

KEEPING LETHBRIDGE ON THE MOVE



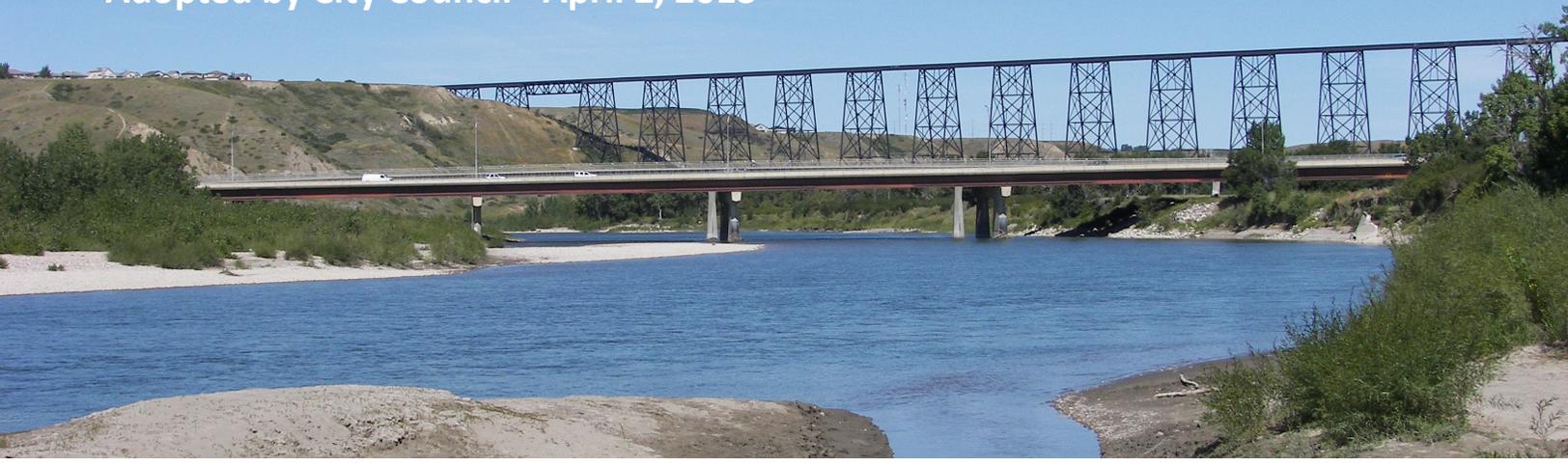
TRANSPORTATION MASTER PLAN

# executive summary



# City of Lethbridge Transportation Master Plan Final Report

Adopted by City Council - April 2, 2013



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## Executive Summary

### 1 INTRODUCTION

The City of Lethbridge (**City**) is the commercial, financial, transportation and industrial centre of southern Alberta. The City is split into three geographical areas: north, south and west. The Oldman River separates West Lethbridge from the north and south, while the Crowsnest Highway and the Canadian Pacific (CP) rail line separate North and South Lethbridge. Figure 1 illustrates the Transportation Master Plan study boundaries.

### 2 TRANSPORTATION MASTER PLAN UPDATE GOAL (WHY IT'S REQUIRED)

The current transportation infrastructure improvements within the City have been based on the previous transportation study, which is outdated. Moreover, the Integrated Community Sustainability Plan/Municipal Development Plan (ICSP/MDP) which contains policies regarding transportation has been recently adopted.

Associated Engineering (**AE**) was retained by the City to update the Transportation Master Plan with the goal of developing an integrated multi-model transportation system, utilizing the road infrastructure and the ICSP/MDP land-use policies.

### 3 TRANSPORTATION MASTER PLAN UPDATE SCOPE (WHAT IS REQUIRED)

The scope of the TMP study was to provide a comprehensive long-range plan that integrates land use policies with the transportation infrastructure requirements for the 100,000 and 130,000 population horizons. Deliverables include:

- Data collection report
- Household travel survey report
- EMME Model calibration and validation report
- TMP goals and strategies working paper
- Existing conditions assessment summary
- Transportation infrastructure options development
- Community engagement and consultation summary
- Recommended transportation master plan
- Draft and final transportation master plan.

