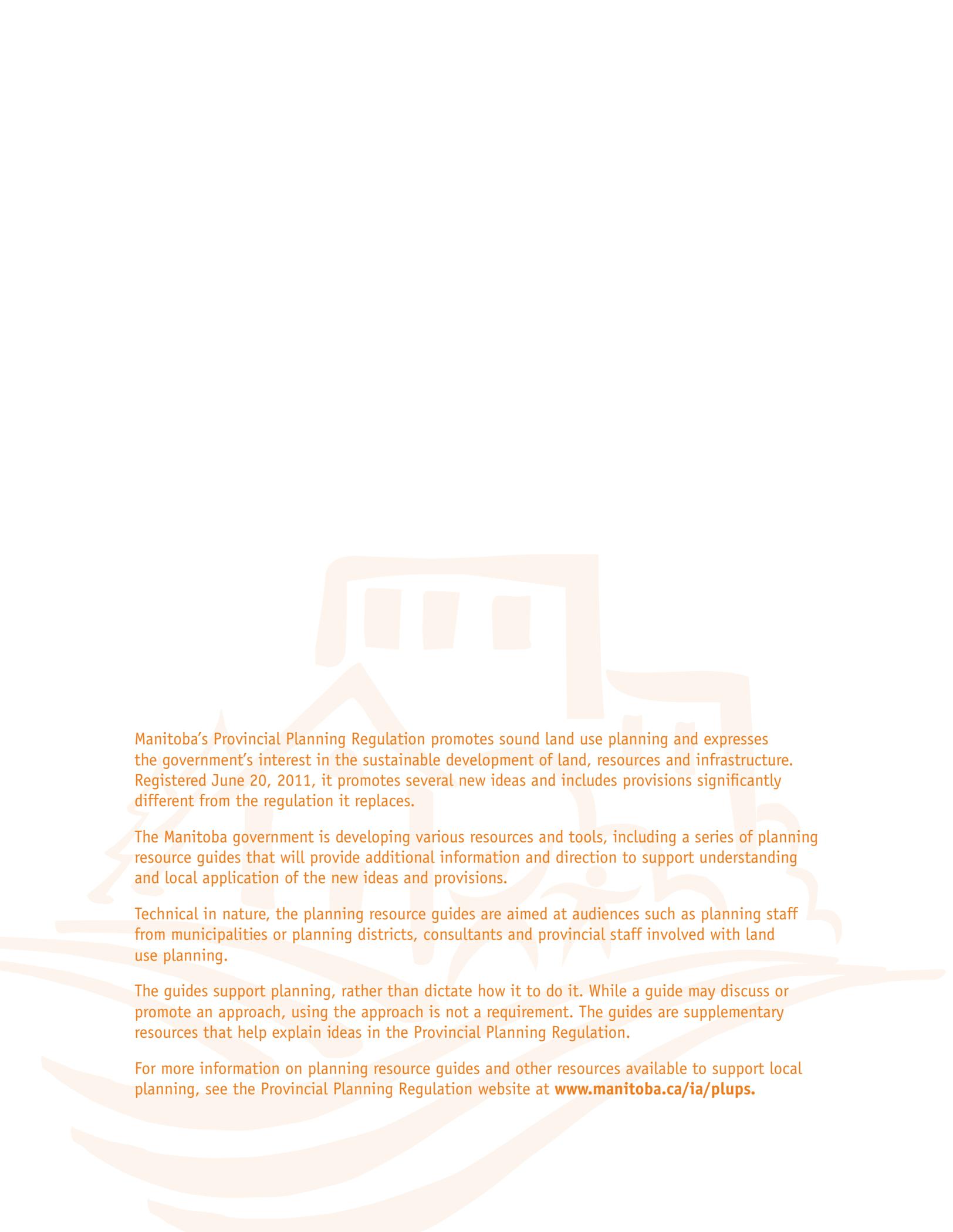




PLANNING RESOURCE GUIDE

Transportation Planning





Manitoba's Provincial Planning Regulation promotes sound land use planning and expresses the government's interest in the sustainable development of land, resources and infrastructure. Registered June 20, 2011, it promotes several new ideas and includes provisions significantly different from the regulation it replaces.

The Manitoba government is developing various resources and tools, including a series of planning resource guides that will provide additional information and direction to support understanding and local application of the new ideas and provisions.

Technical in nature, the planning resource guides are aimed at audiences such as planning staff from municipalities or planning districts, consultants and provincial staff involved with land use planning.

