

# LEXINGTON AREA METROPOLITAN PLANNING ORGANIZATION

*“Transportation Planning for Fayette and Jessamine Counties”*



## Congestion Management Process Overview (February 2011)



### **Prepared by:**

Lexington Area Metropolitan Planning Organization (MPO)

### **Sponsored in part and in coordination with:**

Federal Highway Administration (FHWA)  
Federal Transit Administration (FTA)  
Kentucky Transportation Cabinet (KYTC)  
Lexington-Fayette Urban County Government (LFUCG), and  
Jessamine County & Cities of Nicholasville/Wilmore



**Lexington Area  
Metropolitan Planning Organization**

**Congestion Management Process Overview**

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## Executive Summary

This Congestion Management Process (CMP) Overview document has been developed to describe the principal components of the congestion management process, formerly described as the Congestion Management System (CMS) in federal regulations, for the Lexington Area Metropolitan Planning Organization (MPO) planning area. The MPO planning area includes Fayette and Jessamine Counties and urban areas within the two counties in Kentucky. As an overview, it is intended to provide a basic understanding of the MPO's congestion management process and the integrated relationship among the CMP, the Transportation Improvement Program (TIP), and the Metropolitan Transportation Plan (MTP).

The CMP Overview describes the MPO's congestion management process required by the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users of 2005 (SAFETEA-LU) planning regulations as stated in Title 23 Code of Federal Regulations (CFR), Parts 450.320 and 500.109, and Title 49 CFR, Part 613. The Federal Highway Administration (FHWA) identified the following eight (8) CMP components to be addressed:

1. Develop regional CMP vision, mission, goals and objectives
2. Identify area, corridors, or roadways of application
3. Define system or network of interest
4. Develop and select performance measures
5. Institute system performance monitoring
6. Identify, evaluate, and select CMP strategies
7. Implement selected strategies and manage transportation system
8. Monitor strategy effectiveness and document CMP activities

These components are described in the Lexington Area MPO's congestion management process overview. The vision of the CMP is to integrate planning, engineering, operations, and safety into the congestion management process and to apply effective and efficient congestion management strategies to the regional transportation system. The mission of the CMP is to identify, evaluate, implement, and monitor effectiveness of the congestion management strategies, to mitigate transportation congestion in the region, and to support the metropolitan transportation planning process. Three goals and thirteen objectives have been developed to accomplish the mission. The CMP seeks management solutions to recurring congestion problems in the MPO planning area.

The CMP Overview shall be reviewed and revised periodically as particular components change based on new data, available resources, implementation procedures, and public perceptions of the effectiveness of the CMP in the planning area. The CMP will never be able to totally eliminate congestion, but will serve to mitigate congestion by focusing on human and other resources to implement congestion reduction strategies and solutions. These resources and solutions, along with new technologies, will help develop future congestion mitigation strategies.

## **Acknowledgment**

The Lexington Area Metropolitan Planning Organization (MPO) staff would like to thank the staff and members from the following agencies, committees, and organizations for their participation and contributions:

Air Quality Advisory Committee (AQAC)  
Bicycle Pedestrian Advisory Committee (BPAC)  
Congestion Management Committee (CMC)  
ENTRAN, PLC  
Fayette County Public Schools (FCPS)  
Federal Highway Administration, Kentucky Division  
Kentucky Transportation Cabinet (KYTC)  
    Division of Planning  
    District 7  
Lexington-Fayette County Parking Authority (LexPark)  
Lexington-Fayette Urban County Government (LFUCG)  
    Divisions of  
        Planning  
        Engineering  
        Traffic Engineering  
        Police  
Traffic Safety Coalition (TSC)  
Transit Authority of Lexington (LexTran)  
Transportation Policy Committee (TPC)  
Transportation Technical Coordinating Committee (TTCC)  
University of Kentucky (UK), and many other organizations and citizens.

The staff and members from the above agencies, committees, and organizations have been actively participating in the MPO's CMP activities mandated by the aforementioned federal regulations. A successful congestion management process in the MPO planning area would not be possible without their input, guidance, and recommendations.

## Introduction

Transportation congestion is an increasing concern for all users of the transportation system and the general public. This is due to growing population of the area and increasing vehicular-travel demand upon lagging transportation system capacity. Congestion is defined as the level at which transportation system performance is no longer acceptable due to traffic interference resulting in decreased speeds and increased travel times. Congestion results in loss of time, increased fuel consumption, decreased air quality, and hindrance to economic development. The individual, social, economic, and environmental impacts and costs due to transportation congestion go well beyond the less efficient movement of people and goods. Economic development and quality of life are significantly dependent upon implementing an effective and efficient congestion management process.

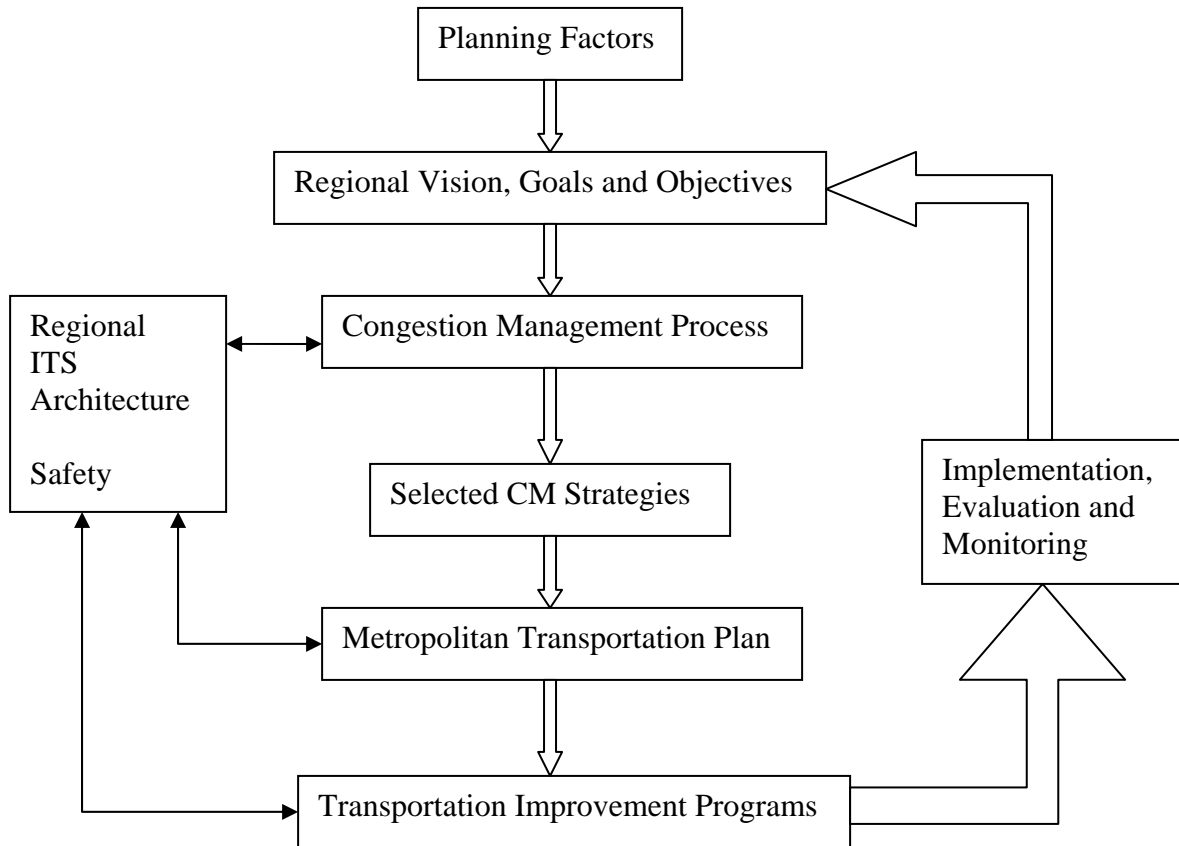
The federal legislation - Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users of 2005 (SAFETEA-LU) reaffirms the requirements initially established in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and continued in the Transportation Equity Act for the 21<sup>st</sup> Century of 1998 (TEA-21) for congestion management system (CMS). The SAFETEA-LU requires that congestion management be part of the metropolitan transportation planning process for Transportation Management Areas (TMAs). The TMA is defined as an urbanized area with a population over 200,000 (as determined by the latest decennial census).

A potentially very important requirement is contained in the federal transportation planning regulations. The 23CFR450.320 – Congestion Management Process in TMAs stipulates that, in a TMA designated as a nonattainment area for ozone or carbon monoxide pursuant to the Clean Air Act, federal funds may not be programmed for any project that will result in a significant increase in the carrying capacity of single occupancy vehicles (i.e., a new general purpose highway on a new location or adding general purpose lanes) unless the project is addressed through a compliant congestion management process. Currently the Lexington MPO planning area is in attainment with air quality standards, and the implementation of highway improvements is not impacted by this restriction. However, nonattainment status is a very real possibility if air quality standards are tightened in the future.

