

**Mayor Magrath Drive Upgrade
Balancing Road Efficiency With Business Access**

**Mark Bellamy, P. Eng., Managing Principal,
Stantec Consulting Ltd., Lethbridge, Alberta**

**Bud Hogeweide, C.E.T., Infrastructure Steward,
City of Lethbridge, Alberta**

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Abstract

Mayor Magrath Drive Upgrade – Balancing Road Efficiency With Business Access

How do you successfully plan, design and construct a major urban corridor balancing roadway efficiency, community values and business needs? Create a process that builds community, business, political and media consensus even during a disruptive construction program.

Mayor Magrath Drive is a key corridor within the City of Lethbridge. Over 30,000 vehicles per day use the roadway as a commuter route and to access the 150 businesses located along its perimeter.

In the late 1990's, traffic volumes exceeded the roadway design capacity. Traffic congestion on Mayor Magrath Drive and services roads, particularly at the intersections, had reduced access to businesses and impacted the efficient movement of vehicles and pedestrians along the corridor.

In 2000, the City of Lethbridge, in partnership with the "Alliance for Lethbridge Infrastructure Services (ALIS)" consulting team, began the functional planning process for the roadway upgrade.

A key component of the functional planning, was an extensive public consultation process which included:

- A Focus Group of key business and community stakeholders.
- Establishing a Joint Project Office on-site, to provide information and a forum for public input.
- Regular meetings with the business community.
- Public "Open Houses".
- Public awareness and media campaign.

The "Public" process established core design principles for the upgrade, which balanced improved traffic flow with safe and convenient access to businesses, and established a pedestrian/cycle route along the corridor.

"Value Planning" workshops assisted in evaluating improvement options and optimizing roadway efficiency with effective business access.

Functional Planning culminated with public acceptance and unanimous City Council approval of the Recommended Plan, which included the following improvements:

- Roadway upgrade to a six-lane divided collector.
- Elimination of most service roads.
- Safe and convenient access to businesses from both directions.
- Improved pedestrian/cycle access.
- Landscape features.

Detailed design and construction of the \$17 Million Mayor Magrath Drive Upgrade commenced in 2001.

The "Partnering" process was used to establish an effective working relationship with the contractor, and focus the project team toward providing maximum value for the investment, while maintaining business access and efficient traffic flow during construction.

The upgrading was successfully completed in 2003. The improved roadway system provides a functional balance of efficient traffic movement and effective business access that will meet community requirements well into the future.

1.0 Mayor Magrath Drive - A Brief History

Mayor Magrath Drive has roots going back to the founding of the community of Lethbridge. The original roadbed was the Canadian Pacific Railway line from Lethbridge to Fort Macleod. The rail line was abandoned when the High Level Bridge was constructed in 1909.

The “Sunshine Trail” as it was known as in the 1920’s, was a rural two-lane road, which served as the southeast entrance to Lethbridge and the primary access south to the U.S. border and Waterton Lakes National Park. (*Figure 1*)

The first asphalt pavement surfacing occurred in 1946, and in 1947 the roadway was renamed Mayor Magrath Drive, in honor of Charles A. Magrath, the first mayor of Lethbridge.

The most recent upgrade was constructed in 1963, and consisted of a four-lane divided collector roadway. A system of service roads and connecting avenues were built to provide access to future commercial development and residential areas. (*Figure 2*)



Figure 1 – Sunshine Trail Traffic Jam - 1939



Figure 2 – 1963 Mayor Magrath Drive Upgrade

2.0 A Key Multi-Purpose Transportation Corridor

Today, Mayor Magrath Drive serves as a key transportation corridor within the City of Lethbridge. More than 30,000 vehicles use the roadway each day to commute to other areas of the city and to access the 150 businesses located along its perimeter service roads.

The roadway is the south entrance to the city and links to Alberta's Primary Highway's No.3 (Crowsnest Corridor), No.4 (CANAMEX Trade Highway), and No.5 (to Waterton Lakes National Park). (*Figure 3*)

Mayor Magrath Drive is home to a thriving business community. The corridor is the tourism "gateway" to the city with the world-renowned Nikka Yuko Japanese Gardens, Henderson Lake Park, and the Chinook Tourism center all located adjacent to the roadway. These tourism and recreational destinations are supported by restaurant and accommodation facilities also located along the adjacent service roads.