The guides support planning, rather than dictate how to do it. While a guide may discuss or promote an approach, using the approach is not a requirement. The guides are supplementary resources that help explain ideas in the Provincial Planning Regulation.

For more information on planning resource guides and other resources available to support local planning, see the Provincial Planning Regulation website at www.manitoba.ca/ia/plups.

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1.0 INTRODUCTION

A multi-modal transportation system is critical to Manitoba's sustainable development and can be enhanced and protected through an integrated planning approach. Integrated transportation and land use planning will provide communities with long-term benefits such as:

- more consistent and expedited decision making
- improved transportation options
- better road safety
- enhanced community liveability
- improved financial decision making
- predictability for potential developers

The Provincial Planning Regulation outlines the provincial interest in transportation. This guide supports and expands on the transportation policies of the regulation to help local planning authorities create plans and policies, zone and designate land, and design development in ways that reflect the policies of the regulation.

The guide is intended to be used by planning authorities (municipalities and planning districts) undertaking local and regional transportation planning as part of their development planning process, or overseeing a consultant hired to do a more complex plan, such as a transportation master plan.

2.0 TRANSPORTATION PLANNING ACTIVITIES/INITIATIVES

Roads and other transportation facilities generally balance two competing functions, traffic movement (mobility) and direct access to land (access). Commuter and goods movement traffic prefers to move quickly and safely from one location to the next with minimal stops. Multiple traffic lights, property accesses and mid-block pedestrian crossings can impede this.

Local traffic has a different purpose. Travel speed is a lower priority, but safe access to various destinations is critical. Local trips may be negatively affected by commuter and goods movement along major corridors.

Part 4: Development Plans of the Provincial Planning Regulation identifies three transportation activities and initiatives as requirements or considerations in the development plan preparation process. They help to balance both mobility and access functions while reducing conflict and improving user safety. The three activities include:

- functional classification/road hierarchy (requirement)
- access management plans (consideration)
- transportation master plans (consideration)

2.1 Municipal Road Functional Classification System

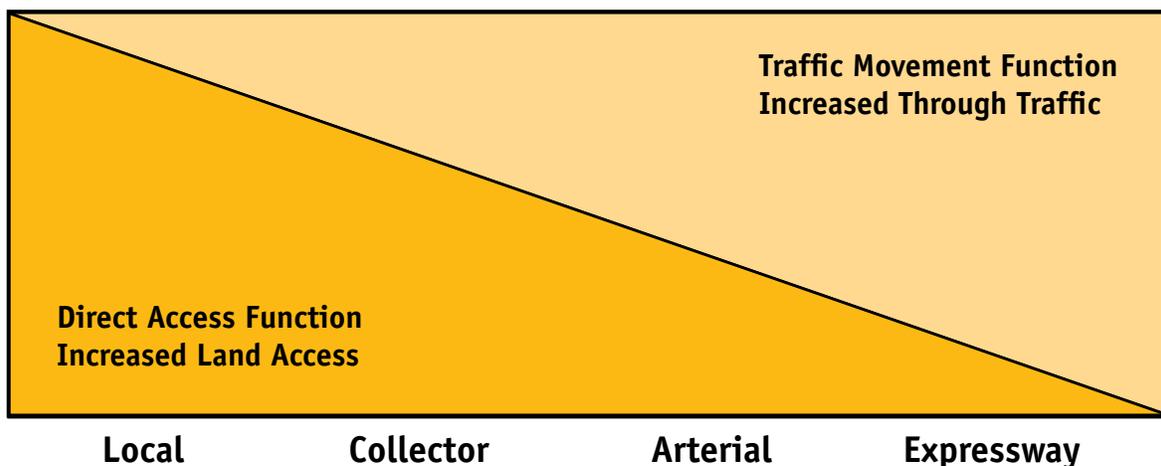
Part 4, Section 3(2) of the Provincial Planning Regulation outlines the transportation planning requirement of a development plan. It states that a road hierarchy or municipal road functional classification system must be identified that will determine the functions and significance of the roads and their place in the regional and provincial transportation system.

A functional classification system can consist of several different categories of road, including the following:

- expressways
- arterials
- collectors
- locals

The key differences among these classifications focus on mobility and land access. For example, the priority for expressways is mobility with controlled facility access and limited land access. For local roads, the priority becomes land or facility access with mobility a secondary consideration. In addition, each road classification can also contain several subclasses. For example, an arterial classification can include suburban and city centre arterial roads, among others. Figure 1 illustrates how each classification balances mobility with land access.

