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## CHAPTER EIGHT - TRANSPORTATION

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This chapter references the Metropolitan Transportation Plan (MTP) as the Transportation Chapter of Horizon 2020, reflects the goals of the MTP as adopted, and presents a brief explanation of the regional transportation planning process conducted in Douglas County by the Lawrence-Douglas County Metropolitan Planning Organization (L-DC MPO) and how that regional transportation planning program relates to the land use planning activities conducted by the Lawrence-Douglas County Metropolitan Planning Commission. This chapter also explains how both transportation planning and land use planning for the area are documented in the regional comprehensive plan.

### Metropolitan Transportation Plan

The MTP, currently titled Transportation 2040 or T2040 is a document produced and approved by the L-DC MPO. The MTP sets regional transportation policies and it articulates goals and objectives for the creation of a multi-modal transportation system that complements land use plans, economic development plans, environmental plans, and other comprehensive plan elements for the region. The MTP assists state and local government agencies in improving the quality of life for area residents by developing a safe and efficient transportation system. The library of L-DC MPO documents, including the MTP, along with a description of the MPO process can be found on the web at <http://www.lawrenceks.org/mpo/>.

In addition to the regional scale planning policies found in the MTP which show major transportation corridors and services in a systematic way, there are smaller scale planning and design issues that are also important to the safe and efficient development of a multi-modal transportation system. Although many of these detailed items are more traffic engineering concerns than planning level issues, it is important to note that some items that need to be included in the transportation element of a comprehensive plan are not always included in the MTP. However, the MTP does reference the need for corridor and access management and other traffic engineering items designed to protect the operational integrity of the major roads in the region. This is important to support system planning for the regional multi-modal transportation system that is described in the MTP. For this reason, the state and local policies that address traffic engineering and transportation planning need to be used along with this chapter and the MTP in the review of proposed developments and infrastructure improvements. Local development codes should be supportive of the transportation planning policies set forth in this Comprehensive Plan Chapter and in the MTP.

## MPO Planning Process

The MPO transportation planning process is designed to provide a regional forum for decision-making for the development and operation of a multi-modal transportation system designed to provide safe and efficient mobility for all of the region's residents and businesses. Coordination and information sharing among jurisdictions are important elements of MPO activities. The L-DC MPO covers the entirety of Douglas County including the three smaller cities (Baldwin City, Eudora, and Leocompton) which are not included in or approving bodies for this comprehensive plan and may produce their own comprehensive plans.

The MPO planning process is called the 3 C (Continuing, Comprehensive, Cooperative) process. It is a continuing process that does not end when a new transportation plan document is approved. The MPO produces a new transportation plan at least once every five years (may change to every four years in the foreseeable future due to air quality issues), but as soon as a new plan is approved the MPO begins to work on related documents and improvements to put in the next edition of the transportation plan. The MPO process is comprehensive in that it views transportation system planning as one part of a larger planning process where various types of planning (transportation, land use, environmental, economic, etc.) work together to improve the quality of life for all people in the region. Transportation planning is intricately tied together with land use planning since much of the planning for mobility corridors is predicated on the types and intensities of land uses planned along those routes. Likewise, the land uses planned for an area depend on the access afforded by the transportation network. Transportation and land use planning have a symbiotic relationship. MPO activities are also part of a cooperative process involving several different government agencies and an ample amount of public review. Two federal agencies (Federal Highway Administration and Federal Transit Agency), the Kansas Department of Transportation, Douglas County, and the four city governments in Douglas County all participate in the MPO process and its committee meetings. This regional transportation planning process is open to the public which is welcome to attend meetings and encouraged to send comments about transportation planning issues to the MPO staff.