The roadway is adjacent to established residential neighborhoods, both east and west of the corridor. Pedestrians cross Mayor Magrath Drive to access schools, and for recreational use through links to the regional trail system.

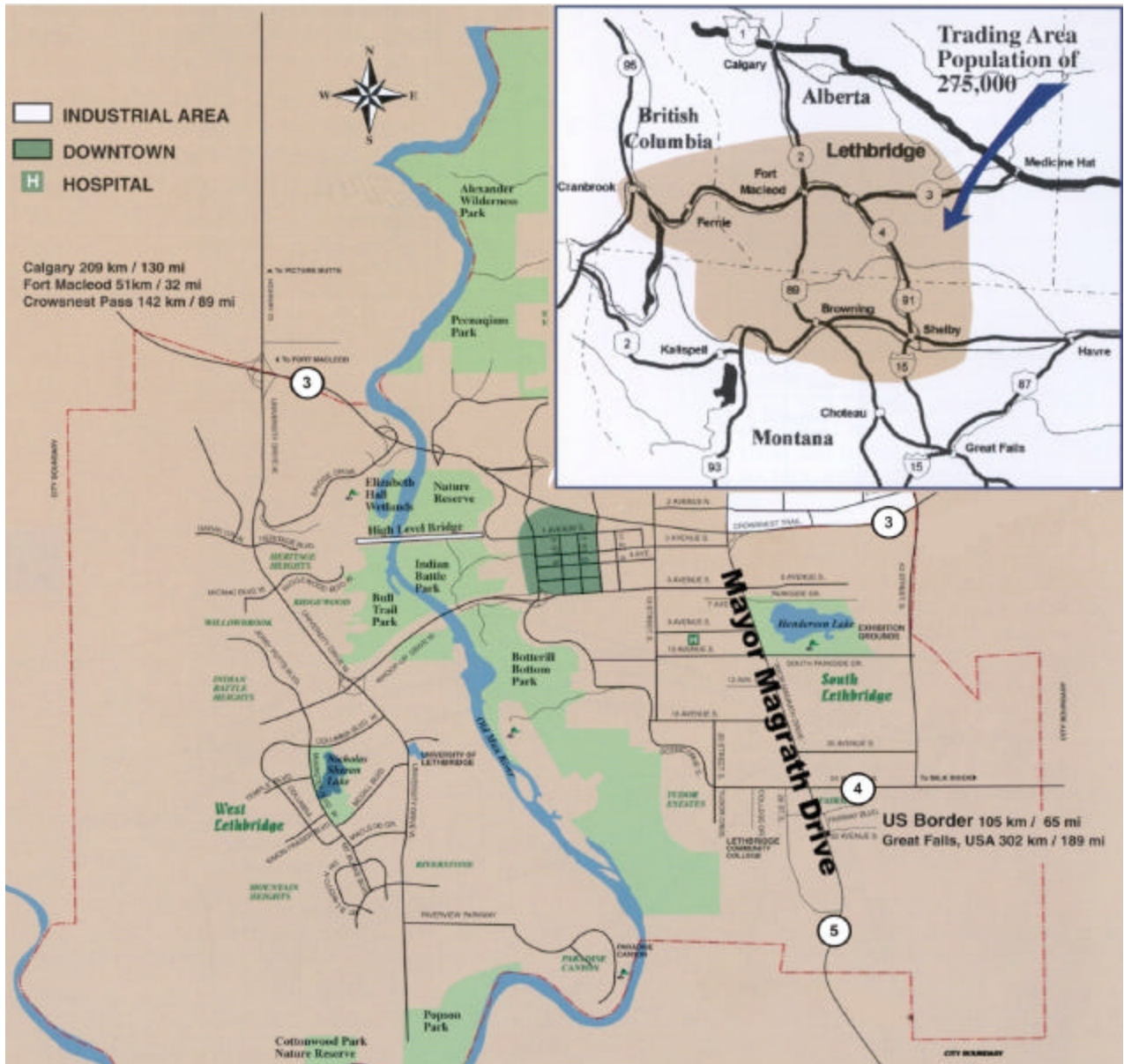


Figure 3 – Project Location ,Lethbridge Alberta

3.0 Existing Conditions

By the late 1990's, with the growth of south Lethbridge, traffic volumes on Mayor Magrath Drive had exceeded the original design capacity of 25,000 vehicles per day.