Figure 1: Road Classifications and Functions



From a regional and rural perspective, Manitoba has also developed a functional classification system for provincial highways. See Appendix 3 in this guide for website links to more information about provincial highway functional classification.

For transportation facility planning and design, there are several characteristics that will differentiate road classifications from one another. These include:

- numbers of lanes
- lane widths
- design/operating speeds
- connectivity with other road classifications

Functional Classification in a Development Plan

The City of Steinbach's Official Community Plan includes maps illustrating the functional classification of roads and the active transportation network.

Numbers of lanes, lane widths and design/operating speeds will typically be the highest for expressways and arterials, and lowest for local roads. Connectivity with other roads is shown in Table 1. This highlights how different functional classifications integrate with one another. There may be exceptions to these connections, such as in older urban areas where local streets may intersect with arterials.

Table 1: Functional Classification Connectivity

CONNECTION	FUNCTIONAL CLASSIFICATION			
	EXPRESSWAYS	ARTERIALS	COLLECTORS	LOCALS
Expressways	X	X		
Arterials	X	X	X	
Collectors		X	X	X
Locals			X	X

Developing a road classification system, or hierarchy, allows municipalities the option to develop additional supporting transportation strategies. Two of the more notable ones include:

- road corridor cross-sections or design guidelines/standards
- traffic calming strategies

2.1.1 Development of Road Corridor Cross-Sections or Design Guidelines/Standards

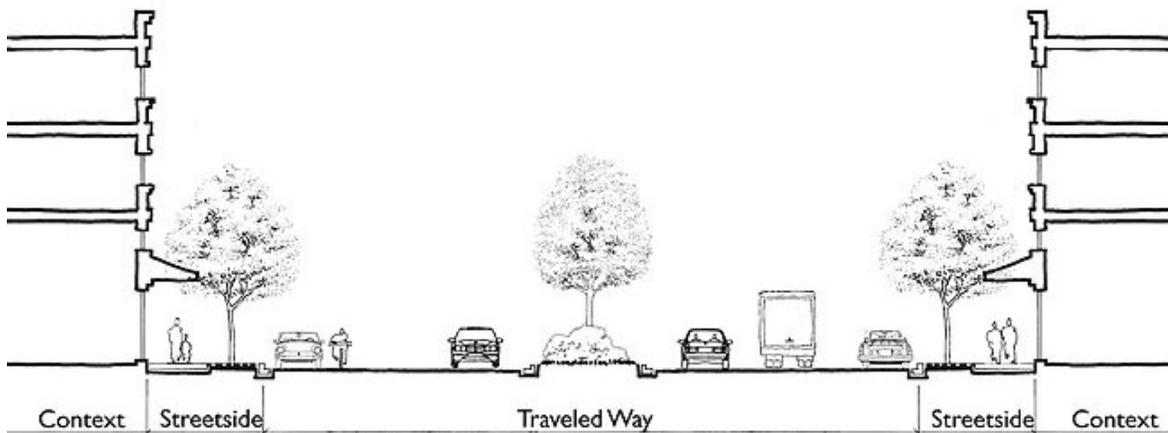
Establishing a functional classification system with different categories of roads provides a municipality the option of developing road form design guidelines/standards or road corridor cross-sections. These guidelines, standards and cross-sections can provide greater clarity and consistency in decision making involving any new and rehabilitated roads, for both the municipality and the development industry.

There are several key elements associated with preparing guidelines/standards/cross-sections including:

- numbers of lanes
- widths of lanes
- median requirements
- provision and dimensions of multi-use pathways, sidewalks or on-street bicycle facilities
- potential noise attenuation requirements for arterial and expressway classifications
- landscaping requirements including boulevards

Figure 2 illustrates a sample road cross-section that highlights various elements.

Figure 2: Sample Road Cross-Section



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From a land use planning perspective, a major benefit for municipalities in developing design guidelines/standards/cross-sections is the ability to protect rights-of-way for new or redeveloped corridors. This can be accomplished via mechanisms such as land acquisition, development plans, zoning bylaw and other development related regulations.

2.1.2 Traffic Calming Strategies

A functional classification system also provides a municipality the opportunity to develop neighbourhood traffic calming strategies. Traffic calming is a means of addressing issues on all road classifications, but most often on local streets. Traffic calming uses physical tools known as either horizontal or vertical deflections to reduce vehicle speed and traffic congestion. The benefits of traffic calming include better safety for other road users and improved quality of life in residential neighbourhoods.