Under SAFETEA-LU, a “Congestion Management Process” or CMP is required and defined as “a systematic approach for managing congestion through a process that provides for effective management and operation, based on a cooperatively developed and implemented metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under titles 23 and 49 U.S.C Chapter 53 through the use of travel demand reduction and operational management strategies.” The CMP is required to be developed and implemented as an integral part of the metropolitan transportation planning process in TMAs. The Federal Highway Administration (FHWA) identified the following eight (8) CMP components to be addressed:

1. Develop regional CMP vision, mission, goals and objectives
2. Identify area, corridors, or roadways of application
3. Define system or network of interest
4. Develop and select performance measures
5. Institute system performance monitoring
6. Identify, evaluate, and select CMP strategies
7. Implement selected strategies and manage transportation system
8. Monitor strategy effectiveness and document CMP activities

The CMP is intended to be an integral part of the metropolitan transportation planning process. It is used to identify congested locations, determine the causes of congestion, and develop strategies to mitigate congestion. It is also used to evaluate the potential of different strategies, propose the best alternative strategies, and monitor the impact of implemented strategies. The integral relationship of the CMP, Metropolitan Transportation Plan (MTP), and Transportation Improvement Program (TIP) is depicted in Figure 1.

**Figure 1. Integral Relationship of the CMP, MTP, and TIP**

Utilizing the CMP, the MPO aims to use existing and future transportation facilities effectively and efficiently through normalizing peak hour transportation demand, linking/improving innovative planning and traffic operations, and implementing transportation improvement programs.

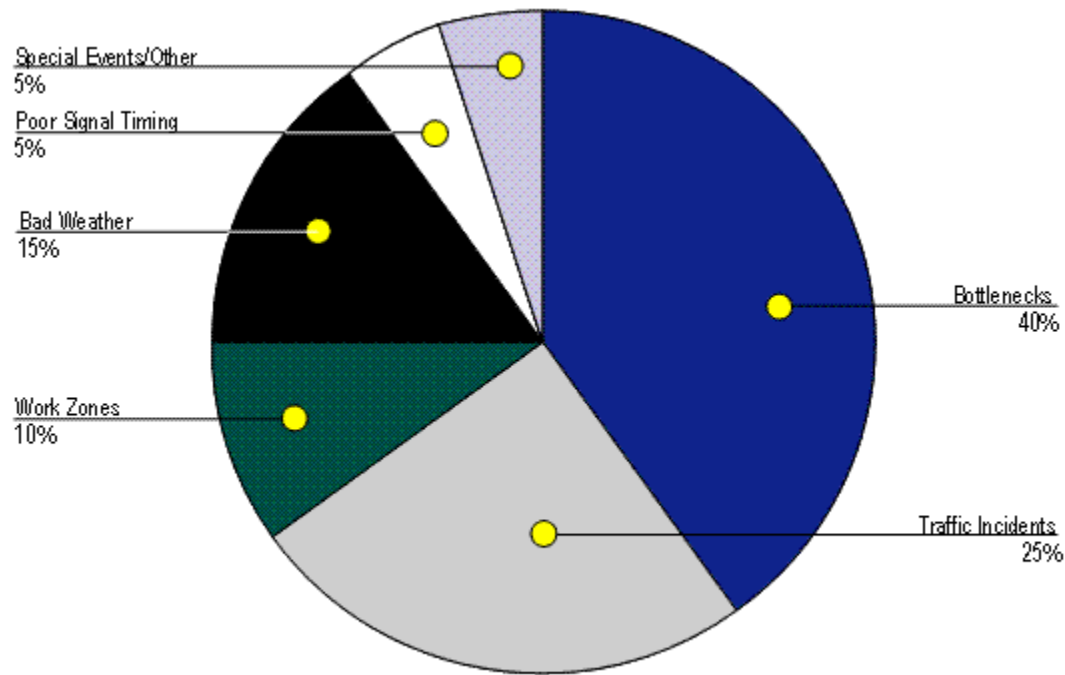
According to the FHWA's *Traffic Congestion and Reliability: Trends and Advanced Strategies for Congestion Mitigation* report, the seven (7) root causes of congestion, sometimes interacting with one another, have been categorized as follows and shown in Figure 2:

1. **Physical Bottlenecks ("Capacity")** – Capacity is the maximum amount of traffic capable of being handled by a given highway section. Capacity is determined by a

number of factors: the number and width of lanes and shoulders; merge areas at interchanges; and roadway alignment (grades and curves).

2. **Traffic Incidents** – Are events that disrupt the normal flow of traffic, usually by physical impedance in the travel lanes. Events such as vehicular crashes, breakdowns, and debris in travel lanes are the most common form of incidents.
3. **Work Zones** – Are construction activities on the roadway that result in physical changes to the highway environment. These changes may include a reduction in the number or width of travel lanes, lane "shifts," lane diversions, reduction, or elimination of shoulders, and even temporary roadway closures.
4. **Weather** – Environmental conditions can lead to changes in driver behavior that affect traffic flow.
5. **Traffic Control Devices** – Intermittent disruption of traffic flow by control devices such as railroad grade crossings and poorly timed signals also contribute to congestion and travel time variability.
6. **Special Events** – Are a special case of demand fluctuations whereby traffic flow in the vicinity of the event will be radically different from "typical" patterns. Special events occasionally cause "surges" in traffic demand that overwhelm the system.
7. **Fluctuations in Normal Traffic** – Day-to-day variability in demand leads to some days with higher traffic volumes than others. Varying demand volumes superimposed on a system with fixed capacity also results in variable (i.e., unreliable) travel times.



**Figure 2. Sources of Congestion – National Summary**

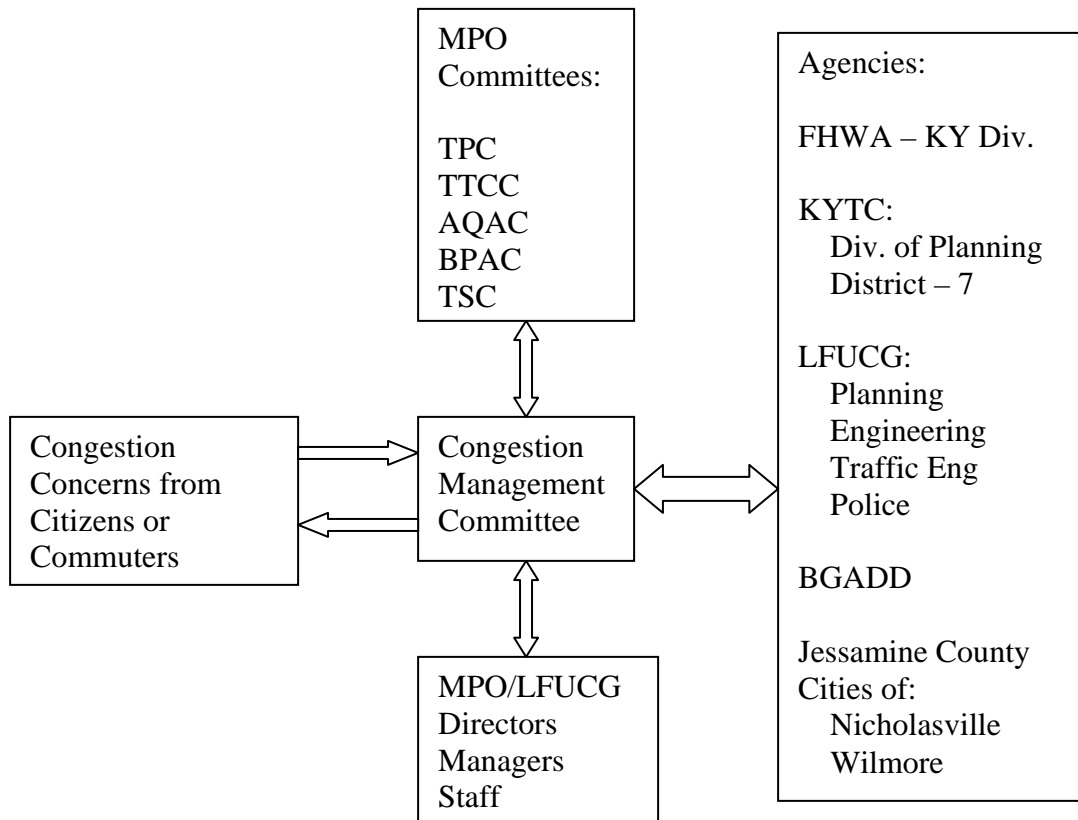
Source: <http://www.ops.fhwa.dot.gov/aboutus/opstory.htm>

To keep a focus on serving the citizens, commuters, and travelers in the MPO planning area and reducing congestion, the MPO formed a Congestion Management Committee (CMC) to advise the MPO staff in regard to the congestion management directions. The mission of the CMC is to coordinate congestion management activities to help alleviate transportation congestion recurring in the MPO planning area, which includes Fayette and Jessamine counties. The CMC members include transportation professionals from federal, state, and local governments and agencies. The CMC members also include interested citizens and private consulting companies. All professional staff and citizens who are interested in transportation planning and congestion management activities are welcome to attend CMC meetings and present their questions, suggestions, and ideas. Coordinated discussions are encouraged at the CMC meetings. A list of stakeholders, members and interested parties is presented in Appendix A.