### Transportation 2040 Goals, Objectives and Strategies

(copied from Chapter 3 of the Transportation 2040 Metropolitan Transportation Plan)

The goals and objectives of this Transportation 2040 (T2040) – Metropolitan Transportation Plan (MTP) for the Lawrence-Douglas County Metropolitan Planning Area (MPA) are based in part on the overarching goal of creating a shared regional vision for how the Lawrence-Douglas County Region will grow and what the community will look like in the future as depicted in the Lawrence-Douglas County Comprehensive Plan. The goals and objectives in this T2040 Plan are based on the following considerations:

- Public Participation from meetings and interviews with transportation stakeholders, various advisory committees, and written comments from the public

- The previous MTP; Transportation 2030 – Lawrence-Douglas County Long Range Transportation Plan
- [Horizon 2020 – Lawrence-Douglas County Comprehensive Plan](#)
- Planning Factors from the Federal surface transportation act - Moving Ahead for Progress in the 21st Century (MAP-21) and Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)
- Comprehensive multimodal nature of the MTP which is outlined in the MPO Policy Board Bylaws
- Knowledge and experience of numerous transportation professionals involved in our region's MPO process
- Guidance from the Kansas Department of Transportation and State emphasis areas outlined in the [Transportation Works for Kansas \(T-WORKS\) program](#)
- Federal transportation planning regulations for MPOs

The creation of this T2040 Plan was supported by an open public participation process and the willingness of the local, state, and federal officials involved in developing and approving this document to chart a comprehensive vision for a regional transportation system. This vision considers the region's short- and long-term needs; land use patterns; planning decisions impacting transportation systems; the desire to provide mobility for all users; and the relationships between the transportation system, the environment and the economy. That comprehensive view of regional transportation planning and the recognition that transportation planning does not take place in its own universe, but that it is intricately related to several other forms of planning is an important part of the MTP development process. The T2040 vision, goals, and objectives also consider and reflect on the federal requirements of the SAFETEA-LU and MAP-21 planning factors listed below.

The MPO has provided the forum for the planning process to create this regional multimodal plan. The T2040 Plan relies on the understanding that a Continuing, Comprehensive, and Cooperative (3C) process will be required to carry out the vision, goals and actions addressed in this plan. That will require the MPO, local governments, KDOT, FHWA and any other invested parties to work together to implement the policies and programs recognized in this document.

### **Federal Planning Factors**

The new MAP-21 planning factors are similar to the previous SAFETEA-LU planning factors and both address several important issues related to mobility, equity, economic viability, safety, security, environmental stewardship, intermodal coordination, system preservation, operations and maintenance, and sustainability. Simply put – these factors represent comprehensive transportation system planning that is done for all users. The T2040 Plan addresses these Planning Factors by incorporating the ideas expressed in these factors in the T2040 Goals and Objectives and throughout the text of this document.

### **MAP-21 Planning Factors**

The metropolitan planning process for a metropolitan planning area shall provide for consideration of projects and strategies that will:

- support the economic vitality of the United States, the States, non-metropolitan areas,

and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;

- increase the safety of the transportation system for motorized and non-motorized users;
- increase the security of the transportation system for motorized and non-motorized users;
- increase the accessibility and mobility of people and freight;
- protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;
- promote efficient system management and operation; and
- emphasize the preservation of the existing transportation system.

#### **SAFETEA-LU Planning Factors**

The metropolitan planning process for a metropolitan planning area shall provide for consideration of projects and strategies that will:

- support the economic vitality of the United States, the States, non-metropolitan areas, and metropolitan areas, especially by enabling global competitiveness, productivity, and efficiency;
- increase the safety of the transportation system for motorized and non-motorized users;
- increase the security of the transportation system for motorized and non-motorized users;
- increase the accessibility and mobility of people and for freight;
- protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- enhance the integration and connectivity of the transportation system, across and between modes throughout the State, for people and freight;
- promote efficient system management and operation; and
- emphasize the preservation of the existing transportation system.

#### **Organization of the T2040 Plan around a Vision Statement, Goals, Objectives, Improvement Strategies and Action Steps**

This T2040 Plan is organized with generally worded goals meant to expand on and clarify the vision statement followed by several goal related objectives and then followed by improvement strategies and action steps. The objectives form the transition between the good ideas and the work at hand that needs to be done to improve transportation in the plan region. This plan also includes an evaluation system in the form of measures of progress.