Traffic congestion on the mainline and adjacent service roads, particularly at the intersections, had reduced access to businesses and negatively impacted the safe and efficient movement of traffic. (Figure 5)

As businesses developed along the service roads, parking and local traffic management issues and deficiencies were identified.

Pedestrian access was limited and bicycle access was prohibited along the corridor. Safety concerns were expressed for pedestrians, particularly children and seniors crossing Mayor Magrath Drive at peak traffic periods.

There were also concerns expressed by the business community and the general public about the lack of landscaping and amenities along this key "entrance gateway " and tourism corridor.



Figure 5 – Mayor Magrath Drive Intersection Prior to Upgrade

4.0 Planning For Growth

In January 2000, the City of Lethbridge, in partnership with the “Alliance for Lethbridge Infrastructure Services (ALIS)” consulting team, initiated the Functional Planning for the Mayor Magrath Drive Upgrade.

The challenge was to develop a Functional Plan for the Mayor Magrath Drive corridor, which provided the following outcomes:

- Adequate capacity for the safe and efficient movement of traffic at current volumes and for projected volumes at the 110,000 population horizon.
- Safe and convenient access to the businesses along the adjacent service roads.
- Improved pedestrian/bicycle access.
- Landscape features and amenities.
- Reflected the values and culture of our community

The proposed \$17 Million roadway upgrade was anticipated to be Lethbridge's largest infrastructure project in fifteen years, and prior to the planning effort, concerns were expressed regarding the process and final outcomes of the project.

Business and property owners were concerned about access during construction and the impact of these activities and the final access arrangements on the health of their operations and long-term property values. Many of these key stakeholders were opposed to any changes to the roadway and their access to it, and were convinced that any attempt at public consultation was just “window dressing”.

Commuters identified the challenge of traffic tie-ups and disruption during construction for the 30,000 vehicle trips using the roadway each day, and their future desires for a safe and convenient driving experience at the maximum possible speed with a minimum of stops or disruptions.

Pedestrian and recreational users of the corridor were concerned that the proposed upgrade would provide a further barrier to pedestrian and bicycle traffic and might result in safety issues particularly for school children as they crossed Mayor Magrath Drive.

All stakeholder groups identified that effective communication and a commitment to listening and addressing their issues and concerns would be required to obtain public acceptance and City Council approval of the Recommended Plan.

5.0 Partnering Process

Recognizing the challenges, the City/ALIS team set in place the framework for an effective working relationship and the focusing of resources toward developing and implementing the Recommended Plan.

“Partnering “ was selected by City of Lethbridge, as the process by which the City/Consultants/Contractors would establish the key working relationships, goals and objectives, culture, and collaborative approach for the successful implementation of the four-year Mayor Magrath Drive Upgrade project.

As part of the Functional Planning kick-off, the Project Team participated in a “Partnering“ Workshop, facilitated by Ed Brownfield (E.E. Brownfield Management Consultants).

Through the two-day workshop held in February 2000, key project participants:

- Developed the organizational structure and working relationships.
- Established project goals and objectives.
- Identified potential problems, issues and opportunities.
- Mapped out the issues resolution /escalation process
- Developed a Charter mission statement

The workshop ended with the signing of a Partnerships Charter (*Figure 7*) by all participants, which remained as the central commitment document of the City/ALIS partners throughout the project.

The Partnering process was an important step in creating a cohesive team from a diverse group from the consulting community and City Administration, which were focused toward success in an environment of openness and teamwork.

The unique process and culture created for the project was a key factor in the success of the Mayor Magrath Upgrade. The unified teamwork approach created confidence with the stakeholders particularly during the development of the Functional Plan, where the development of roadway alternatives required the balancing of road efficiency with business access issues.