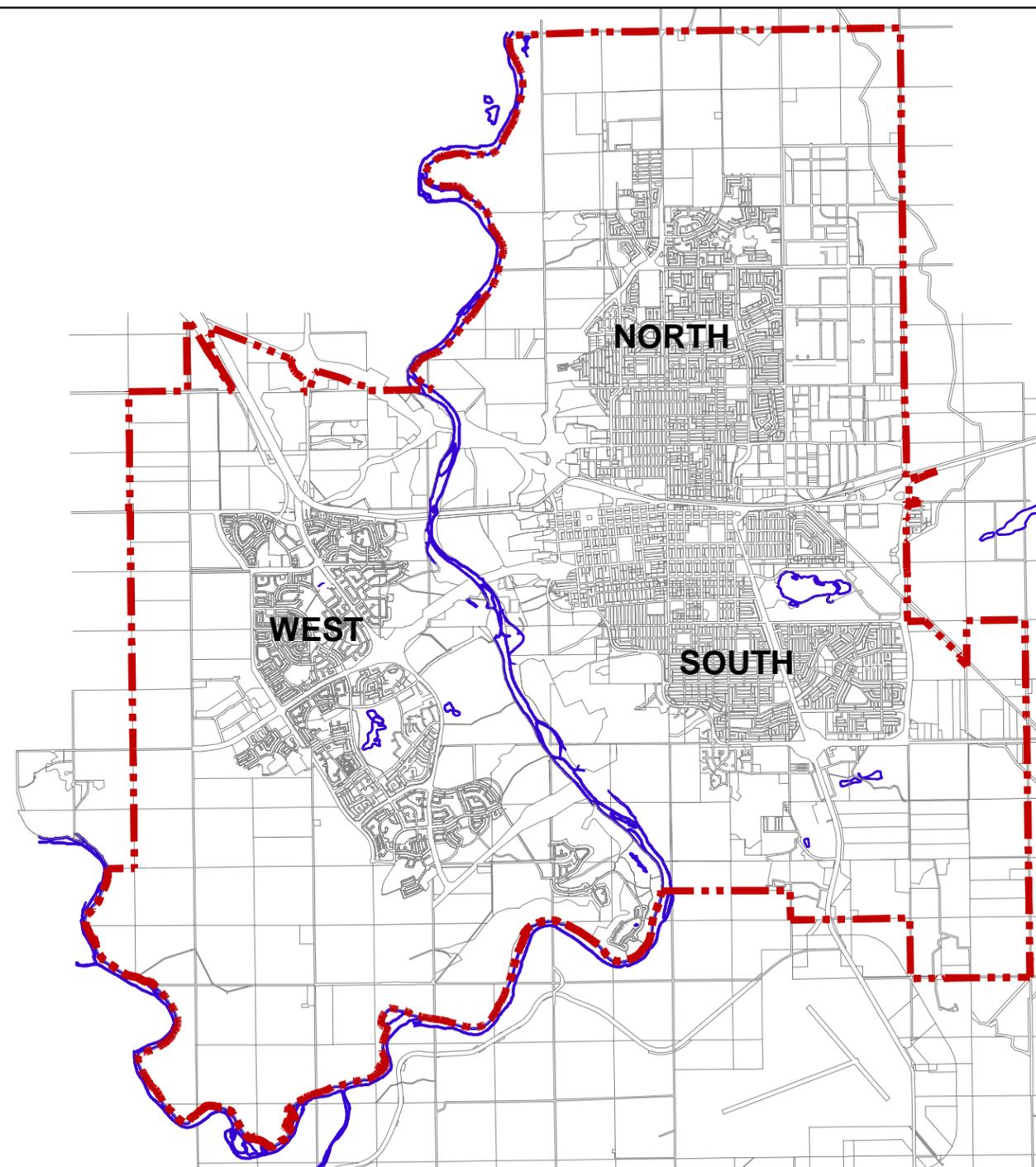


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TRANSPORTATION MASTER PLAN



STUDY BOUNDARY

FIGURE 1



To achieve the deliverables, the project team:

- Evaluated the existing transportation system and identified the areas with physical and/or operational deficiencies
- Identified transportation infrastructure requirements for transit and persons and goods mobility
- Identified areas where new goals should be established to encourage multi-modal systems
- Engaged stakeholders in developing the future transportation system
- Developed an action plan illustrating the programs needed to successfully implement the recommendations.