Examples of traffic calming techniques include:

- partial street closures
- speed humps
- raised crosswalks
- median islands and bulb-outs/curb extensions
- traffic circles

Types of traffic calming techniques for use on various road classifications will differ. Local streets use the greatest variety of traffic calming options while arterial roads use the fewest because their priorities are efficient and safe traffic movement. Figure 3 illustrates a common horizontal deflection known as a traffic circle.

Figure 3: Traffic Circle



For more information about traffic calming in a Manitoba municipal setting, visit the *City of Brandon's traffic calming web page*.

2.2 Access Management Plans

Part 4, Section 2(2) of the Provincial Planning Regulation highlights key transportation considerations for planning authorities in preparing a development plan. One of these considerations is to prepare an access management plan for municipal roads. The objective of an access management plan is to balance mobility and safety considerations with land access and economic activity across a road network.

The first step in developing an access management plan or strategy is to prepare a municipal road functional classification system, as described in section 2.1. There are a number of key access management considerations for each road classification, with two of the most critical being:

- the type of property access to/from a road
- property access density along a road corridor

The types of property access can range from no direct access to or from a road, to a full movement access allowing all turning movements. Properly planned arterial roads will typically allow restricted access, such as right in/right out turning movements only. Local streets will typically allow for full movement property access. For property access density, urban arterial roads should only allow a few access points per kilometre. Conversely, local streets will allow many property access points over that distance. In general, desired access density for arterial highways is approximately two per kilometre.

2.3 Transportation Master Plan (TMP)

In addition to access management plans, Part 4, Section 2(2) of the Provincial Planning Regulation also identifies the preparation of a transportation master plan (TMP) as a **consideration**. Larger or more rapidly developing communities should consider having a long range multi-modal TMP prepared by transportation and land use planning professionals to complement the development plan.



Winnipeg's complex transportation system benefits from a TMP.

2.3.1 TMP Focal Points

One of the first steps a planning authority or municipality should undertake is to determine the scope of the TMP. Rapidly growing municipalities with urban components are more likely to consider a broader spectrum of transportation issues than slower growing areas. Key focal points or themes that a TMP may address, among others, are:

- system performance and preservation
 - right-of-way preservation for transportation facilities
 - municipal road functional classification
 - intelligent transportation system (ITS) technologies
 - asset management strategies
- mobility and access for people and goods
 - enhancing goods movement
 - expanding and enhancing transit services
 - connectivity between provincial highways and municipal roads
 - active transportation facilities
 - transportation demand management strategies
- environment and quality of life
 - recreational travel and tourism
 - neighbourhood traffic calming
 - road safety initiatives
 - air quality and greenhouse gas emissions
 - impacts on land use and economic development based on transportation decisions
- planning co-ordination
 - co-ordination with local government officials and other stakeholders
 - integration with provincial transportation plans, policies and guidelines
 - integration with other municipal/regional land use plans and the Provincial Planning Regulation

The content and scope of each TMP will vary due to the diversity of municipalities across the province. For instance, many smaller, less populated regions may not need to consider public transit or goods movement. Ultimately, it will be the responsibility of the planning authority to determine the scope of the TMP.

2.3.2 TMP Planning Process

The overall framework of a TMP planning process does not differ substantially from that of any land use planning process. The planning steps/stages include:

- identifying issues and establishing vision/goals/objectives
- collecting data: analysing existing and future conditions
- forecasting future travel demand/needs analysis
- identifying alternative transportation scenarios and actions
- evaluating and selecting preferred transportation strategy and actions
- funding the plan
- implementing and monitoring the plan

Additional information on the TMP planning process and a sample table of contents for a TMP document can be found in Appendices 1 and 2 of this guide.



Birds Hill Park (PTH 59) Pedestrian Overpass Bridge

3.0 PUBLIC CONSULTATION

Public participation/engagement is a critical component of any transportation planning process. A successful planning process requires a proactive and co-operative approach to consultation, which builds solutions to anticipated challenges. Before initiating a TMP planning process, the municipality and the project consultants should prepare a consultation strategy that addresses who, how and when to consult.