Figure 7 – Mayor Magrath Drive Partnership Charter

6.0 Public Consultation

An extensive public consultation process was incorporated into all aspects of the functional planning, detailed design and construction phases of the project.

The public had input through a number of venues, including the Mayor Magrath Drive Project Office, Focus Groups, Public Open Houses and Individual Stakeholder Meetings.

A comprehensive communications program provided information on project status, current activities, Open House dates, and key decision milestones through project newsletters, meeting notice mail-outs, print media articles, and radio and television interviews. *(Figure 8)*

Mayor Magrath Drive Project Office

The Mayor Magrath Drive Project Office was established early in the planning phase, and served as the project headquarters from June 2000 through to substantial construction completion in December 2002. The office was located on Mayor Magrath Drive, had a visible presence with the business community and general public, and was the primary focus for all public consultation, project meetings and construction administration activities during the project. *(Figure 9)*

An intensive public campaign kicked-off the opening of the Project Office, and the communication program continued throughout the life of the project. Key stakeholders, business owners and the general public were encouraged to visit the Project Office during regular business hours to ask questions, express concerns, and obtain an update on current activities.

The Mayor Magrath Upgrade project was managed from the Project Office, and was staffed by a full-time Administrator and key City /ALIS team members on an as-required basis. Telephone or in-person inquiries were documented and follow-up actions were initiated if required.

The importance of the Project Office to the success of the Mayor Magrath Drive Upgrade cannot be over emphasized. The office served as a focal point for the public and the project activities. Being “on” Mayor Magrath Drive, helped the Project Team understand the business issues and identify commuter and pedestrian concerns, which assisted in balancing the needs of the key users of the roadway corridor. A key indicator of the success of the Project Office can be gauged from the lack of complaints received at City Hall even through a difficult construction process.