The MPO and CMC have taken a proactive stance over the years toward transportation system congestion management by using a multi-disciplinary approach. The effort has reached across agencies, divisions, and areas of responsibilities of local, state, and federal

governments to build a cooperative work environment that effectively deals with congestion-related issues. A schematic summary of the existing working relationships among committees, divisions, and agencies toward congestion management programs is depicted in Figure 3.

**Figure 3. Multi-disciplinary Stakeholder Approach toward Congestion Management**



The CMP Overview document has been developed in compliance with and using guidance from SAFETEA-LU requirements. By providing information, proposing measures and strategies to deal with congestion on major roadways, the CMP components and strategies are intended to provide the most effective and efficient use of resources for existing and future transportation facilities.

## Vision and Mission

The vision of the CMP is to integrate planning, engineering, operations, and safety into the congestion management process and to apply effective and efficient congestion management strategies to the regional transportation system.

The mission of the CMP is to identify, evaluate, implement, and monitor effectiveness of the congestion management strategies, to mitigate transportation congestion in the region, and to support the metropolitan transportation planning process.

## Goals and Objectives

The goals and objectives of the CMP are developed to support the goals and objectives adopted in the Metropolitan Transportation Plan (MTP) and to meet the federal, state, and regional congestion management requirements. The CMP goals and objectives include:

**Goal 1:** Develop a continuous and cooperative congestion management process to identify congestion and its causes, to develop performance measures, and to conduct performance monitoring.

Objectives:

- A. Develop and select appropriate performance measures to identify congested roadway sections and intersections and identify causes of congestion.
- B. Identify congested roadway sections and intersections using data acquired by the statewide congestion management program and using the selected performance measures.
- C. Conduct performance monitoring to track the congestion level trend and support the project prioritization process of the transportation improvement program.

**Goal 2:** Develop a continuous and coordinated congestion management process to evaluate and select congestion mitigation strategies and monitor the effectiveness of implemented congestion mitigation strategies.

Objectives:

- A. Continue to develop and evaluate congestion mitigation strategies, including multimodal alternatives, to improve effective system management and operations.

- B. Reduce congestion and delay on the transportation system by programming resources for effective strategies targeting the major causes of congestion (e.g. bottlenecks, incidents, construction, poor signal timing, events/other).
- C. Continue to improve transportation demand management strategies to reduce vehicle trips, trip distance, and time spent traveling.
- D. Monitor CMP strategy effectiveness in reducing congestion and travel-time delays.

**Goal 3:** Cooperatively develop and implement congestion management strategies to support the metropolitan transportation planning process and transportation improvement programs.

Objectives:

- A. Continue to develop and implement a wide range of congestion mitigation strategies to improve the efficiency of the existing and new transportation system.
- B. Strive to incorporate access management, transit oriented design, and bicycle/pedestrian improvements with new development and re-development efforts.
- C. Continue to work with the federal, state, regional, and local planning agencies to improve the accessibility of major existing destinations, new development areas, and re-development areas.
- D. Utilize the latest technology and strategies available (e.g. Intelligent Transportation Systems) to manage congestion for the regional transportation system.
- E. Promote public and all stakeholder participation and inter-agency education in understanding and implementing the congestion management process and effort, including short term and long term congestion mitigation strategies.
- F. Propose alternative strategies and programs to set priorities for including projects and strategies in the Metropolitan Transportation Plan (MTP) and Transportation Improvement Program (TIP).

## **Area of Application – MPO Planning Area**

The CMP is applied to the MPO planning area which includes Fayette and Jessamine Counties in Kentucky as shown in Figure 4. On March 23, 2010, the U.S. Census Bureau reported that Fayette County had an estimated population of 296,545, and Jessamine County had an estimated population of 47,589 in 2009. Fayette County's population grew by 13.8% from 2000 to 2009, while Jessamine County grew by 21.9% in the same period. Pressure for growth and development is very strong in both counties. In 2006, Nicholasville city limits in

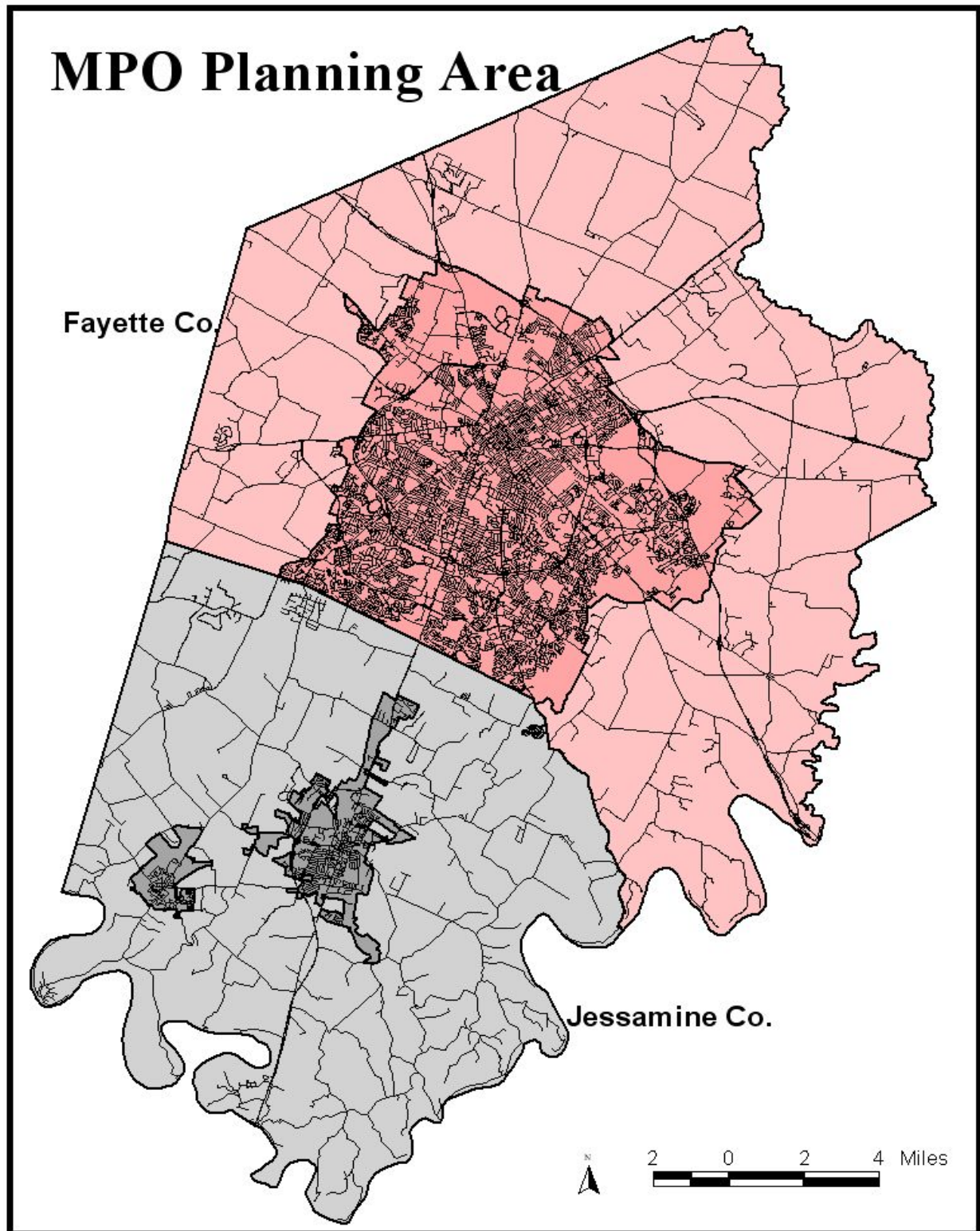
Jessamine County were extended northward along the US-27 corridor nearly to the Fayette County line. This resulted in an expansion of residential and commercial development between Lexington and Nicholasville.

