miles			
PAVEMENT CONDITION:	X					
	GOOD	FAIR	POOR			
CROWN SLOPE:		X				
	LEFT	RIGHT	CENTER	NONE		
SH'LDER WIDTH & COND. LT.:	2.5 Ft. +/-	Ft. +/-	Ft. +/-			
	GOOD	FAIR	POOR	NONE		
SH'LDER WIDTH & COND. RT.:	3 Ft. +/-	Ft. +/-	Ft. +/-			
	GOOD	FAIR	POOR	NONE		
EXIST. STRUCT. TYPE SIZE & COND.:		12'x6' RCBC (no widening)		1-(20'span) & 1-(5'span) at grade culvert - widen each 4' Rural & 18' Urban		2-(15' span)&1-(3' span) at grade culverts
		GOOD		FAIR		POOR (replace)
RECOMMEND:	Urban		X	Rural		

COMMENTS: There are many utility poles, trees, and houses close to the road. There are also underground utilities including marked natural gas transmission lines. Many of the brick mailboxes (pic 5) are very close to the road. Many alignment modifications and some minor grade modifications are necessary. In addition, there is a 6' tall, 10" thick, 200' long wall on the left, widening should be done on the right (pic 7). Also, one railroad crossing. Need to realign skewed intersection with Rehl Road.

By: Jonathan Haycraft Date: 1/20/2004

Pavement Design Catalog *Version 1.0A* *9/30/2000*

Project Description: Traffic Zone "A" - Tucker Station Road

Structural Design Inputs

All items highlighted in Yellow allow user input or selection.
Material type selection lists may be edited in the Selection Input Worksheet

Design CBR	4	Length of Project (miles)	4.78
Design ESAL's	485,000	Total Number of Lanes, One Direction	1
		Total Lane Width, One Direction (ft)	9.4
Design Life (years)	20	Number of Directions (1 or 2)	2
Input User Defined Thicknesses (yes/no)	yes	Inside Shoulder width (ft)	0
Analysis Period (years)	40	Outside shoulder width (ft)	0
Stabalized Subgrade Thickness (in)	12	Length of Initial Construction (Default 120 days)	120
Sub. Stabilization Width (One Direction)	34	Daily User Cost ($)	0

Pavement Structural Design From Design Catalog

Reuired Structural Number	4.78
Required PCC Pavement Thickness	#N/A

Maximum Asphalt Design

		Layer Thickness (in.)		User Defined Thickness (in.)			Construction Thickness (in.)		
		Design	Nominal		Mainline	Shoulder	SN	Mainline	Shoulder	SN
Surface			1.25	1.25	1.25		0.55	1.25	0.00	0.55
Base Total (in)	6.8									
Layer 1			3.40	3.50	3.50		1.40	3.50	0.00	1.40
Layer 2			3.39	3.50	3.75		1.50	3.75	0.00	1.50
Layer 3			0.00	0.00			0.00	0.00	0.00	0.00
Layer 4							0.00	0.00	0.00	0.00
OB			0.00	0.00			0.00	0.00	0.00	0.00
DGA			4.00	4.00	10.00		1.40	10.00	0.00	1.40
Modified Roadbed			12.00	12.00			0.00	0.00	0.00	0.00
						Total SN	4.85		Total SN	4.85
						Design OK			Design OK	

Maximum Aggregate Design

		Layer Thickness (in.)		User Defined Thickness (in.)			Construction Thickness (in.)		
		Design	Nominal		Mainline	Shoulder	SN	Mainline	Shoulder	SN
Surface			1.25	1.25			0.00	0.00	0.00	0.00
Base Total (in)	4.3									
Layer 1			2.15	2.50			0.00	0.00	0.00	0.00
Layer 2			2.15	2.50			0.00	0.00	0.00	0.00
Layer 3			0.00	0.00			0.00	0.00	0.00	0.00
Layer 4							0.00	0.00	0.00	0.00
OB			0.00	0.00			0.00	0.00	0.00	0.00
DGA			11.10	11.50			0.00	0.00	0.00	0.00
Modified Roadbed			12.00	12.00			0.00	0.00	0.00	0.00
						Total SN Reqd.	0.00		Total SN Reqd.	0.00

PCC Pavement

	Layer Thickness (in.)		User Defined Thickness (in.)		Construction Thickness (in.)	
	Design	Nominal	Mainline	Shoulder	Mainline	Shoulder
PCC Pavement Thickness (in)	#N/A	#N/A			0.00	0.00
AC Shoulder Surface					0.00	0.00
AC Shoulder Base					0.00	0.00
Layer 1					0.00	0.00
Layer 2					0.00	0.00
Layer 3					0.00	0.00
Layer 4					0.00	0.00
DB Thickness (in)		0.0	0.0		0.00	0.00
DGA Thickness (in)		4.0	4.0		0.00	0.00
Modified Roadbed		12.0	12.0		0.00	0.00