Figure 9 – Mayor Magrath Drive Project Office

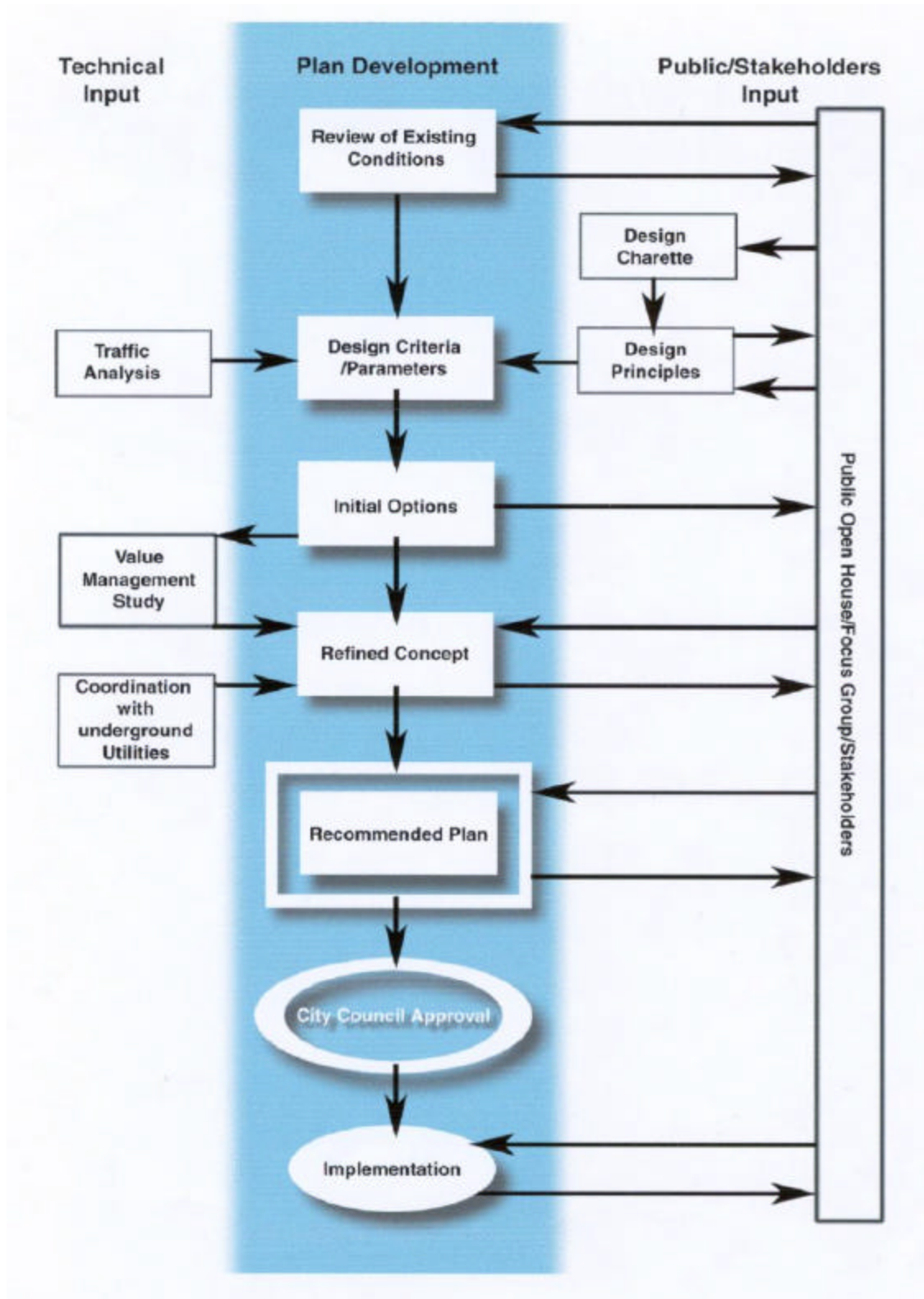


Figure 8 – Public Consultation Process Flow Chart

Public Open Houses

Throughout the Functional Planning Process there were a series of Public Open Houses. All were extensively advertised to the community and extremely well attended.

The first series of Public Open Houses were held before any planning or design was initiated (March 8 and 9, 2000) to explain the project's Terms of Reference and to hear some of the public's concerns and issues. At this time, volunteers were solicited to participate in the Focus Group.

The Public Open Houses continued at key intervals throughout the process. They were held not only to keep the public informed, but also to gauge public reaction to the ideas generated from the Design Team and Focus Group, and to provide further direction for the development of the Functional Plan. Input was solicited through written comment sheets and conversations with the Design Team.

Over 1,700 members of the public attended the Open Houses during the development of the Functional Plan.

Focus Group

A focus group of key business and community stakeholders, chaired by a member of City Council was established in March 2000, coinciding with the beginning of the Functional Planning process. This dedicated group of volunteers met on a regular basis throughout the three-year project, and assisted the Project Team in the collaborative effort, which resulted in the approval of the Recommended Plan.

The first Focus Group meeting was held on March 30, 2000. It was primarily an introductory session during which the Terms of Reference for the Focus Group was outlined and issues from the March 8 and 9, 2000 Open Houses were reviewed and discussed. Participants were advised of the Design Charette scheduled for April 8, 2000.

The Design Charette was lead by the Co-Design Group as part of a "visioning" process for the final look and operation of Mayor Magrath Drive. Sketch artists were available to draw the ideas that the Focus Group members discussed. (*Figure 10*)

The charette began with a review of a "typical day in the life of Mayor Magrath Drive", which took the form of a large timeline. Events such as peak automobile traffic, pedestrian crossings, shopping activities, and "hot rodding" were included.

The session then broke into four groups to review and explore the pedestrian environment, the automobile experience, the image and identity that the road should have, and special events. Each group went on a site visit and upon their return began the process of discussing and sketching their visions of what Mayor Magrath Drive could be, and what issues needed to be addressed. At the end of the session, the Focus Group reviewed the sketches and rated the ideas they contained.



Figure 10 – Focus Group Design Charette Visioning Process

On April 18, 2000, the Focus Group re-assembled to review the results of the Design Charette. The Design Team assembled a list of design principles from the topics explored and discussed with the Focus Group. A Public Open House was held the following day to collect public reaction to the issues, ideas, and sketches developed during the Design Charette.