County	2000 Census	2009 Estimate	Percent Change
Fayette	260,512	296,545	+ 13.8%
Jessamine	39,041	47,589	+ 21.9%

Source: <http://ksdc.louisville.edu/kpr/popest/est.htm>

Fayette County is situated on gently rolling land with an area of 285 square miles. Jessamine County is situated on gently rolling land with an area of 177 square miles to the south of Fayette County and bordered by the Kentucky River to the south. The MPO planning area is comprised of the two counties which occupy a total land area of 462 square miles. The two counties are located in the heart of the Bluegrass Region of Central Kentucky. Fayette County contains Central Kentucky's largest urbanized area and serves as the leading trade and service center for the region. Jessamine County has been growing significantly in the past decade. As in most metropolitan areas of the United States, the dominant transportation system in the Lexington MPO area is the roadway system. Fayette County includes approximately 130 miles of State Primary Roads and 35 miles of Interstate freeways. Jessamine County has approximately 27 miles of State Primary Roads and no Interstate freeways at present.

**Figure 4. Lexington Area MPO Planning Area Map and Urbanized Areas**



## Transportation System

The transportation system consists of the modes and network to transport people and goods. A general CMP network may include all modes of transportation, such as walk, bike, transit, and motor vehicles. At this point in time, since the MPO planning area roadway system experiences significant congestion, the CMP focuses on addressing motor vehicle congestion mitigation strategies for major corridors or roadways. This is accomplished by collecting performance measurement data, monitoring congestion conditions, and implementing CMP strategies. However, the CMP does promote other modes that help mitigate congestion problems, such as transit, pedestrian, bicycle, carpool, and vanpool modes of transportation. The promotion of these modes is considered as on-going and effective congestion mitigation strategies.

Various definitions of congestion have been proposed. The Interim Final Rule on Management and Monitoring Systems in ISTEA of 1991 by the Federal Highway Administration (FHWA) defines congestion as “the level at which the transportation system performance is no longer acceptable due to traffic interference. The level of acceptable system performance may vary by type of transportation facility, geographic location, and/or time of day.” The Transportation Research Board (TRB) defines that “congestion is travel time or delay in excess of that normally incurred under light or free-flow travel conditions.”

Previously the CMP performance measures, monitoring, evaluation, and implementation of the CMP strategies had been applied to and focused on the most congested roadway sections or intersections along the following arterials:

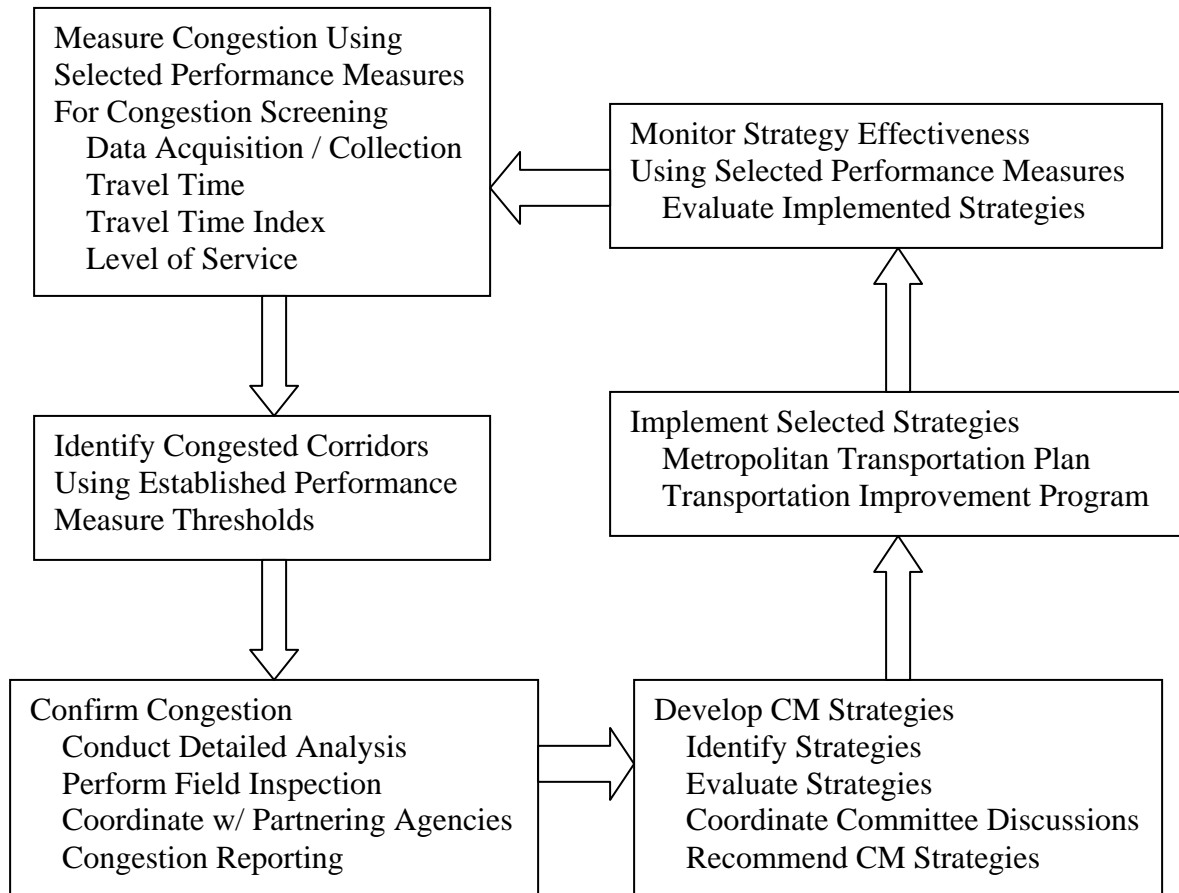
1. US-68 – Fayette and Jessamine Counties
2. US-27 – Fayette and Jessamine Counties
3. Man O War Blvd
4. New Circle Road (KY-4)
5. Georgetown Road (US-25)
6. Leestown Road (US-421)
7. Newtown Pike (KY-922)
8. North Broadway (US-27 / 68)
9. Richmond Road (US-25)
10. Tate's Creek (KY-1974)
11. Versailles Road (US-60)
12. Winchester Road (US-60).

The above arterials are the major roadways into, out of, and around the MPO urban areas. The arterials, into and out of the Lexington urban area, resemble spokes on a wheel. These arterials are the major roadways used by commuters, travelers, transit, and freight carriers. Thus, these arterials carry the highest volumes of traffic and experience the worst congestion problems.

However, members of the CMC recommended that the CMP should be more comprehensive and include the Interstate, Expressway, and Arterial corridors in the MPO planning area. The Proposed MPO Congestion Management Corridors are listed in Appendix B. A map showing the Proposed MPO Congestion Management Corridors is also included in Appendix B.

The CMP is a continuous cycle of transportation planning activities, designed to provide decision-makers with valuable information about transportation system performance and the effectiveness of alternative strategies to deal with congestion. Figure 5 shows these components, and highlights the fact that a CMP is not a one-time exercise but an ongoing process of planning, action and review. By monitoring the effectiveness of congestion mitigation strategies and evaluating their benefits in an orderly and consistent manner, planners and stakeholders can improve the ability to select the most cost-effective strategies appropriate to the specific local conditions and needs.



**Figure 5. The CMP Components and Cycle**

## Performance Measures

Performance measures are at the core of the CMP and are parameters to measure the level of congestion, identify the locations, and indicate the extent of congestion on the region's transportation system. A performance measure is composed of a number and a unit of measure. The number gives us a magnitude (how much) and the unit gives the number a meaning. Performance measures quantitatively inform us of the level of congestion. They are the key indicators of how effectively or ineffectively the transportation system is operating. This leads to specific requirements for data collection, analysis, and monitoring. The information may be used to track changes in mobility/congestion over time, identify sub-areas or corridors with mobility problems, and identify causes of congestion.

Performance measurement is a process of assessing progress toward achieving predetermined goals. Congestion management performance measurement is the process that our CMC evaluates the progress toward the congestion management goals.

At a system-level (moving people and goods), there are three possible performance measures:

1. A person-based link-based measure - % of Person-Miles of Travel (PMT) by speed range (passengers)
2. A trip-based measure – Origin-to-destination travel time by purpose and time of day
3. A vehicle-based measure for freight - % heavy vehicle Vehicle-Miles of Travel (VMT) by speed range (trucks).

The commonly-used vehicle-travel congestion management performance measures were inventoried as follows:

1. Travel Speed (Distance/Time) (mile/hour)
2. Travel Time – time needed to traverse a road segment or corridor (minute)
3. Travel Time Index (TTI) (Congested Travel Time / Free Flow Travel Time)
4. Planning Time Index (PTI)
5. Delay (Congested Travel Time – Free Flow Travel Time)
6. Travel Rate (Time/Distance) (min/mile)
7. Travel Rate Index (TRI) (Congested Travel Rate / Free Flow Travel Rate)
8. Level of service (LOS)
9. Volume/Capacity (V/C).