#### **4 TRANSPORTATION MASTER PLAN METHODOLOGY (HOW IT WAS ACHIEVED)**

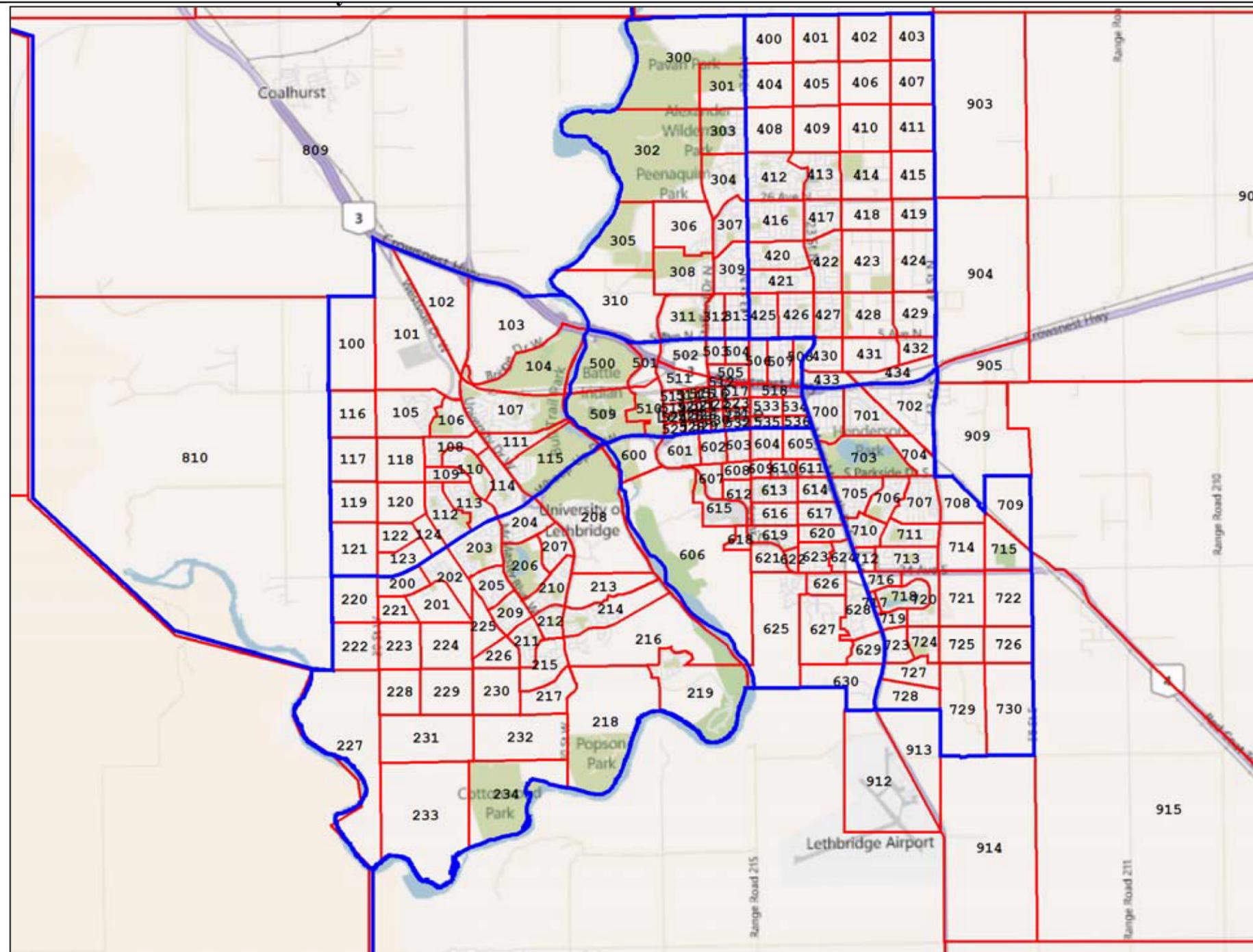
The ICSP/MDP key objectives and/or policies were reviewed to guide the development of an integrated multi-modal transportation system. The data collected included population data, land use data, existing roadway inventory and traffic counts, transit data, intersection turning movement counts, automatic traffic recorders and travel diaries.

A traditional 4-step modelling procedure was used to estimate travel between 245 traffic zones within the study area. Figure 2 illustrates the City's traffic analysis zones. EMME Model (transportation modeling software) inputs included traffic zones and proposed land uses, roadway network, transit network, monetary considerations, household survey, external trip survey, screen line traffic count survey and transit passenger survey. The model was developed using the input data described earlier and calibrated using the iterative process where the results of assigning AM and PM trips to the road and transit networks are compared with link counts. Once calibrated, the model was run for the scenarios to be tested.

Existing roadway system performance was evaluated by utilizing the 2010 origin-destination data for all trips. The data compared the existing road network with the general travel patterns in the City and provided network improvement options. A number of gaps in the current network have been identified.

Lethbridge Transit service characteristics were also reviewed to identify the existing transit system performance.

Road network options were developed for both the 100,000 and the 130,000 population horizons. A basic road network was developed illustrating existing roads to serve new development areas; an optional road network was developed based on rate of growth, level of service, funding availability and level of support. These options were evaluated using EMME to determine the benefit of each scenario.



In June 2012, two open houses were conducted to obtain feedback from attendees about future transportation improvements and transportation goals.

A third open house was held in City Hall in November 2012, to provide information about the City's future transportation improvements as outlined in the transportation master plan.

As population increases to 100,000, the following roadways will near or exceed the capacity threshold:

- Portions of University Drive
- Entrances to Indian Battle Heights Neighbourhood.

The following corridors exceed the capacity threshold under the 130,000 population:

- Significant portions of University Drive
- Portions of Whoop Up Drive west of University Drive
- 28th Street North.