The next major task for the Focus Group was to rank the seventeen design principles in order of importance. This was done through a 'paired comparison' process. The following design principles were to be used as a guide for the Design Team and future Focus Group meetings in the decision making process. The design principles were determined and set out as follows:

- Public Safety
- Consistency in Design Detail
- Maintain or Enhance Business Access
- Attractive Centre Median
- Landscaping
- Directional Signage
- Consistent Theme and Unique Identity
- Bicycling Environment
- Pedestrian Environment
- Pedestrian Crossings
- Parking
- Enhanced Flow for Existing Traffic
- Enhanced Flow for Future Growth
- Sidewalk Links to Buildings
- Future Public Transit
- Value for Money
- Access to Businesses

The Focus Group reviewed and commented on previous designs for Mayor Magrath Drive developed in 1991. It was agreed that none of these previous options were acceptable and that the process of developing new options was required. From May to October 2000, the traffic analysis was completed and roadway concepts were developed.

The Focus Group reconvened on October 19, 2000 and was presented with the results of the Traffic Analysis, three roadway concepts, and a landscape concept. Following significant discussion and input on improvements, a preferred concept was identified. The design team made further changes to the roadway and landscape concepts and presented them to the Focus Group on November 16, 2001. During the meeting, a decision was made to show the public the preferred concept in a series of Open Houses.

Public Open Houses were held on December 6 and 13, 2000, to present the preferred roadway and landscape concept.

On December 14, 2000 the Focus Group reviewed the results of the public Open Houses and was informed about the next steps in the design and approvals processes. This Focus Group meeting was also planned as a "Thank You" to the members of the group in the form of a Christmas dinner.

On January 24, 2001 the proposed Functional Plan was presented in a public Open House. A Focus Group meeting was held the following day to assess the results of the Open House and review a few final modifications to the Functional Plan.

On February 5, 2001 the Functional Plan was presented to Lethbridge City Council and was unanimously approved.

The Focus Group proved invaluable to the Design Team as a way of 'testing' design proposals and solutions. They provided insight and input throughout the development of the Functional Plan as well as keeping interested members of the public informed. The Focus Group also became advocates and important public representatives for the consultation process and the Recommended Plan.

The participation by two members of the Focus Group as part of the presentation of the Recommended Plan to City Council was key to obtaining unanimous approval to proceed to detailed design.

7.0 Value Management Process

Mid-way through functional planning, the Project Team participated in a two-day Value Management Workshop. The purpose of the workshop was to review planning concepts developed to date, and provide recommendations to improve the value and function of the project. Key workshop participants included the ALIS Design Team, City of Lethbridge staff and transportation expertise external to the project. The Value Management Workshop study process included:

- Review of project development, including public consultation process, design values/principles and Geometric standards,
- Development of a Quality Model to identify and document project sensitivities and expectations,
- Conduct functional analysis by “mapping” project functions/processes and their interdependencies,
- Creative “brainstorming” and development of ideas,
- Idea screening and refinement,
- Presentation of developed ideas and recommendations.

Quality Model

A Quality Model was developed by the Value Management team, which considered 12 key quality indicators used to describe the project:

- | | |
|------------------------------|-----------------------------|
| ○ Engineering Performance | ○ Property Impacts |
| ○ Operational Effectiveness | ○ Flexibility For Future |
| ○ Site Image/Aesthetics | ○ Environmental |
| ○ Schedule | ○ User Comfort/Expectations |
| ○ Capital Cost Effectiveness | ○ Community Values |
| ○ O&M Cost Effectiveness | ○ Safety |

The Value Management Team reached consensus in comparing desirable versus existing performance for the key quality indicators for the preferred roadway concepts. (*Figure XII*)

Functional Analysis

The Value Management Team identified and categorized the functions/processes of the Mayor Magrath Drive Upgrade project into Basic (essential) and Secondary (supporting) functions and mapped their interdependencies.

The Team then reviewed the key functions and identified the following Study Targets for the development of Value Management proposals:

- | | |
|---------------------------|----------------------|
| ○ Reduce Delay | ○ Enhance Aesthetics |
| ○ Property Access | ○ Support Load |
| ○ Accommodate Pedestrians | ○ Manage Conflict |
| ○ Support Business | |

Value Management Ideas and Screening

The Value Management Team identified 161 ideas generated during the “Brainstorming” session using the seven Study Targets developed during Functional Analysis. A two-stage screening process was used to produce the following sixteen short-listed Value Management ideas selected for further development.