The free-flow speed is the speed that occurs when traffic is light enough that individual vehicle speeds are unaffected by the presence of other traffic. Free-flow speeds are determined for each route.

Travel Time Index (TTI) is defined as the travel time for a given roadway segment divided by the free flow travel time. The free flow travel time is determined for each segment by an off-peak, normally night-time hour between 9pm and 5am. The default is 12am to 1pm.

Planning Time Index (PTI) is defined as the amount of extra time needed (total time needed/time needed in free flow conditions) to allow punctual arrival 95% of the time. This accounts for unexpected delays, and is an indicator of the reliability of travel.

The traditional performance measures, LOS and V/C, gauge the intensity of roadway congestion at a particular location (a segment of roadway or an intersection). They are

primarily used as general indicators of roadway sufficiency or for detailed corridor studies. These measures may be converted to travel time through a series of theoretical relationships. In addition, LOS indicators, with a standardized “A” through “F” grading system, are assigned based on the delay calculations.

To identify congested locations, evaluate level of congestion, and assess congestion extent, selected performance measures should meet the following criteria:

1. Clearly understood
2. Sensitive to modes
3. Sensitive to time-of-day (e.g., spreading of peak-period)
4. Not too difficult or costly to collect data
5. Able to be forecast into the future
6. Sensitive to the impact of congestion mitigation strategies (on people and/or goods).

One of the important decisions in implementing the CMP is to select the appropriate performance measures to identify congestion. On the basis of the above criteria and evaluation, the MPO proposes to select the following performance measures to gauge the level of congestion on the freeway and arterial corridors:

1. Travel Speed
2. Travel Time
3. Travel Time Index (TTI)
4. Planning Time Index (PTI)
5. Volume-to-Capacity Ratio (V/C) – for corridor/intersection specific analysis
6. Level of Service (LOS) – for corridor/intersection specific analysis

The MPO proposes to use the above performance measures, as appropriate for the particular application or analysis, to develop its congestion management studies and reports. It is envisioned, at this point, that the TTI parameter will be the primary performance measure used since it is felt that travel time is of utmost interest to transportation system users and this parameter addresses the impacts of congestion on travel time.

## **Performance Monitoring and Reporting**

Performance monitoring and reporting are to use the selected performance measures to monitor the performance of the transportation system. The performance monitoring and reporting foster coordination among the local and state agencies and encourage the best use of available resources. The performance monitoring and reporting include the following components:

1. Performance measure specifications (see previous section)
2. Data collection procedures
3. Data resources, acquisition and management
4. Analytical procedures
5. Data reporting
6. Agency responsibilities.

Data collection, management, and analysis are fundamental performance monitoring and reporting activities. Agency responsibilities and resources are described as follows:

Lexington Area MPO:

Lexington Area MPO is a cooperative transportation planning agency for Fayette and Jessamine Counties designed to foster involvement by all users of the transportation system. The Transportation Policy Committee (TPC) is the policy and decision making body of the Lexington Area MPO. By following the TPC direction, the MPO established a Transportation Technical Coordinating Committee (TTCC) to advise and coordinate in regard to the transportation technical issues. Under the TTCC, the following sub-committees were established to advise and coordinate in regard to a specific transportation area of interest:

- Air Quality Advisory Committee (AQAC)
- Bicycle Pedestrian Advisory Committee (BPAC)
- Congestion Management Committee (CMC)
- Traffic Safety Coalition (TSC)

The MPO prepares and manages the preparation of the following major documents in addressing the transportation planning process for the two-county area.

- 2035 Metropolitan Transportation Plan – Adopted in 2009
- Transportation Improvement Program (TIP) FY 2010–2013 – Adopted in 2009
- Congestion Management Process Overview (2009 Draft)
- Community-Wide Congestion Management Study Update (2007)
- Man O War Boulevard Traffic Study (2007)
- Congestion Management Study (2005 Phase II)
- Congestion Management Study (2004 Phase I)
- Long Range Transit Plan 2030 – Completed in 2004
- Regional Bicycle and Pedestrian Plan – Adopted in 2007
- Performance and Expenditure Report – Annually
- Unified Planning Work Program (UPWP) – Annually

The MPO staff will continue to collect data, monitor system performance, and report the status of congestion within the MPO planning area. We will work with the KYTC staff to acquire the speed data for the roadways listed in the Appendix B. We will also work with the LFUCG Traffic Engineering staff to collect data and monitor status of congestion recurring on certain roadway sections and intersections. The MPO staff members also serve as the LFUCG Division of Planning staff.

LFUCG Division of Planning:

The LFUCG Division of Planning oversees and manages comprehensive land-use and development planning activities for Lexington-Fayette County. It prepares the Comprehensive Plan every five years to manage and guide the growth, development, and redevelopment in Fayette County. It provides planning services for guiding the community to implement the adopted Comprehensive Plan. The Division of Planning manages and maintains the following database and maps available for public review and use:

- Aerial Photographs (Current and Historic)
- Base Maps (Buildings, property lines, roads)
- Census Data (Population, demographic, and forecast data)
- Land Use Maps (Past, Existing, and Future)
- Neighborhood Association database
- Transportation Facilities (Roads, Bridges, Transit)
- Public Facilities (Schools, Parks, Libraries)
- Rural Land Capability Maps
- Tax Maps (Street addresses and property IDs)
- Topographic and Floodplain Maps
- Underutilized property/parcel maps
- Zoning maps.

LFUCG Division of Engineering:

The LFUCG Division of Engineering provides for the public works infrastructure needs of Fayette County, through the design, review, construction of roadways and other public infrastructure. Some of the many activities pertinent to the CMP and performed by the Division of Engineering are as follows:

- Coordinate with FHWA and KYTC engineering design and services
- Perform road improvement project design, review, and management
- Provide project scopes, cost estimates, and schedules
- Oversee project design, bidding, and construction
- Issue permits for work within public right of way and monitor repairs
- Issue permits to contractors and others whose activities require lane blockages
- Maintain as-built drawings, construction documentation, and archived records.

LFUCG Division of Traffic Engineering:

The LFUCG Division of Traffic Engineering manages the urban traffic operations system in Fayette County. Some of the many activities pertinent to the CMP and performed by the Division of Traffic Engineering are as follows:

- Coordinate with FHWA and KYTC traffic operations
- Provide technical assistance in investigation and layout for traffic signs and markings
- Maintain and operate the city's computerized traffic control system
- Maintain signage
- Maintain internal traffic count and turning movement data for operational adjustments
- Oversee fiber optic design, installations, and maintenance to enhance the operations.

LFUCG Division of Police:

The Division of Police provides MPO with the monthly and annual Traffic Analysis Reports. The police reports are compiled from data collected by the Police Traffic Section activities, traffic enforcement, and a review of calls for services. The reports are typically divided into five sections to organize the data, evaluate the data, and report the findings. The five sections include:

- Collision Data
- Citation Data
- Driving Under Influence (DUI) Arrests
- Alcohol Involved Collisions
- Target Location Data.

The police reports provide an extensive graphical and geographical analysis using their database management systems.

LFUCG Division of Computer Services:

The Division of Computer Services provides a comprehensive, online Geographic Information System (GIS) for Fayette County. The GIS section maintains an extensive geographic information database, and provides the community with internet access to Fayette County data. It provides an extensive GIS layer library of Fayette County for online review and research. A few examples of data and maps available at the GIS section are listed as follows:

- AtLex – The Official Map Guide of Lexington-Fayette County
- Complete list of highways, streets, and roads
- Council Districts
- Parcel data

- Zoning Code Information

#### Jessamine County and City of Wilmore Joint Planning Commission

Jessamine County and the City of Wilmore have adopted zoning ordinances with the intent, purpose and scope to promote and protect the health, safety, morals and general welfare of the County and the City. The goals and objectives of its Comprehensive Plan are to provide for the harmonious and orderly development of Jessamine County and the City of Wilmore.

#### City of Nicholasville Planning and Zoning

The Nicholasville Planning Commission is charged with creating and enforcing land use plans for property within the city's limits and future expansion. The Commission has developed and maintains a comprehensive plan as required by statute. The most recent update to the comprehensive plan was made in 2002.