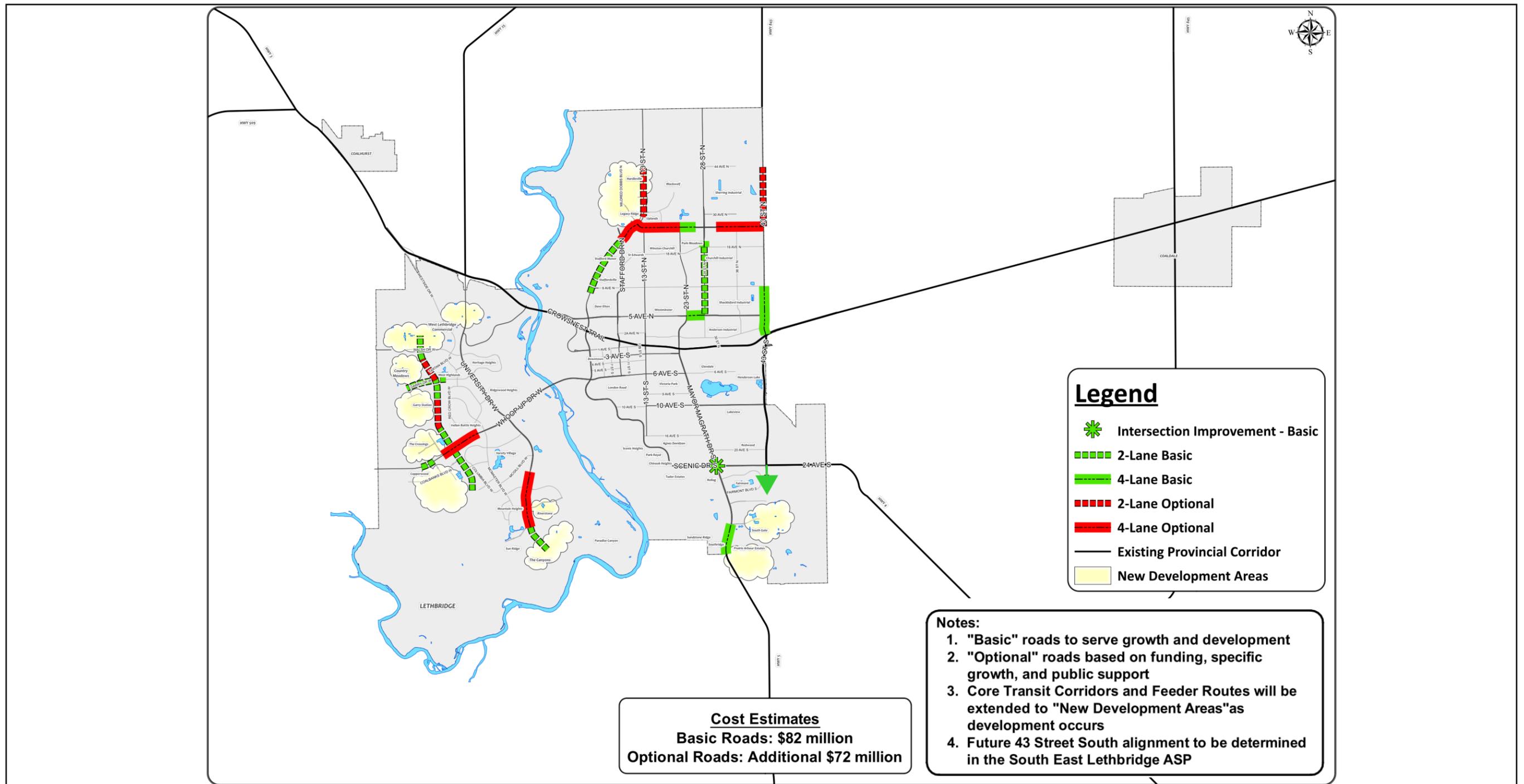
Road network options for 100,000 and the 130,000 population horizons are illustrated in Figures 3 and 4.

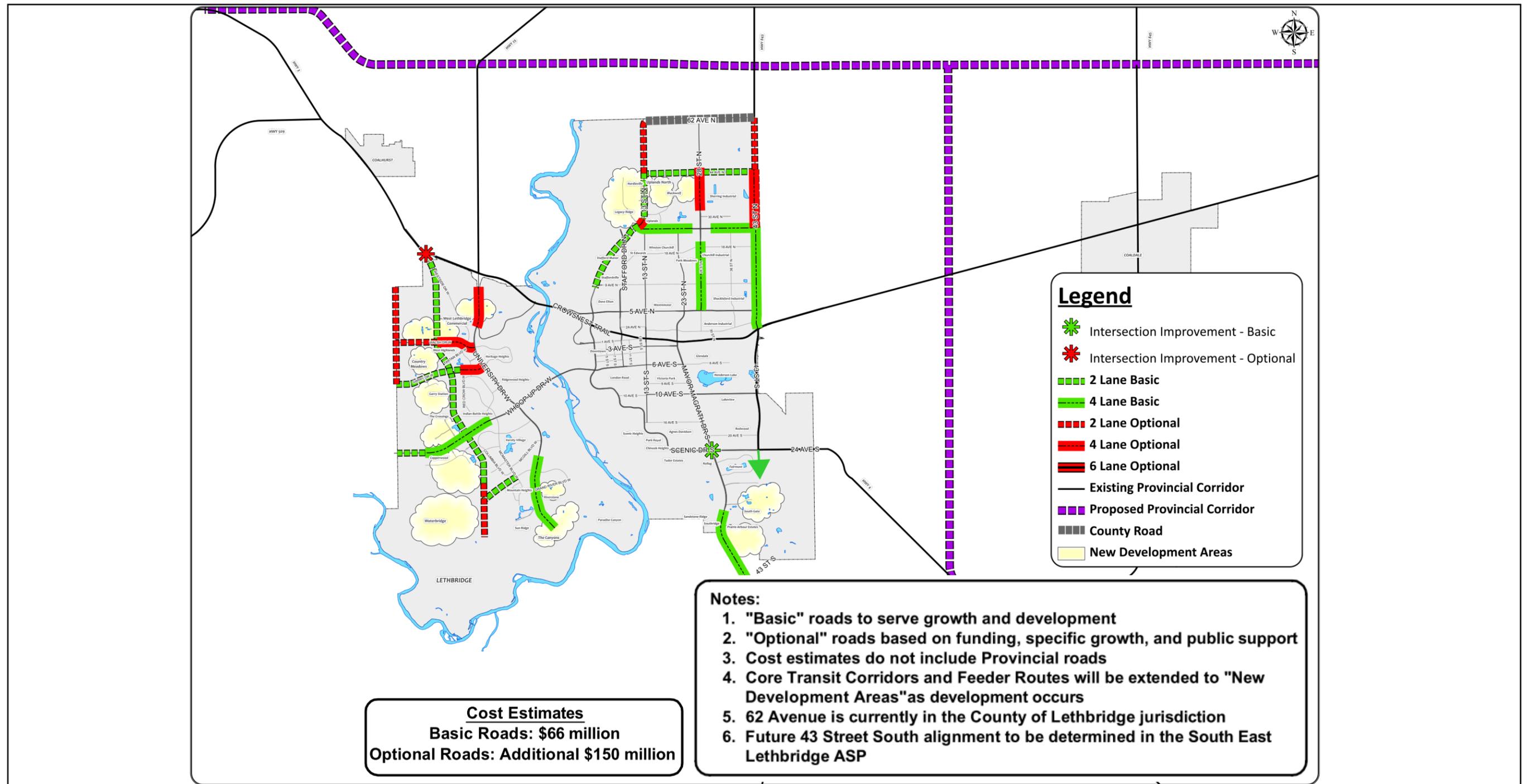
Transit alternatives were developed based on conservative as well as aggressive approaches reflecting opposite ends of the spectrum of transit intervention in the transportation network. The route network concept consists of three core corridors demonstrated by the three colours illustrated in Figure 5.