In later chapters of this document as each part of the transportation system is discussed in more detail, this plan adds action steps that address specific modal concerns and adds measures of

progress to chart advancement in addressing those concerns. The goals, objectives, improvement strategies and measures of progress are all related. They are designed to encourage overall transportation system improvements as well as to help track the changes in performance for each part of the multimodal transportation system.

Funding constraints, technical problems, interagency coordination issues, political considerations, and other factors will make some action steps in this plan difficult to perform. For those reasons, and not the lack of good intentions, some actions to improve our region's transportation system will not occur soon and may not take place during the expiration period covered by this T2040 document or may just get started during that time. Some projects, that are needed and much desired, take more time than one five year transportation plan update cycle to complete. This timing does not alter the importance of integrity of a specify project or action.

### **Defining Goals, Objectives, Strategies, Action Steps and Measures of Progress for T2040**

It is important to ensure that we define Goals, Objectives, Strategies, Action Steps and Measures of Progress for the T2040 Plan. The definitions below guided the creation of this document and are a tool to help the users of this plan.

**Goals** are long range approaches to articulate the vision of the community. They represent an improvement to the status quo that can be generally supported by the community.

**Objectives** are defined approaches to attain the identified goals. An objective is more specific than a goal and is consistent with both the goal and strategies it is related to. Objectives outline the “who, what, when, where, and how” of reaching the goal. Many objectives can fall under each goal. For many objectives the timeline for completion will be the plan's duration (5 years), and for others it will be a shorter or longer term.

**Strategies** are statements that point out ways in which goals and objectives can be addressed and suggest groups of things to do that can be spelled out with greater detail in the following Action Steps. Strategies can be used to group several action steps around a common theme or general course of action. Not all goals and/or objectives will have Strategies.

**\*\*The following elements are included in the specific multimodal chapters where applicable.**

**Action Steps** are specific paths that the organization has chosen to take for completing objectives and realizing goals. They establish specific future actions that should be done and should reflect reasoned choices among all of the available alternatives. Many action steps can fall under a goal, objective and a strategy. Action steps are often very specific and can reference other policies, guidelines and standards.

**Measures of Progress** are things or accomplishments that can be delineated as being completed using a simple yes/no measure or something measured using a graduated scale or score. These things are used to document the condition and status of the transportation system and the progress towards meeting T2040 goals and objectives. Measures of Progress are a way to annually assess

performance of the multimodal transportation system to determine the success of the action steps. These performance measures are used to evaluate the T2040 Plan and the progress made on recommended projects.

Example of Goal, Objective, Strategy, Action Step and Measure of Progress

Goal - Goal 2: Focus on System Preservation and Economic Efficiency

Objective – Objective 2.1: Maximize the useful life of the streets, highways, bridges, and related transportation structures through the following strategies

Strategy– Maintain the existing road and bridge assets by adequately maintaining transportation facilities to preserve their intended function and maintain their useful life.

Action Step – Inspect bridges on a routine schedule related to the acceptable professional best practices and create a bridge condition inventory that identifies bridges that need improvements soon. Bridges that are in danger of having low weight limits imposed that will impede truck traffic that is expected to use that facility will be identified and scheduled for repairs and/or replacements.

Measures of Progress – Number of bridges identified to impede truck traffic ( $\leq 10$  ton and  $\leq 40$  ton) compared to those bridges scheduled for upgrades this year. Number of bridges that were upgraded or repaired before lower weight limits were placed on them. The percent of all bridges maintained by the government agency having a low posted weight limit that could hamper efficient freight traffic.

The following Vision Statement and set of goals along with the rest of this document are intended to create and instill a shared regional vision for the future multimodal transportation system that will serve all residents of and visitors to Douglas County and depict a realistic view for how we can achieve that future transportation vision for our community. Action steps and measures of progress are included in each modal chapter.

### **Transportation 2040 – Moving Forward Together Vision Statement**

**Develop a multimodal transport system that safely, efficiently and equitably serves all users whom travel to, from and within the region; and develop a regional transport network of facilities and services that complements the region's economy and enhances the region's livability.**

The vision emphasizes the importance of multimodal system planning and the value of the transportation network as an asset to the community. The plan supports an accessible environment that serves to improve the quality of life and prosperity in the region.