3.1 Who to Consult

A wide diversity of stakeholders should be engaged in any TMP planning process. The largest groups of potential stakeholders are not involved in the transportation industry and could include:

- individual community residents
- neighbourhood associations
- seniors' groups
- Aboriginal communities
- business associations and chambers of commerce
- student groups

Engaging representatives from the transportation sector is also critical to a successful process. These might include representatives of:

- railways
- airlines and airports
- trucking companies
- transit agencies
- bicycle/pedestrian advocacy groups
- transportation planners and government decision-makers

3.2 How to Consult

Several consultation approaches can be used for a transportation plan. They include:

- **Outreach** — This type of participation includes personal contact, media, focus groups and open houses. The outreach can be two-way, such as open houses, or it can be one-way, such as a telephone comment line. Outreach techniques are appropriate during both the early and latter steps in the planning process.
- **Data Collection** — Data collection is an important part of developing a TMP. Examples of data-gathering participation methods are questionnaires, individual interviews and surveys. Household travel surveys (phone based, computer or paper) and on-board transit ridership surveys are two specific transportation examples. Data collection techniques allow planners to obtain information from different groups of stakeholders. The costs for data collection efforts can vary, so a municipality must thoroughly assess the appropriate level of effort early in the planning process.
- **Alternative techniques** — Introducing new or unusual public involvement techniques has the potential to keep the planning process interesting. Examples of such techniques include sponsorship of special events such as transportation fairs, site visits, kiosks and videos. Many consultations also use social networking tools to engage stakeholders.

Regardless of the technique, it is important that stakeholders have access to information, plans and any programs for review and comment. Providing timely notices via press releases and public service announcements regarding planning activities and events is important for effectively engaging the public.

3.3 When to Consult

Stakeholders should be engaged throughout the TMP planning process. However, the central stages of the planning process can often be very technical due to the heavy emphasis on data collection, modeling and scenario development. It may be most valuable for stakeholders to be engaged in the early and latter stages of the planning process, as follows:

- development of transportation vision, goals and objectives
- identification of transportation issues
- development of transportation policies
- preparation of the draft transportation plan
- plan updates

4.0 INTEGRATING TRANSPORTATION WITH LAND USE PLANNING

The functional classification system, access management plan or TMP must reflect and be co-ordinated with land use plans, including the development plan, any secondary plans, the zoning bylaw, subdivision design and site-specific development, to ensure the policies are mutually supportive. This section of the guide focuses on integrating key transportation issues at each stage of the land use planning process at the rural/regional and urban/municipal levels.

4.1 Development Plans

Policies in a land use plan will have transportation implications, just as policies in a transportation plan will have land use implications. Development plans represent the highest level in the local or regional land use planning framework, establishing overall policy direction to guide the growth of a municipality or planning district. Integrating transportation planning into the development plan will help to balance mobility and land access goals as growth occurs.

From a transportation planning perspective, it is critical that development plan policies and proposed land uses reflect the transportation policies contained in the Provincial Land Use Regulation under Part 3, Policy Area 7: Transportation and Part 4: Development Plans.

Costs of Transportation Infrastructure

Integrating transportation with land use planning may result in the addition of new infrastructure, and ultimately upgrades and ongoing maintenance of existing infrastructure. It is important that the costs of building and maintaining transportation infrastructure are reasonably shared among those benefitting from the development, including current and future businesses and residents, as well as developers.

McDonald-Ritchot Planning District (MRPD)

The MRPD development plan identifies three district development centres, each with distinct types of development. The third, enterprise centres, are intended to provide the region with industrial lands connected to the regional transportation system. At the same time, the MRPD also has a goal of promoting compact development and gearing that development to designated urban and rural centres. By way of designated enterprise centres, the planning district can guide development so that it meets the planning district's mobility and trading goals without compromising access goals.

4.1.1 Rural/Regional Considerations

For rural/regional considerations, the policies contained in Part 3, Section 7.3 of the Provincial Planning Regulation titled Safe and Efficient Movement of Goods and People are very closely linked to the provincial highway system. The long-term development pattern of any Manitoba municipality must integrate these policy requirements. Examples of some of the key policies include:

- Strip development, or development that contributes to the evolution of a row of lots, must not be permitted to front on and require direct connection to a provincial highway. An exception may be considered on a regional highway route if development adjacent to the route has already occurred to the extent that this policy can no longer be fully applied.
- Expansion of existing development bordered on one side by a transportation corridor, such as a provincial highway, major road or rail line, should be kept to the developed side of the corridor so as not to jeopardize user safety and efficiency.
- Development should be directed to areas that have an existing improved intersection in place or rely on an internal road system.

Part 3, Section 7.3 of Manitoba's Provincial Planning Regulation includes a complete list of applicable policies. Web links to this and related legislation appear in Appendix 3 of this guide.

Development plan preparation also requires that municipal/local road functional classification and hierarchy is established. The municipal road system should be integrated properly with the provincial highway network by following the connectivity guidelines in Section 2.1 of this guide.