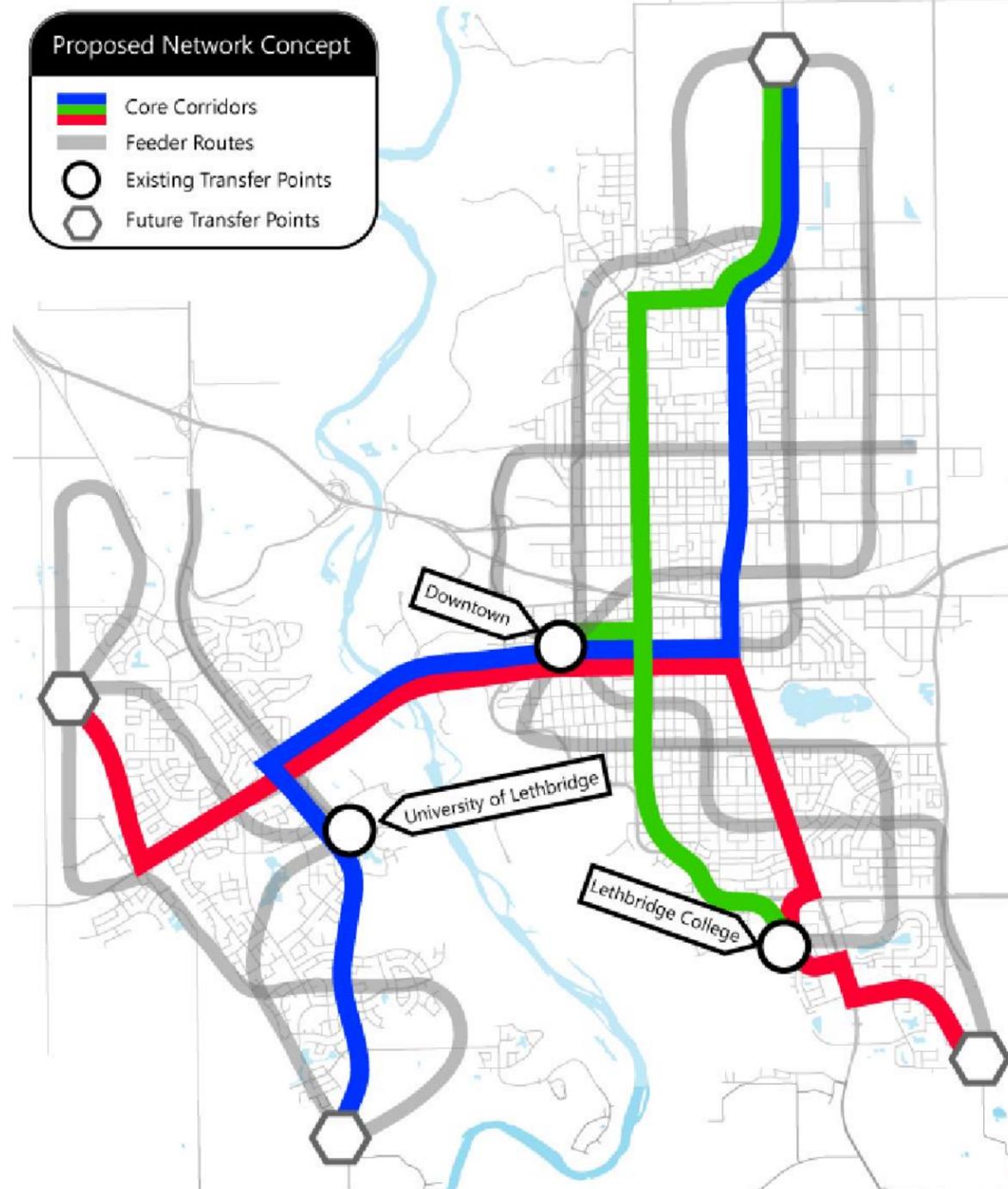
The conservative service approach falls short of meeting the objective of several of the key policy documents, particularly the ICSP/MDP and CUTA's Vision 2040 plan. The aggressive approach is more consistent with the key policies and meets or exceeds the performance targets and stated objectives in all areas.