## **Goal 1: Improve Safety & Security**

**Objective 1.1:** Reduce the occurrences of fatalities and injuries to transportation system users through design techniques and the application of the “4 E’s” --engineering, education, enforcement, and emergency response through the following strategies:

**Strategy 1.1.1:** Develop criteria that focus on the safety aspect of transportation projects and require that the safety element of projects be addressed properly before project approval is considered

**Strategy 1.1.2:** Scrutinize safety issues related to land development projects early in the review process at plan review meetings and at times when projects are still in the conceptual plan stage

**Strategy 1.1.3:** Participate in the development of the Kansas Strategic Highway Safety Plan

**Strategy 1.1.4:** Collect and analyze crash, injury and fatality data to set high priority areas for safety improvements

**Strategy 1.1.5:** Facilitate and support the development and distribution of safety education materials

**Strategy 1.1.6:** Encourage enforcement of traffic laws for all traffic system users by local police departments

**Strategy 1.1.7:** Support efforts to provide faster emergency responses through transportation system changes like the installation of signal pre-emption devices for EMS vehicles

**Strategy 1.1.8:** Support development of policies for using Crime Prevention Through Environmental Design (CPTED) elements in the design of transportation projects so that natural surveillance can be increased.

**Strategy 1.1.9:** Respond to weather incidents in a timely and effective manner

**Strategy 1.1.10:** Secure support from the public and its elected representatives through education and advocacy for safer transportation facilities and services.

**Objective 1.2:** Coordinate with local, state and federal agencies and transportation providers to respond during times of natural disasters, extreme accidents, or other emergencies through the following strategies:

**Strategy 1.2.1:** Develop a continuity of operations and emergency operations plans

**Strategy 1.2.2:** Create and maintain an up-to-date contact lists for emergency operations management

**Strategy 1.2.3:** Develop opportunities for local, state and federal level agencies along with transportation providers to jointly plan and conduct training exercises to test their emergency

response plans and abilities

**Objective 1.3:** Increase the ability of the transportation system to support homeland security and to safeguard the personal security of all motorized users, non-motorized system users, and vital transportation facilities.

## **Goal 2: Focus on System Preservation and Economic Efficiency**

**Objective 2.1:** Maximize the useful life of the streets, highways, bridges, and related transportation structures through the following strategies:

**Strategy 2.1.1:** Maintain the existing road and bridge assets by adequately maintaining transportation facilities to preserve their intended function and maintain their useful life.

**Strategy 2.1.2:** Develop a process to inventory the size of the regional transportation system and monitor its condition

**Objective 2.2:** Utilize management techniques and technologies to maximize the capacity of the network and improve the operational efficiencies of the transport system through the following strategies:

**Strategy 2.2.1:** Develop acceptable critical Level of Service (LOS) standards for all regionally significant transportation facilities, services and modes in Douglas County, and the development of programs to maintain and improve service levels throughout the region's transportation network

**Strategy 2.2.2:** Prioritize traffic flow improvements to strategically reduce congestion and delay

**Strategy 2.2.3:** Use Access Management Standards to place access points along major roads at locations where the access will not significantly degrade the operations of the major road and will allow the major road to fulfill its main role of mobility. This will include the development of access management standards by local governments in the region and the coordination of those local standards with KDOT standards, especially for projects located on state system roads.

**Strategy 2.2.4:** Implement Intelligent Transportation Systems (ITS) and upgrade traffic signal equipment and communications and other technology to improve traffic flow with existing roadway capacity

**Strategy 2.2.5:** Enhance the efficient movement of freight through the identification of bottleneck locations for truck traffic, the implementation of improvement projects designed to make truck movements safer and more efficient, the enhancement of intermodal facilities (e.g., rail-truck) that will facilitate freight handling between modes, and any other projects planned to improve freight mobility to enhance the region's economy.