#### Kentucky Transportation Cabinet (KYTC):

The KYTC has initiated a statewide congestion management program. The program proposes to acquire travel speed data from private companies on a periodic basis to cover all Interstates, Parkways, and arterials within Kentucky. KYTC will provide the data to the MPOs. With the speed data, other performance measures may be calculated and monitored as necessary. The KYTC also collects and manages roadway traffic volumes or traffic count data on all state-maintained roadways in the planning area. KYTC's Division of Planning maintains a traffic count or CTS program/database of average daily traffic counts, actual and estimated, for query and reporting purposes. The CTS program/database is available for download at the KYTC Division of Planning website.

## **Identification and Evaluation of Strategies**

This component of the CMP is to review, identify, and evaluate potential strategies for effectiveness in addressing undesirable congestion problems. There are three basic categories of strategies that are considered within the CMP: Transportation Demand Management (TDM), Traffic Operational Management (TOM), and Transportation Improvement Programs (TIP). Recent congestion management studies recommended projects in these categories, and then categorized into these four groups: High, Medium,

Low, and Future. The MPO identified the leading and supporting agencies for each strategy. A few sample descriptions of high-priority strategies and inventory lists are provided below.

Transportation Demand Management (TDM) Strategies:

Growth Management or Sustained Growth – As a strategy to manage travel demand, growth management addressed in the Fayette County 2007 Comprehensive Plan involves the public and private sectors in improving new development and re-development patterns and designs to help reduce congestion through such strategies as Transit Oriented Design (TOD) and better connections for bicycle and pedestrian pathways.

Bicycle and Pedestrian Master Plan – The 2007 Bicycle and Pedestrian Master Plan established a framework that directs bicycle and pedestrian efforts in Fayette and Jessamine Counties. The implementation of this Plan and its strategies will contribute in reducing congestion and improving quality of life in the planning area.

Expanded Rideshare Program – Rideshare refers to carpools and vanpools, both of which reduce Single-Occupant Vehicle (SOV) travel. The MPO Mobility Office facilitates and manages the rideshare program covering the planning area and surrounding counties. The KYTC is in the process of establishing a state-wide vanpool program that may provide a needed service for the citizens of the commonwealth and reduce traffic congestion by taking SOVs off the road.

Improved and Expanded Transit Service – With the dedicated tax referendum, the Transit Authority of Lexington (LexTran) has made great improvements in its transit services. Since last year, LexTran expanded its frequency and transit services to several new destinations, such as Bluegrass Airport, Keeneland Race Course, and south side of Lexington-Fayette County. Together, LexTran and MPO continue to work with elected and other officials in Jessamine, Clark, and other surrounding counties to investigate the potential to expand commuter transit routes to the Lexington urbanized area.

Park and Ride Facilities – Park and ride facilities are parking areas with connections to transit or carpools that allow commuters and other trip makers to park their vehicles and take transit or carpool for the rest of their trip. These facilities are generally located in the suburbs of metropolitan areas. The MPO, Lextran and KYTC continue to emphasize the importance to consider park and ride facilities in the new development areas, re-development areas, and along corridors with high commuter traffic flows.

An inventory of TDM strategies, priorities, and implementing status is provided below. The leading and supporting agencies' list is by no means a complete list. A few special abbreviations and acronyms used in the strategy inventories and following tables are:

UCG = Lexington-Fayette Urban County Government (LFUCG)

ENG = LFUCG Division of Engineering

PLN = LFUCG Division of Planning

TE = LFUCG Division of Traffic Engineering

Jess. = Jessamine County



An inventory of TDM strategies, priorities, and implementing status is provided as follows:

<u>CMP Strategy / Tool</u>	<u>Leading and Supporting Agencies</u>	<u>Implementing Priority</u>	<u>Status</u>
Alt. Work Schedule / Flextime	Employers, UCG...	High	On-going
Expanded Transit Service	LexTran, MPO, UCG, Jess..	High	On-going
Growth Management	PLN, MPO, UCG, Jess...	High	On-going
Park and Ride Facilities	MPO, LexTran, KYTC....	High	On-going
Parking Management	LFC Parking Authority, ...	High	On-going
Ridesharing Programs	MPO, KYTC, FHWA, ...	High	On-going
Urban Design	PLN, MPO, UCG, ...	High	On-going
Bike & Pedestrian Networks	MPO, KYTC, UCG, Jess...	Medium	On-going
Telecommuting	Employers, MPO, KYTC...	Medium	On-going
Transit Oriented Development	PLN, MPO, UCG, ...	Medium	On-going
Freeway Ramp Metering	FHWA, KYTC,...	Low	Future
Freeway Congestion Pricing	FHWA, KYTC,...	Low	Future

#### Traffic Operational Management (TOM) Strategies:

Access Management – Access management is a strategy that controls the design and operation of driveway and street connections to/from an arterial or major collector system. The MPO is actively involved in establishing access management/control policies and reviewing development plans to preserve the functional integrity of the existing roadway system.

Improved Signalization – Since computerized traffic signal systems have become available, options have increased for reducing congestion by applying and coordinating progressive signal systems. The MPO and LFUCG Division of Traffic Engineering work closely with the federal and state agencies in securing Surface Transportation Program funds for the Lexington MPO area (SLX funds). With these funds, the LFUCG Division of Traffic Engineering has designed and installed many miles of fiber optic cables to improve traffic surveillance and Intelligent Transportation System (ITS) management. It has also implemented numerous traffic signal timing improvement programs to relieve congestion.

Intersection Improvements – This category involves adding turning lanes for more capacity, improving turning radius to facilitate larger vehicles, realigning intersecting streets. The

MPO transportation improvement program identified several intersection improvement projects.

One-Way Streets – A one-way street pattern may be employed at the major activity centers such as central business districts or downtown areas. One-way streets simplify operations of intersections and accommodate larger volumes of traffic. There are a number of one-way streets in the Lexington Downtown area. Recently, there has been pressure by local business and downtown revitalization interests to convert many one-way streets back to two-way operation. However, it should be understood that one-way streets provide numerous benefits in terms of traffic flow and congestion reduction. The capacity of a traffic lane can be as much as 50% higher for one-way vs. two-way operation because there are no delays to turning movements due to opposing traffic and because one-way operation allows for improved signal timing with respect to progression and reduced phasing. One-way operation also reduces the number of conflict points at intersections and improves safety for vehicles and pedestrians.

An inventory of TOM strategies, priorities, and implementing status is provided as follows:

<u>CMP Strategy / Tool</u>	<u>Leading and Supporting Agencies</u>	<u>Implementing</u>	
		<u>Priority</u>	<u>Status</u>
Access Management	TE, MPO, ENG, KYTC, ...	High	On-going
Arterial Surveillance & Mgmt.	TE, KYTC, MPO, ...	High	On-going
Incident Management	TE, MPO, UCG, Jess...	High	On-going
Improved Signalization	TE, UCG, MPO, KYTC, ...	High	On-going
Intelligent Transp. Systems	TE, MPO, KYTC, ...	High	On-going
Intersection Improvements	TE, MPO, ENG, KYTC, ...	High	On-going
One-Way Streets	TE, MPO, UCG, KYTC, ...	Medium	On-going
Traffic Information Broadcasts	TE, UGC, Jess., MPO, ...	Medium	On-going
Turn Prohibitions	TE, MPO, UCG, Jess...	Medium	On-going

#### Transportation Improvement Program (TIP) Strategies:

Additional lanes – Deficient roadway capacity is a major contributor to congestion in a growing urbanized area. New travel lanes on existing roadways are needed in many areas to satisfy the increased travel demand. This includes adding turning lanes at intersections for extra capacity. The 2004 CM Study recommended such a strategy by adding capacity at the interchange of Harrodsburg Road and New Circle Road and the recommendation is being implemented.

Interchange Redesign Improvements – An inadequately designed interchange (for current traffic conditions) can create significant traffic delays and traffic flow choke points or bottlenecks. Improved interchange design based on current and future traffic conditions can significantly reduce traffic delays. The addition of, and/or lengthening of, ramps and auxiliary lanes is a typical type of improvement that is needed at interchanges that have been in service for several years. The single-point urban interchange (SPUI) improvement that was constructed at New Circle Road and Winchester Road has improved the traffic flow at the interchange location significantly. The diverging diamond interchange (DDI) to be constructed at New Circle Road and Harrodsburg Road will be another example of the redesigned and improved interchange treatment.

New Roadways – The construction of new roadways requires extensive early and on-going planning and a significant amount of funding. The need for a new roadway is usually accompanied by new development and/or extreme congestion.

Reversible Traffic Lanes or Variable Lane Use – This involves establishing signals, signage, and pavement markings which permit the direction of travel or lane use to be changed on given lanes during peak travel hours. This strategy has been successfully implemented on Nicholasville Road (US-27) for many years and will be soon extended in selected areas.