After review of the options, City Council has adopted the conservation approach option for Lethbridge Transit.

A public consultation program was conducted to inform the stakeholders and public about the City's current and future transportation issues and requirements. In fall 2011, the team convened a Transit Service Workshop designed to review, and confirm or refine the existing service standards to be suitable for the future planning as part of the TMP.







## 5 RECOMMENDED TRANSPORTATION MASTER PLAN (WHAT WAS THE OUTCOME)

### 5.1 Network Requirements

The Road Network plan to serve 100,000 and 130,000 population is shown in Figure 6. The recommended plan for the 100,000 population horizon includes all roadways that were in the Basic Road Network plus:

- 26th Avenue N (Scenic Drive to 23rd Street N) to address capacity in North Lethbridge
- Scenic Drive North (Stafford Drive to 26th Avenue N) to address capacity in North Lethbridge
- The remainder of Metis Trail from Simon Fraser Boulevard to Walsh Drive to provide connectivity and relief for neighbourhood connections
- Whoop Up Drive from McMaster Boulevard to Aquitania Boulevard W to address capacity issues related to growth in the area.

The recommended plan for the 130,000 population horizon includes everything in the Optional Network, except Chinook Trail as most of the optional roads are needed to address forecast capacity issues. University Drive and Whoop Up Drive will be key corridors to monitor in the future to ensure effective traffic flow. The Long Term Road Network Plan is shown in Figure 7.