4.1.2 Urban/Municipal Considerations

The policies contained in Section 7.2 titled Promoting Transit and Active Transportation may be most fittingly applied in urban centres or settlement areas in rural municipalities. Transportation in these areas must balance mobility with access, facilitate multiple modes and maintain connectivity between municipal roads and provincial highways.

RM of East St. Paul Development Plan

East St. Paul's development plan has urban design policies that include pedestrian amenities. For example, Policy 12.3.3.(i): Major entrance points to proposed developments should be accentuated through landscaping, signage, lighting, and other design techniques in order to enhance security and reinforce a scale and rhythm to the street that is complimentary to local uses and pedestrian activities.

Policy 7.2.2 of the Provincial Planning Regulation lists the characteristics of development that promotes walkable, transit-supportive communities. This development is generally small-scaled and compact with mixed-use commercial, residential and institutional land uses located together. This type of development will help to achieve other goals that may be in the development plan, such as aging in place or child-friendly communities, which promote health benefits, and social and environmental sustainability. If a development plan contains these or other related goals, then small-scaled, mixed-use development should be maintained and encouraged. These examples incorporate Policy 7.2.2 into a development plan:

- designating land in existing urban centres or settlement areas as mixed use where small-scaled commercial, institutional and residential developments exist in close proximity
- including a policy that requires active transportation to be accommodated as older areas are retrofitted
- including a policy that requires cycling and pedestrian infrastructure to be incorporated into new development
- including a policy that requires abandoned rail lines to be assessed for future use as trails
- concentrating high trip-generating uses adjacent to planned transit stations and stops
- requiring new development to be accompanied by a multi-modal transportation study

4.2 Secondary Plans

Secondary plans follow development plans in the planning framework and represent the first stage in the actual land development process. These plans will provide greater detail for land use and major transportation facilities than development plans with a focus on a specific area in a municipality, such as an urban neighbourhood or a settlement area in a rural municipality.

Provincial Highways in Urban Areas

There are some instances where a provincial highway is located within a busy, urbanized area. In these cases, the needs of mobility and land access must be balanced. When preparing development, transportation or access management plans, municipalities and their consultants should contact the Manitoba government for additional information on access and mobility considerations for highways located within incorporated areas.

OurWinnipeg

Winnipeg is a good example of a region that has to balance mobility with access on a large scale in its development plan. OurWinnipeg and Complete Communities balance divergent objectives with appropriate land use designations. For example, the Airport Area facilitates airport-related industrial and commercial development that complements large-scale transportation activity. The Downtown allows compact, mixed use development and facilitates multi-modality. Major Redevelopment Sites, obsolete lands located within or adjacent to existing communities, are slated to be repurposed as complete communities with mixed use development and a variety of transportation options that take advantage of existing infrastructure.

4.2.1 Rural/Regional Considerations

From a rural/regional perspective, the transportation planning requirements for secondary plans are similar to those for development plans. The secondary plan will articulate the policy direction established in a development plan, but at a more detailed facility level. It is important that secondary plans identify major internal roads within the area and effectively demonstrate how these facilities will ultimately connect to Manitoba's highway network, based on the connectivity guidelines in Section 2.1 of this guide. The secondary plan should focus more attention on managing effective access between the provincial highway network and the municipal road network.

4.2.2 Urban/Municipal Considerations

At the urban/municipal scale, the secondary plan builds on the transportation goals and policies of the development plan and provides more detail. The secondary plan should link to the goals of the community as stated in the development plan. For example, if tourism or recreation (such as hiking, cycling or cross country skiing) are goals of the community, then the secondary plan should map out current and future active transportation routes, indicating where possible how these routes will connect to those in neighbouring municipalities or planning districts.

Transportation items discussed or mapped in a secondary plan might include:

- proposed active transportation routes
- proposed park and ride facilities
- areas planned for transit service
- areas where traffic speeds will be reduced
- planned expansion or re-routing of municipal roads
- proposed traffic calming features

St. François Xavier Settlement Centre Secondary Plan

The Rural Municipality of St. François Xavier, a member of the Whitehorse Plains Planning District, has a secondary plan for its settlement centre. The secondary plan's transportation policy identifies a proposed collector road, commits to reduced traffic speeds to improve safety in more densely developed areas and outlines a proposed expansion of the active transportation network. See the secondary plan [here](#).

4.3 Zoning Bylaws

The zoning bylaw must generally consistent with the development plan and any secondary plans. Among other things, it prescribes the types and intensities of land uses, the placement of buildings on properties, and regulates pedestrian walkways, parcel access points and parking.