Roundabout – A roundabout is a type of circular junction in which road traffic must travel in one direction around a central island. Signs and markings direct traffic entering the circle to slow down and give the right of way to drivers already in the circle. Under many traffic conditions, a roundabout can operate with less delay to users than all-way stop control or traffic signal control. Unlike all-way stop intersections, a roundabout does not require a complete stop by all entering vehicles, which reduces both individual delay and delays resulting from vehicle queues. A roundabout can also operate more efficiently than a signalized intersection because drivers are able to proceed when traffic is clear without the delay incurred while waiting for the traffic signal to change.

An inventory of TIP strategies, priorities, and implementing status is provided as follows:

<u>CMP Strategy / Tool</u>	<u>Leading and Supporting Agencies</u>	<u>Implementing</u>	
		<u>Priority</u>	<u>Status</u>
Additional Lanes w/o Widening	MPO, TE, ENG, KYTC ...	High	On-going
Interchange Redesign Imprvmt	MPO, KYTC, FHWA, ...	High	On-going
New Roadways	MPO, KYTC, FHWA, ...	High	On-going
Reversible Traffic Lanes	MPO, TE, ENG, KYTC, ...	High	On-going
Roundabout	MPO, TE, ENG, KYTC, ...	High	On-going
Transit Capital Improvements	LexTran, MPO, FTA, ...	High	On-going

## Implementation and Management of Selected Strategies

This component of the CMP addresses the implementation and management of CMP activities in terms of documentation and sustaining its operation over time. The intent of the Federal CMP requirement is to ensure that congestion is examined and addressed in the transportation planning process in an on-going manner. The implemented CMP activities must be documented, but the Federal requirements do not stipulate exactly how the documentation shall be completed. The MPO has been documenting its implemented CMP activities using the following documents:

- 2035 Metropolitan Transportation Plan – Adopted in 2009
- Transportation Improvement Program (TIP) FY 2010–2013 – Adopted in 2009
- Congestion Management Process Overview (2009 Draft)
- Community-Wide Congestion Management Study Update (2007)
- Man O War Boulevard Traffic Study (2007)
- Congestion Management Study (2005 Phase II)
- Congestion Management Study (2004 Phase I)
- Unified Planning Work Program (UPWP) – Annually

The CMP requires an implementation plan to coordinate CMP activities, ensure the timely development and effective delivery of CMP products, and maintain a high level of quality control. Coordination and cooperation among multiple agencies are essential to ensure that the CMP functions properly and provides the desired information. The CMP activities, procedures, and techniques shall be reviewed periodically to update the CMP as new and better tools, technologies, and methods become available.

To effectively select and implement the congestion management strategies, the MPO formed its Congestion Management Committee (CMC) in the 1990's. This management strategy was based on the federal requirements of The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21) of 1998. The mission of the CMC is to coordinate congestion management activities to help alleviate and prevent transportation congestion recurring in the MPO planning area. The SAFETEA-LU of 2005 reaffirms the federal requirements initially established in the ISTEA and continued in the TEA-21 for congestion management. The purpose of the CMC is to provide guidance for an effective congestion management process.

The Congestion Management Committee (CMC) is a subcommittee of the Transportation Technical Coordination Committee (TTCC). The CMC reports and makes technical recommendations to the TTCC. The TTCC in turn reports to the Transportation Policy Committee (TPC). The TPC is the governing body of the MPO which is responsible for transportation planning in Fayette and Jessamine counties.

The CMC members include transportation professionals from federal, state, and local governments and agencies. The CMC members also include interested citizens and consultants. All professional staff and citizens who are interested in transportation planning and congestion management activities are welcome to attend CMC meetings to learn and present their questions and ideas. A list of CMC members is shown in Appendix A. Coordinated discussions and recommendations are encouraged and documented at the CMC meetings.

The CMC meetings are held approximately eight (8) times a year on the 2<sup>nd</sup> Wednesday of the month, at 1:30 pm, in the 7<sup>th</sup> floor conference room in the LFUCG Phoenix Building, 101 East Vine Street in Downtown Lexington.

The CMC advises that the MPO work closely with the federal and state transportation agencies to secure the Surface Transportation Program funds for the Lexington MPO area (SLX) and Congestion Mitigation Air Quality (CMAQ) funding to implement MPO area transportation programs and projects. The MPO has the authority over the SLX funds and is responsible for selecting and prioritizing SLX projects within the current fiscal constraints. The MPO has an on-going commitment to dedicate SLX funds towards traffic operations programmed into the TIP.

The MPO will continue to document the recommended CMP strategies in the congestion management studies. The MPO will continue to document implemented CMP activities in the CMP Overview, the Metropolitan Transportation Plan (MTP), and the Transportation Improvement Program (TIP). The MPO will also document CMP activities in its monthly,

quarterly, and annual reports. These documents describe planned and programmed CMP strategies and projects from planning through implementation.

## **Monitoring Strategy Effectiveness**

This component of the CMP addresses the methodology to evaluate and monitor the effectiveness of implemented projects and strategies. Monitoring strategy effectiveness is one of the challenging components of the CMP. Traffic congestion is the result of many factors, including shortage of transportation capacity and high demand for travel. These factors interplay conjointly in very complex ways, and it is difficult to separate the effects of a particular strategy from other strategies. Therefore, a significant amount of effort and resources are required to establish effective methods and procedures to monitor strategy effectiveness. It is cost effective and practical to use data that is readily available to evaluate.

Being a medium sized urbanized area, our choice of effective strategies will differ from large urban areas. For example, ramp metering, HOV lanes, and congestion pricing are probably inappropriate for our community today. However, improved incident management, increased enforcement, and traffic information are very effective strategies to help mitigate traffic congestion in our area.

A key factor to monitor the effectiveness of the implemented CMP strategies is the selection and use of appropriate performance measures. The important step in implementing the CMP is to select the appropriate performance measures to monitor the strategy effectiveness. The performance measures discussed previously and the monitoring efforts for those measures will provide the information needed to evaluate the effectiveness of congestion reduction projects and strategies.

Information collected from monitoring the strategy effectiveness can assist in improving the CMP. The monitoring and evaluations are necessary to provide essential information helping identify which strategies are more effective than others. These evaluations and monitoring are needed to help the MPO staff fine-tune the implemented strategies to optimize the benefits.

This component of the CMP can provide valuable feedback on the effectiveness of the specific strategies to alleviate congestion. As stated in the previous chapter, the CMP strategies are categorized into three groups: TDM, TOM, and TIP strategies. During the process of congestion management studies, MPO and supporting agencies categorized the CMP strategies into three priorities: High, Medium, and Low. The MPO has focused its efforts and resources to those high-priority strategies.

## ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
ACS	American Community Survey
ADT	Average Daily Traffic
AQAC	Air Quality Advisory Committee
BGADD	Bluegrass Area Development District
BPAC	Bicycle Pedestrian Advisory Committee
CFR	Code of Federal Regulations
CM	Congestion Management
CMAQ	Congestion Mitigation and Air Quality
CMC	Congestion Management Committee
CMP	Congestion Management Process
CMS	Congestion Management System
CTPP	Census Transportation Planning Package
DDI	Diverging Diamond Interchange
DOT	Department of Transportation
ENG	LFUCG Division of Engineering
FFS	Free-Flow Speed
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GIS	Geographic Information System or Service
GPS	Global Positioning System
HCM	Highway Capacity Manual
HDO	Highway District Office
HOV	High-Occupancy Vehicle
HPMS	Highway Performance Monitoring System
IMS	Intermodal Management System
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation System
KYTC	Kentucky Transportation Cabinet
KYEPPC	Kentucky Environmental and Public Protection Cabinet
MPO	Lexington Area Metropolitan Planning Organization
LOS	Level of Service
LFUCG	Lexington Fayette Urban County Government
LexTran	Lexington Transit Authority
MOE	Measure of Effectiveness
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
O-D	Origin-Destination
OMS	Operational Management System
PHT	Person-Hours of Travel
PMT	Person-Miles of Travel



PTI	Planning Time Index
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users of 2005
SOV	Single-Occupant Vehicle
SPUI	Single-Point Urban Interchange
STIP	State Transportation Improvement Program
TCM	Transportation Control Measure
TDM	Transportation or Travel Demand Management
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century of 1998.
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TOM	Traffic Operational Management
TPC	Transportation Policy Committee
TRI	Travel Rate Index
TSC	Traffic Safety Coalition
TSM	Transportation System Management
TTCC	Transportation Technical Coordinating Committee
TTI	Travel Time Index
UCG	Lexington Fayette Urban County Government
V/C	Volume/Capacity
VHT	Vehicle-Hours of Travel
VMT	Vehicle-Miles of Travel

## Congestion Management Committee (CMC)

Serving the citizens, commuters, and travelers in Fayette and Jessamine Counties.