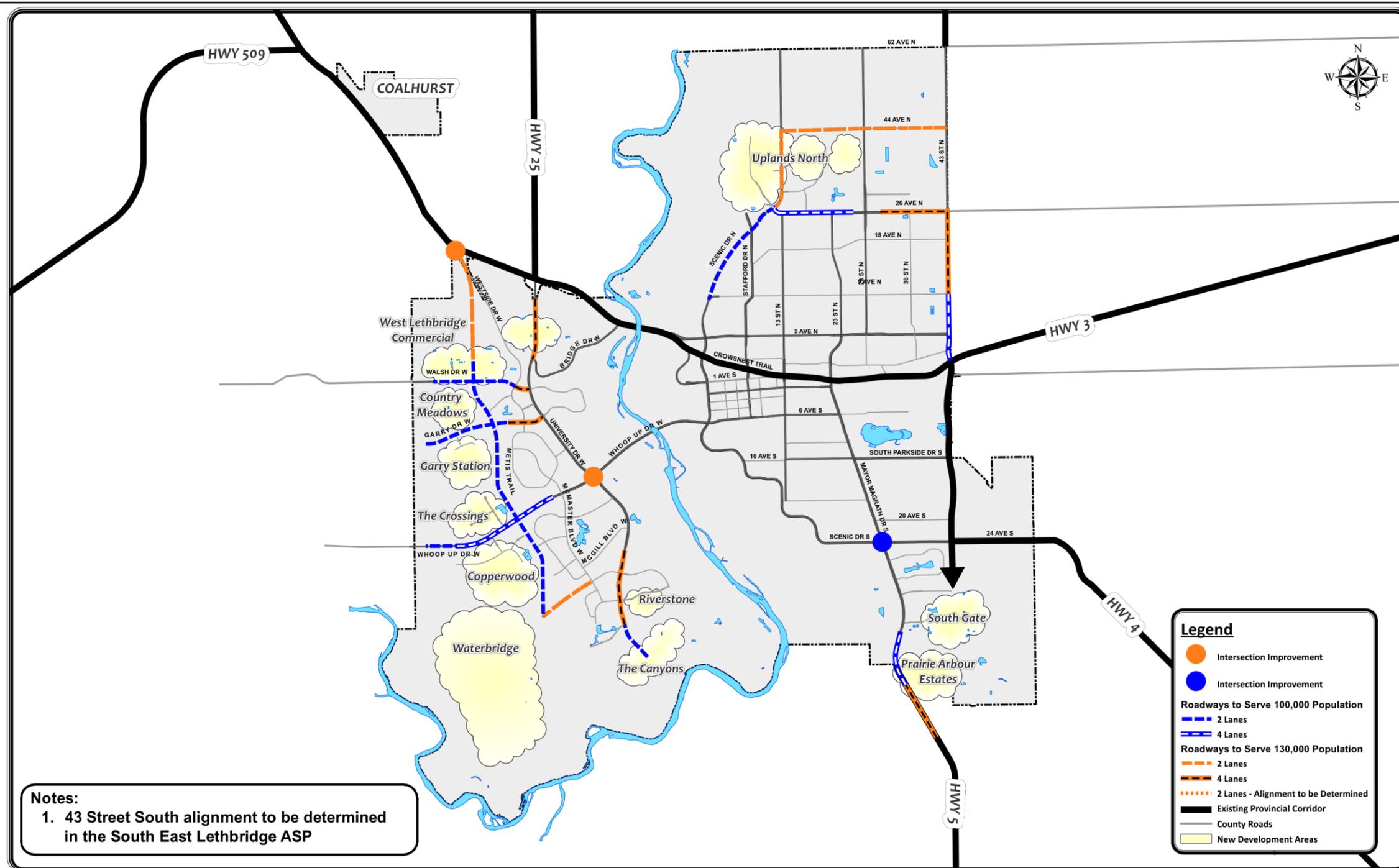


# CITY OF Lethbridge

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## TRANSPORTATION MASTER PLAN

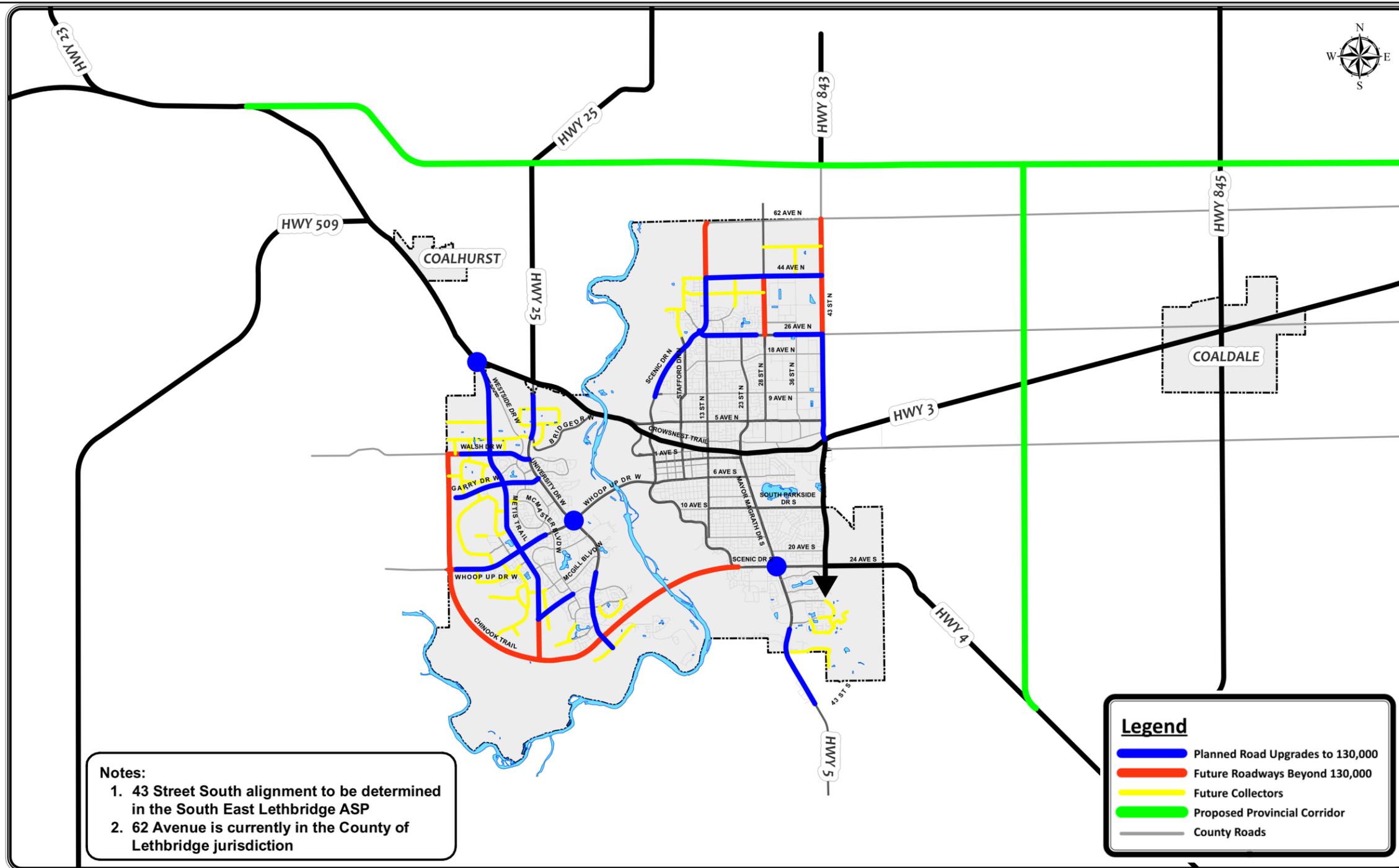


**Notes:**  
 1. 43 Street South alignment to be determined in the South East Lethbridge ASP



### LETHBRIDGE ROAD NETWORK IMPLEMENTATION PLAN TO SERVE 130,000 POPULATION

FIGURE 6



## 5.2 Transportation Goal Recommendations

Recommended transportation goals that should be adopted as part of the Transportation Master Plan includes:

- Integrate transportation planning and land use
- Consider all modes
- Promote public transit
- Manage transportation demand
- Manage transportation supply
- Manage parking
- Measure performance

## 5.3 Transit Recommendations

The recommended transit network will be structured around three core corridors, complemented by a number of local feeder routes as illustrated in Figure 5.