4.3.1 Rural/Regional Considerations

It is important that, when preparing zoning bylaws, provincial highway corridor protection policies are taken into consideration. Depending on the classification of the provincial highway, statutory control areas (lines and circles) may vary in size for any development subject to government approval. Lines are measured from the edges of highway rights of way while circle radii are measured from the centre of an intersection. In the majority of cases (some exceptions exist), existing statutory control areas in relation to highway classifications are shown in Table 2.

Table 2: Statutory Control Areas: General Control Line/Circle Dimensions

CONTROL LINES	
Classification	Distance From Right of Way Edge
Limited Access Highway	38.1 or 76.2 metres
All Others	38.1 metres
CONTROL CIRCLES	
All Highways	Distance From Intersection Centre
	457.2/304.8/152.4 metres (control circle radii will vary)

Developments within statutory control areas may be allowed, but will require provincial permits. For more information on control areas, see the *Highways Protection Act* and *The Highways and Transportation Act*.

Other considerations for zoning bylaws include proper setbacks from the provincial highway network for telecommunications towers, wind turbines and anhydrous ammonia plants. This also includes specific noise attenuation practices for residential areas near busy highways.

4.3.2 Urban/Municipal Considerations

The zoning bylaw can be a useful tool for facilitating multi-modal transportation in urban areas and other settlement centres to enable land access. It can also be used to guide larger-scale development to parts of the municipality where mobility is the main transportation goal. The following are examples of how mobility and land access can be differentiated and optimized in urban centres and settlement areas using the zoning bylaw:

- zoning large-scaled commercial and industrial development away from urban centres and closer to major thoroughfares
- zoning multi-family housing and small-scaled commercial and institutional development together (mixed use)
- zoning multi-family residential development in close proximity to existing or planned bus service
- avoiding minimum parking standards in the zoning bylaw and opting instead for a parking management strategy to complement the zoning bylaw in areas of high parking demand
- discouraging surface parking lots and encouraging on-street parking and parking at the rear of buildings in areas where pedestrian traffic is significant
- requiring all businesses and institutions to provide bicycle parking and sidewalks

Transit-supportive development

A certain level of density is needed for transit to be viable. Approximately four dwelling units per acre are required to support basic bus service at the neighbourhood scale. See Victoria Transport Policy Institute for more information.

4.4 Subdivision Plans and Site-Specific Developments

Subdivision plans are typically prepared for larger and more complex developments. The design of these developments must conform to the zoning bylaw and all other components of the planning framework.

4.4.1 Rural/Regional Considerations

As with secondary plans, it is important that subdivision plans incorporate effective access management between the municipal road network and provincial highways. Subdivision plans may also require traffic impact studies to determine what, if any, impacts on the provincial highway network may be attributed to the development. See Manitoba's traffic impact study guidelines for more information.

Certain site-specific developments may be large traffic generators that could seriously affect mobility along adjacent provincial highways. The Manitoba government guidelines require that developments of a certain type and size have a traffic impact study prepared prior to being built. Assessing the traffic impacts of developments will help to identify if any mitigation measures, such as on-site highway improvements, are required to accommodate the development while maintaining the function and safety of the provincial highway system.

4.4.2 Urban/Municipal Considerations

The design of a subdivision or new development will have an impact on the transportation system and on choices available to residents. New development should reflect the overall vision of the community, so all subdivisions should be reviewed in light of the policy direction of the development plan, secondary plans and transportation plans.

Subdivision design guidelines can help municipalities comply with policies under Provincial Planning Regulation policy area 7.2 Promoting Transit and Active Transportation. Municipalities can adopt design guidelines to enhance the comfort and safety of pedestrians, cyclists and transit users in urban areas and settlement centres.

Examples of design elements that that may be included in subdivision design guidelines to promote transit and active transportation include:

- bicycle paths and walkways incorporated into subdivision design
- links between public transit, streets, sidewalks, river corridors, pathways and green spaces established to form an interconnected active transportation network
- sidewalks lined with trees or shrubs
- parking lots buffered from sidewalks with shrubs or fencing
- clear sidewalk signage for pedestrians
- rest areas along trails

For more information on subdivision design and how to address rural, regional and urban municipal transportation considerations, see Schedule B of the Subdivision Regulation, Evaluation Criteria.

City of Brandon Urban Design Standards and Guidelines

The City of Brandon has an Urban Design Standards and Guidelines bylaw that includes subdivision/community design.



5.0 CONCLUSION

For municipalities and planning districts, transportation planning is an important part of managing community growth and change. It makes use of a variety of tools and methods, including road classification systems, asset management plans and transportation master plans. Proper planning will indicate how a transportation system will function within the boundaries of the municipality as well as how it will link with the provincial highway network. Documents may be complex and technical, so it is important to engage transportation and land-use planning professionals in any transportation planning process.