TRAFFIC ZONE	"A"	TYPE	THROUGH ROAD PROJECT
ROADWAY	TUCKER STATION ROAD	ROADWAY LIMITS:	TAYLORSVILLE ROAD
INDEX MAP SHEET NO. 1, 2, 4 & 6			TO SOUTH MADISON AVENUE

By User	22	Ft. Minimum Rdwy		EXISTING ROADWAY CONDITIONS CODES (ADRSU)	
Length =	18,750	3750	Ft.	A = Alignment Modification	P = Pavement Repair
Ex. Width =	18.5	17.5	Ft.	D = Drainage Modification	R = Right of Way Required
Widening =	3.5	2.5	Ft. Total	G = Grade Modification	U = Utility Relocation
Asph. Depth (Widening) =		8.5	Inch	Revision Date	Description
DGA Width (Widening) =		6	Ft. Total (6' Combined Min.)		
DGA Depth (Widening) =		10	Inch		
Leveling & Wedging =		22916.67	SY. (1.25 " x 0.5 Ex. Width)		
Overlay Ex. Pavement =		45833.33	SY. (1.25" x Ex. Width)		

ROADWAY AND SURFACING COST (2005)

ITEM	UNIT COST	UNIT	AMOUNT	COST
Asphalt Surface and Base	$ 40.00	Ton	1,975	$ 79,000
DGA Base	$ 16.50	Ton	2,670	$ 44,055
Roadway Excavation (Unclassified)	$ 5.00	CY	6,350	$ 31,750
Water Line	$ 25.00	LF	1,900	$ 47,500
Dense Graded Aggregate	$ 0.90	/ SY / Inch		$ 135,000
Asphalt Surface and Base	$ 2.60	/ SY / Inch		$ 184,167
Leveling and Wedging	$ 3.20	/ SY / 1.25 Inch		$ 73,333
Overlay Existing Pavement	$ 3.20	/ SY / 1.25 Inch		$ 146,667
Striping	$ 1.40	/ Ft. Lt.- Ctr.- Rt.		$ 31,500
Erosion Control	$ 3.10	/ Ft. Lt. & Rt.		$ 69,750
Shoulders and Ditches	$ 32.00	/ Ft. Lt. & Rt.		$ 720,000
Seeding and Protection	$ 2.60	/ Ft. Lt. & Rt.		$ 58,500
Less 50% of 1,900' Minimum Cost			UNIT AMOUNT	$ (26,958.33)
Railroad Crossing	$ 10,400.00	LS	1	$ 10,400
Clearing & Grubbing	$ 4,500.00	Acre	16.5	$ 74,250
Entrances and Entrance Pipes	$ 850.00	Each	70	$ 59,500
Traffic Control	$ 106,534	LS	1	$ 106,534
Guardrail	$ 15.50	/ Ft.	2000	$ 31,000
Remove and Reset Fire Hydrant	$ 2,000.00	Each		$ -
Water Line	$ 25.00	/ Ft.	14500	$ 362,500
Signage Per Intersection	$ 750.00	Each	20	$ 15,000
Signals	$ 35,000.00	Each		$ -
Cross Drain Pipes (6) + Headwalls	$ 24,500.00	LS	1	$ 24,500
Box Culvert (5)	$ 101,250.00	LS	1	$ 101,250
Bridge (0)	$ -	SF		$ -
Demobilization	$ 71,376	LS	1	$ 71,376
Bonds	$ 122,529	LS	1	$ 122,529
Residence (0)		LS		$ -
Easements	$ 1,500.00	No.	10	$ 15,000
Right of Way (Roadway Adjustment)	$ 15,000.00	No. of Parcels	8	$ 120,000
Right of Way Acquisition (Adjustments)	$ 5,000.00	No. of Parcels	9	$ 45,000
Right of Way (Widening)	$ 30,000.00	Acre	6.3	$ 189,000
Right of Way Acquisition (Widening)	$ 3,000.00	No. of Parcels	195	$ 585,000

SUMMARY OF COST		Sub-Total R/W and Construction	$ 3,527,102	$ -
Total Right of Way Cost + 20%	$ 1,144,800	20% Eng.&Cont.	$ 705,420	$ -
Total Construction Cost + 20%	$ 3,087,722	Total R/W and Construction	$ 4,232,522	$ -