# 6 IMPROVEMENT PLAN (HOW IT WILL BE IMPLEMENTED)

## 6.1 Network Improvement Plan

The 10-year roadway capital improvement program is provided in Table 1 showing cost estimates and timelines for projects currently under construction, roadways required to support growth and roadway network improvements.

## 6.2 Transportation Goals Implementation Plan

Some of the key steps that could be taken to implement the transportation goals include:

- Establish a mandate and dedicated staff resource responsible for developing and implementing the action plan
- Develop an education program for City staff, community leaders, business community and land development community to foster knowledge of the goals and collaboratively identify ways they can support the goals
- Establish an operating program to regularly monitor traffic flows, transit ridership and other transportation benchmarks
- Establish an internal “Sustainable Transportation Committee” including transportation planners, land use planners, transit planners and roadway operations and maintenance supervisors to collaboratively identify ways to better serve all modes of transportation
- Update the pathways and bikeways master plan to include planning for commuter bicycle facilities (on-street bikeways, bicycle parking facilities)

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- Review relevant City of Lethbridge transportation design standards and provide flexibility in design to create pedestrian, cycling and transit supportive environments

**Table 1**  
**10 Year Capital Improvement Plan - Transportation**

<b>Project</b>	<b>Roadway Improvement</b>	<b>Total*</b>
<b>Projects Currently Under Construction</b>		
Mayor Magrath Drive (40 <sup>th</sup> Avenue S to City Limits)	Identified as 4 lane basic 2012	
Whoop Up Drive (Coalbanks Gate W to Mauritania Road W)	First 2 Lanes of the ultimate 4 lane arterial 2012	
Garry Drive (to 600 m west of Metis Trail)	Identified as 2 Lane basic in 2020 TMP 2012	
Scenic Drive North (5 <sup>th</sup> Avenue N to 26 <sup>th</sup> Avenue N.)	Identified as 2 Lane basic to Stafford Drive in 2020 TMP 2013	
28 <sup>th</sup> Street North (Mayor Magrath Drive to 26 <sup>th</sup> Avenue N.)	Identified as 4 Lane arterial in 2020	
<b>Subtotal</b>		<b>n/a</b>
<b>Roadways Required to Support Growth</b>		
Metis Trail (Country Meadows to Walsh Drive)	First 2 Lanes of the ultimate 4 lane arterial 2012	\$2,300
University Drive (Sun Ridge Boulevard W to Paradise Canyon)	First 2 Lanes of the ultimate 4 lane arterial 2013	\$6,000
Metis Trail (Temple Boulevard to Caledonia Road)	First 2 Lanes of the ultimate 4 lane arterial 2013/2016	\$9,000
Metis Trail (Jerry Potts Boulevard to Garry Drive)	First 2 Lanes of the ultimate 4 lane arterial 2014	\$3,600
**44 Avenue (Scenic Drive North to 43 <sup>rd</sup> Street)	Preliminary Design 2015	\$400
Metis Trail (Caledonia Road to Jerry Potts Boulevard)	First 2 Lanes of the ultimate 4 lane arterial 2017	\$5,400
43 <sup>rd</sup> Street S (Highway 4 to 40 <sup>th</sup> Avenue South)	First 2 Lanes of ultimate 4 lane arterial 2018	\$9,000
Metis Trail (Garry Drive to Country Meadows)	First 2 Lanes of the ultimate 4 lane arterial 2019	\$3,900
**Metis Trail North of Walsh Drive	Functional Design 2019	\$600
<b>Subtotal</b>		<b>\$40,200</b>
<b>Roadway Network Improvements</b>		
43 <sup>rd</sup> Street N (Highway 3 to 9 <sup>th</sup> Avenue N)	4 Lane Arterial 2013	\$6,900
Mayor Magrath Drive & Scenic Drive intersection Improvements	Develop 3 <sup>rd</sup> lane Southbound at Scenic Drive 2013	\$900
26 <sup>th</sup> Avenue N (23 <sup>rd</sup> Street N to 28 <sup>th</sup> Street N)	4 Lane Arterial 2013	\$3,000
**Whoop Up Drive/University Drive and Scenic Drive Interchanges	Functional/Preliminary Design 2014	\$750
Scenic Drive North (Stafford Drive to 26 <sup>th</sup> Avenue N)	4 Lane Arterial 2014	\$3,000
26 <sup>th</sup> Avenue N (Scenic Drive to 23 <sup>rd</sup> Street N)	4 Lane Arterial 2015	\$5,200
**University Drive North of CP Rail	Preliminary Design 2015	\$650
Whoop Up Drive (McMaster Boulevard to Aquitania Boulevard W.)	4 Lane Arterial 2016	\$5,600
<b>Subtotal</b>		<b>\$26,000</b>
<b>Total Estimated Investment</b>		<b>\$66,200</b>

\*All amounts listed above are in thousands of 2012 dollars

\*\*Functional or preliminary design only.