- Eliminate or restrict movement at specific intersections.
- Optimize signal progression.
- Rationalize service roads.
- Combine access / rationalize parking / provide assistance to re-design parking lots.
- U-turns at intersections.
- Wider outer boulevards for pedestrians / sidewalks / bike paths.
- Reduce centre median to 5m.
- Continuous pathway / trail connection.
- Minimize crosswalk crossing distance.
- Selectively locate crosswalks.
- Provide pedestrian shelters in the centre median.
- Develop individual landscape beautification plans for business / create urban design theme on MMD (possibly by block) / new street lighting to accommodate banners / grass medians, feature planning, plant trees.
- Private property improvement.
- Consistency in design detail to reduce clutter.
- Creation of theme hubs-community identity.
- Separate turning movements (protected only).
- Provide interchange at Mayor Magrath Drive and Scenic Drive.
- Reduce / increase design speed.
- Pedestrian overpass / underpass.

Value Management Proposal Development and Recommendations

The Value Management Team developed detailed proposals for each of the short-listed ideas, which compared the baseline concept and proposed alternative including an evaluation of advantages and disadvantages and lifecycle costs. The recommendations developed were referred back to the Design Team for consideration in re-evaluating or fine-tuning the roadway options.

The Value Management process was a necessary step in the development of roadway options. The Workshop provided the Design Team an opportunity to re-confirm the key functions/processes for the project and, use creative approaches to explore new options not previously considered.