**Objective 2.3:** Incorporate and coordinate transportation improvements with existing and planned future land uses to minimize infrastructure costs through the use of the following strategies:

**Strategy 2.3.1:** Conduct transportation-related studies and projects such as traffic signal coordination or safety studies on a multi-jurisdictional or regional basis to more efficiently use resources

**Strategy 2.3.2:** Develop and/or review existing standards for Traffic Impact Studies (TIS) for each local government in the region. Those TIS standards will be used to determine the traffic impacts of major land developments and to recommend transportation system improvements needed to mitigate those impacts. This may include public-private partnerships for funding and building improvements recommended by the TIS.

**Objective 2.4:** Efficiently utilize existing financial resources to reduce duplication of services and/or other inefficiencies and investigate potential new revenue sources through the use of the following strategies:

**Strategy 2.4.1:** Explore alternate financing options for transportation funding (e.g., vehicle mileage road user fees, toll roads, private financing, user fees, fuel taxes, etc.)

**Strategy 2.4.2:** Improve project development processes and services between local, regional, state and federal agencies to reduce costs and increase the speed of project delivery

**Strategy 2.4.3:** Coordinate service providers and development groups to reduce duplicative services and inefficiencies

### **Goal 3: Maximize Accessibility and Mobility**

**Objective 3.1:** Minimize delay and congestion to improve travel times through identifying and upgrading traffic signal technology and communications to improve traffic flow.

**Objective 3.2:** Provide viable transportation alternatives (transit, bicycle, pedestrian) with better interconnectivity for people and goods by considering transit, bikeway and pedestrian facility details in all new development site planning, and adhering to local Complete Streets policies.

**Objective 3.3:** Assure all users are provided access to the regional transportation system and planning process through the use of the following strategies:

**Strategy 3.3.1:** Encourage land development patterns and transportation system designs that allow and encourage people to use all transportation modes, especially those that are human powered and support healthy lifestyles

**Strategy 3.3.2:** Coordinate multimodal review of maintenance plans and transportation facility plans

**Strategy 3.3.3:** Improve the linkages between transportation planning and public health planning

**Strategy 3.3.4:** Enhance and maintain a coordinated transit system including special services for senior citizens and persons with disabilities, and connections to regional commuter services

## **Goal 4: Consider the Environment and Quality of Life**

**Objective 4.1:** Minimize adverse social, economic, and environmental impacts created by the transportation system through the use of the following strategies:

**Strategy 4.1.1:** Encourage land development patterns that promote transportation efficiency, sustainability and livability through the ongoing coordinated review of land use plans by MPO staff and the ongoing review of transportation plans by land use planners

**Strategy 4.1.2:** Improve the linkages between transportation planning and environmental planning

**Strategy 4.1.3:** Maintain and improve air quality to meet or exceed the National Ambient Air Quality Standards and minimize the air pollutant emissions from the use of fossil fuels for transportation by encouraging the improvement of the multimodal transportation system

**Strategy 4.1.4:** Promote alternative-fueled vehicles that reduce emissions and support the development of needed infrastructure (e.g., charging stations, etc.) that will make the use of those vehicles feasible

**Strategy 4.1.5:** Encourage the use of alternative modes of transportation and encourage development that minimizes reliance on the automobile, especially the single occupant car

**Objective 4.2:** Consider transportation impacts when making land use decisions, and consider land use impacts (in terms of land use patterns, densities, and designated uses) when making transportation-related decisions through the use of the following strategies:

**Strategy 4.2.1:** Improve connectivity between existing employment centers, retail activity areas, and regional destinations as feasible to foster the continued growth and vitality of those areas

**Strategy 4.2.2:** Study traffic impacts and develop traffic impact mitigation standards so that land use decisions do not endanger the primary mobility function of arterial roadways

## **Summary**

This chapter of the Lawrence-Douglas County Comprehensive Plan establishes the current version of the MTP as the transportation element of the Comprehensive Plan for the City of Lawrence and Douglas County. The MTP is the transportation policy guide for comprehensive planning activities to be used in the local and regional policy decision-making process.