<b>Chair:</b>	<b><u>Representing</u></b>
<b>Barry House</b>	<b>KYTC Planning</b>
<b>Co-Chair:</b>	
<b>Jason Allinder</b>	<b>LFUCG – Div. of Traffic Engineering</b>
<b>Secretary:</b>	
<b>Sam Hu</b>	<b>MPO / LFUCG – Div. of Planning</b>
<b>Position Open</b>	<b>Interns from High Schools, Colleges, or Universities</b>

### Chair and Member Emeritus:

<b>Stuart Goodpaster</b>	<b>KYTC – District 7 (Chair: 2005 – 2007)</b>
<b>Randy Turner</b>	<b>KYTC – District 7 (Chair: 2007 – 2010)</b>
<b>Steve Cummins</b>	<b>LFUCG – Traffic Engineering (Co-Chair: 2007 – 2010)</b>
<b>Robert Kennedy</b>	<b>Palmer Engineering (Member: 2007 – 2009)</b>
<b>Doug Pape</b>	<b>LFUCG Div. of Police (Member: 2007 – 2009)</b>
<b>Eric Walsh</b>	<b>BADD (Member: 2006 – 2008)</b>

### Congestion Management (CM) Core Team:

The Core Team includes the Chair, Co-Chair, Secretary, and following team members.

<b>Max Conyers</b>	<b>MPO / LFUCG – Div. of Planning</b>
<b>Chris King</b>	<b>LFUCG – Div. of Planning</b>
<b>Ron Herrington</b>	<b>LFUCG – Div. of Traffic Engineering</b>
<b>Robert Bayert</b>	<b>LFUCG – Div. of Engineering</b>
<b>Julia Shaw</b>	<b>LFUCG – Div. of Police</b>
<b>Jesse Mayes</b>	<b>KYTC Planning</b>
<b>Bernadette Dupont</b>	<b>FHWA – KY Division</b>
<b>Ian Chidister</b>	

### Stakeholders, Members, Contributors, and Interested Parties:

<b>Roger Daman</b>	<b>MPO / LFUCG – Div. of Planning</b>
<b>Joey David</b>	
<b>Kenzie Gleason</b>	
<b>Rob Hammons</b>	
<b>Charles Schaub</b>	
<b>Harika Suklun</b>	
<b>Brenda Whittington</b>	

<b>Stephanie Cunningham</b>	<b>LFUCG – Div. of Planning</b>
<b>Jim Duncan</b>	
<b>Jimmy Emmons</b>	
<b>Rob Johnson</b>	
<b>Bill Sallee</b>	
<b>Traci Wade</b>	

**Janice Westlund**

**Brad Christensen  
Andrea Strassburg  
Morry LaTour**

**Berea College  
Citizen**

**Brian Aldridge  
Jason Bricker  
Tom Creasey  
Glenn Hardin  
John Kiser**

**Entran**

**Fayette County Schools**

**Brent Sweger  
James Ballinger  
Robert Nunley  
Randy Toy**

**KYTC – Div. of Planning  
KYTC – District 7**

**Bill Bowie  
Arthur Craig  
Andrew Grunwald  
Vincent May  
Marwan Rayan  
Barry Warfield**

**LFUCG – Div. of Engineering**

**Jeanne Gardner  
Joel Weber  
Jim Woods**

**LFUCG – Div. of Traffic Engineering**

**Gary Means  
Tasha Stevens  
Michael Price  
Jared Forte**

**Lexington-Fayette County Parking Authority (LexPark)**

**Lexington Transit Authority (LexTran)**

**Stephen Sewell  
Dee Dee Bowman  
Janet Hammond  
Maggie Vo**

**Palmer Engineering  
R.J. Corman**

Proposed Congestion Management Corridors

ROUTE	ROUTE NAME	DIR	FUNCT	LIMIT A	LIMIT B	MP A	MP B	LENGTH (Mile)	LENGTH (Mile)
I-64	I-64	E	INT	Fayette-Scott Co. Line	Fayette-Clark Co Line	71.000	89.480	18.480	18.48
I-75	I-75	N	INT	Fayette-Madison Co. Line	Fayette-Scott Co Line	97.703	120.792	23.089	23.09
	I-64 & I-75 Overlap	E	INT	I-75 Underpass North	I-75 Underpass South	74.464	81.337	6.873	6.87
						Sub-total of INT:			
KY 4	New Circle Rd (Clockwise)	N	URB F	US 27 Underpass	KY 922 Underpass	0.000	9.324	9.324	9.32
	New Circle Rd (Signalized Sec)	N	URB P A	US 25 Overpass	KY 922 Underpass	14.851	9.324	5.527	5.53
	New Circle Rd (Cntl Clockwise)	N	URB F	US 27 Underpass	US 25 Overpass	19.283	14.851	4.432	4.43
US 25	Georgetown Rd	N	P A	US 421 / Cox St	Fayette-Scott Co Line	14.632	22.286	7.654	7.65
	Richmond Rd / E Main St	N	URB P A	KY 418	US 60 / Midland Av	8.140	13.433	5.293	5.29
US 27	N Broadway / Paris Pike	N	P A	US 25 / W Main St	Fayette-Bourbon Co Line	6.497	15.767	9.270	9.27
	Nicholasville Rd / S Limestone	N	P A	Fayette-Jess Co Line	US 25 / W Main St	0.000	6.497	6.497	6.50
	US 27 in Jessamine Co	N	P A	Jess-Garrard Co Line	Fayette-Jess Co Line	0.000	15.278	15.278	15.28
US 27X	N & S Main St in Nicholasville	N	URB MN	US 27 S of Nicholasville	US 27 N of Nicholasville	3.890	0.000	3.890	3.89
US 60	Versailles Rd / W Maxwell & High	E	P A	Fayette-Woodford Co Line	US 27 / S Broadway	0.000	8.117	8.117	8.12
	Midland Av / Winchester Rd	E	P A	US 25 / E Main St	Fayette-Clark Co Line	8.162	19.273	11.111	11.11
US 68	Harrodsburg Rd / S Broadway	E	P A	Fayette-Jess Co Line	US 27 / Bolivar St	0.000	6.217	6.217	6.22
	US 68 in Jessamine Co	E	MN & P A	Jess-Mercer Co Line	Fayette-Jess Co Line	0.000	12.019	12.019	12.02
US 421	W Main St / Leestown Rd	N	P A & MN	US 25 / Newtown Pike	Fayette-Scott Co Line	0.000	8.166	8.166	8.17
KY 418	Richmond Rd	E	P A	US 25 / Old Richmond Rd	Blue Sky Pkwy	0.000	3.195	3.195	3.20
KY 922	Newtown Pike	N	P A	US 25 / Georgetown Rd	I 75 Underpass	0.000	2.860	2.860	2.86
	Oliver Lewis Way	N	P A	US 60 / Versailles Rd	US 421 / Leestown Rd	0.000	0.329	0.329	0.33
KY 1974	Tates Creek Rd	N	URB P A	Man O War Blvd	Fontain Rd	7.797	12.125	4.328	4.33
KY 1425	Man O War Blvd	N	URB LOC	Man O War Blvd	US 60	0.000	1.429	1.429	1.43
	Man O War Blvd	E	URB LOC	US 60 / Versailles Rd	I 75 Overpass	0.000	15.241	15.241	15.24
Downtown Area Arterials:									
US 25	E & W Main St	N	URB P A	US 60 / Midland Av	US 421 / Cox St	13.433	14.632	1.199	1.20
	E & W Vine St	N	URB P A	US 60 / Midland Av	W Main and Vine Split	13.433	14.200	0.767	0.77
Local	E High St	W	URB A	Fontain Rd	S Limestone	0.000	1.226	1.226	1.23
	W High St	W	URB A	S Limestone	US 27 / S Broadway	0.000	0.236	0.236	0.24
	W Maxwell	E	URB A	US 27 / S Broadway	S Limestone	0.000	0.234	0.234	0.23
	E Maxwell	E	URB A	S Limestone	E High St	0.000	0.721	0.721	0.72
	S Limestone	N	URB A	Ave of Champions	W Main St	0.000	0.500	0.500	0.50
	S Upper St	S	URB A	W Main St	Ave of Champions	0.000	0.500	0.500	0.50
Total:						180.26			

CMP Overview - Appendix B

Abbreviations: Dir - Direction; E - East; N - North; MP - Mile Point.

FUNCT - KYTC Functional Classification Code: A - Arterial; F - Freeway; INT - Interstate; LOC - Local; MN - Minor; P - Principal; URB - Urban.

Notes: In the CMC meeting of September 8, 2010, the committee recommended that the above interstates, expressways, and arterials be considered in the statewide congestion management speed data collection process.

References: KYTC Highway Information Map and Official Distance Measurement Instrument (DMI) Route Log

# Lexington Area MPO Proposed Congestion Management Corridors