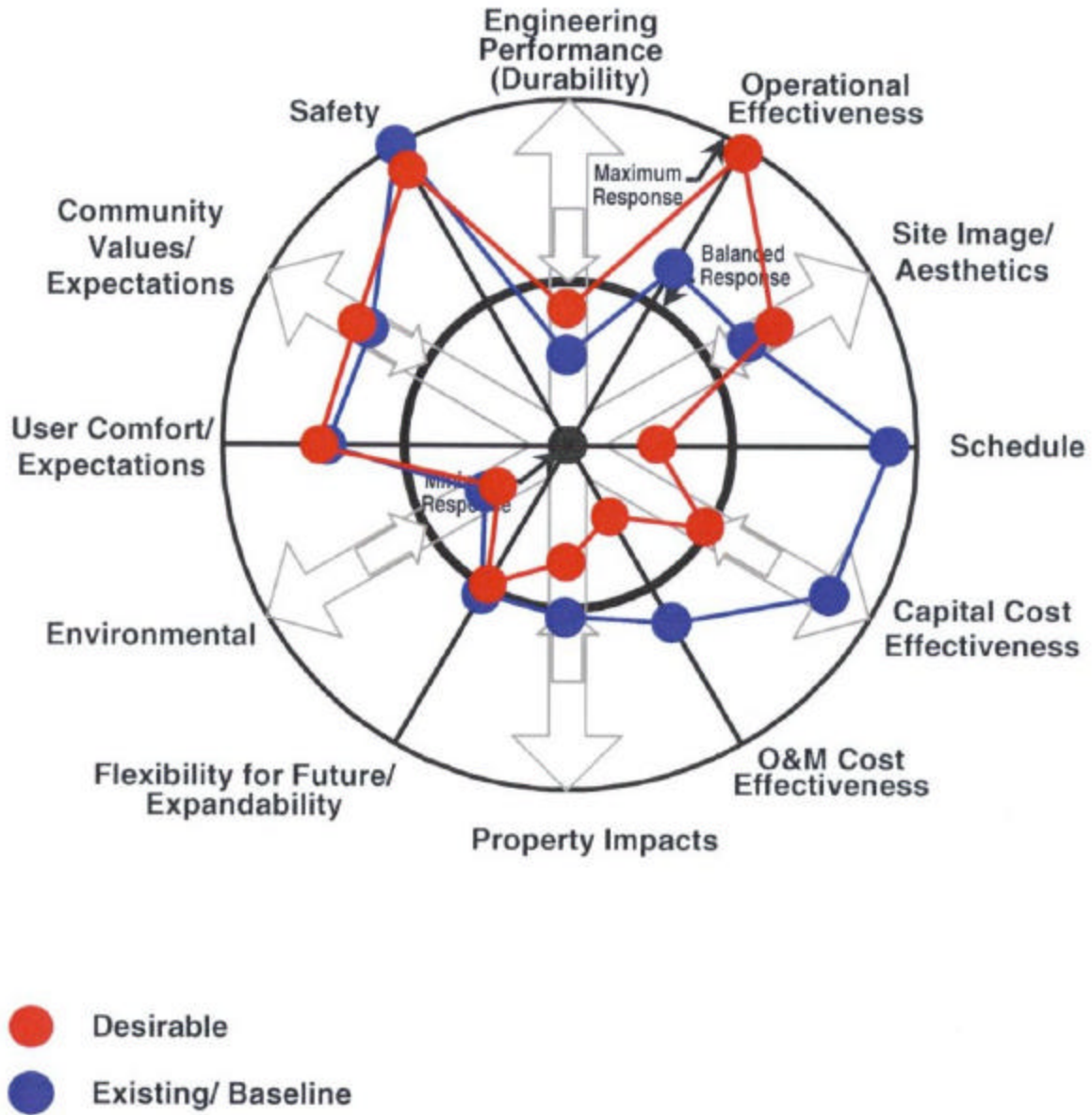


Figure 11 – Quality Model

8.0 Conclusions and Closing Remarks

The Functional Planning phase of the Mayor Magrath Upgrade project culminated with public acceptance and unanimous City Council approval of the Recommended Plan on February 5, 2001, which included the following improvements:

- Roadway upgrade to a six-lane divided collector.
- Elimination of most service roads.
- Safe and convenient access to businesses from both directions.
- Improved pedestrian /cycle access.
- Landscape features and amenities.

The “Partnering” process was used to establish effective working relationships within the Project Team and to focus efforts toward meeting goals and objectives within a collaborative framework.

The “Public” process established core design values/principles for the upgrade, which balanced improved traffic flow with safe and convenient access to businesses, and established a pedestrian/bicycle route along the corridor.

“Value Management” workshops assisted in evaluating improvement options and optimizing roadway efficiency with effective business access.

An extensive Public Consultation process was implemented which reflected community values and built consensus toward acceptance and support of the Recommended Plan.

Key consultation strategies included:

- A Focus Group of key business and community stakeholders.
- Establishing a Joint Project Office on Mayor Magrath Drive, to provide information and a forum for public input.
- Individual meetings with affected businesses and stakeholders.
- Public Open Houses.
- Public awareness and media campaign.

Following City Council approval, detailed design and construction of the \$17 Million Mayor Magrath Drive Upgrade commenced in 2001.

The processes and core values/principles established during Functional Planning were extended through the design and construction stages of the project. These processes continued to build community, business, political and media consensus, even during a difficult and challenging construction program.

“Value Engineering” was incorporated into the detailed design process to evaluate options and optimize solutions through life-cycle cost and functional analysis

“Partnering” was extended to the Contracting team with the focus shifting to providing maximum value for the investment, while maintaining business access and efficient traffic flow during construction.

Public Consultation during construction was focused on effective communication with the impacted businesses and general public using the key strategies developed early in the project. An extensive public awareness and media campaign with the theme “We’re Open For Business On Mayor Magrath Drive” was implemented to encourage the general public to support these businesses during construction.

The Mayor Magrath Upgrade project was successfully completed in 2003. The improved roadway system provides a functional balance of efficient traffic movement and effective business access that will meet community expectations and requirements well into the future.

References

- [1] Earth Tech (Canada) Inc., “Mayor Magrath Drive 7th Avenue South to Scenic Drive – Value Management Study/Roadway Component Report” – September, 2000.
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- [3] Stanley Associates Engineering Ltd. and Swanson Transportation Consultants Ltd., “Mayor Magrath Drive Functional Planning Study Report – 10th Avenue South to Scenic Drive South” – July, 1991.