Transportation is tied closely to land-use. Integrating the two is critical to successful transportation systems. This is achieved by including transportation policies or zoning and design requirements in the development plan, secondary plans, zoning bylaw and other land use and development documents. Policies can be tailored to urban or rural municipalities at local or regional scales and can help to maintain a balance between mobility and land access.

This guide aims to expand on the transportation policies of the Provincial Planning Regulation, providing greater clarity about local planning authority requirements and options, leading to transportation and land use planning documents that are more comprehensive. Additional detail about the transportation master plan and other sources of information that may further enhance the transportation planning process are provided as appendices in the following pages.



APPENDIX 1: TMP PLANNING PROCESS

i. Issue Identification/Vision/Goals/Objectives

The TMP process typically begins with discussions among stakeholders on current issues surrounding a community's transportation system. Development of a long-term transportation vision and key objectives are established. This can be part of the development plan review or amendment process.

Transportation objectives can be very diverse, covering a wide spectrum that includes economic, social and environmental considerations. Objectives should be specific enough to guide the development of the plan, while also providing flexibility in the event of changing conditions. Public consultation, discussed in detail in section 3.0 below, is a vital component to identifying and establishing the community's transportation vision and objectives.

ii. Data Collection: Analysis of Existing and Future Conditions

There can often be a very technical component associated with a TMP planning process. This technical exercise ultimately involves some type of modelling or forecasting effort to determine what long-term transportation investments a community will make to accommodate future travel demands. Performing an analysis and evaluation of existing transportation, land use and demographic conditions is usually the first step in this technical exercise. Many larger communities will normally collect and maintain this type of data as part of their regular activities.

Information and data pertaining to existing transportation, land use and demographic conditions can be obtained via several different methods, including:

- household and other travel surveys
- annual municipal census or Statistics Canada census information
- traffic counts
- transit ridership information (automated passenger counters, sales, surveys, etc.)
- road condition audit
- traffic accidents statistics
- development approvals, building permits, land use inventories

Assessing existing conditions and performance of the transportation system often uses service objectives and standards. These standards will vary depending on the mode or facility type. For example, road standards can include roadway capacity and safety measures. Transit service standards may include service area coverage and passenger rides per hour.

Forecasting future land use and demographic conditions ranges from simple to complex. For small rural municipalities, simplified estimation techniques and analysis based on historical trends would be most appropriate for demographics. More complex computer models that require extensive data inputs may be used in larger, more populated regions to forecast population and employment conditions. The information used and produced from the forecasting process should match any future growth scenarios contained in the development plan.

iii. Forecasting Future Travel Demand/Needs Analysis

The next step is to estimate future travel demand and identify long-term transportation system gaps and needs. Typically, these needs are identified by analyzing future travel demand on a baseline transportation system. The baseline system may consist of the existing transportation system only, or may also include additional short-term, programmed improvements.

In many cases, particularly in urban areas, complex travel demand forecasting models are used to conduct these needs analyses. Developing these forecasting models is usually a very resource intensive process that requires large amounts of demographic and transportation system data. Examples of data required to develop and run a travel demand model include:

- existing and future population and employment growth
- travel behaviour (ex: via household surveys)
- transportation system data

To ensure the model replicates existing travel patterns as much as possible, it must be calibrated. Once calibration is completed, a model can be used to test future land use and transportation scenarios. Long range forecasting is typically conducted via four steps:

- trip generation
- trip distribution
- mode split
- assignment

Travel demand forecasting using models can be a complicated process requiring specialized skills. For smaller Manitoba municipalities, it is not likely that any travel demand forecasting models will be needed. For larger urban centres or regions, the analytical techniques used for travel demand forecasting may require the expertise of consultants.

iv. Identification of Transportation Scenarios and Actions

The next step in the planning process is to identify and analyze long-term alternative transportation scenarios and actions. There can be many potential scenarios, but because of resource constraints, it is recommended that communities focus on just a few alternatives. The following are examples of alternative transportation strategies and actions:

- Road based scenarios—this assumes that most travel demand growth will be automobile oriented, along with a potential shift in existing demand for automobile travel. Road based strategies may include significant additions to road capacity as well as complementary strategies such as lower density land uses and parking supply or pricing mechanisms.
- Transit based scenarios—this assumes most travel demand growth will be transit-oriented, along with a potential shift in existing travel demand to transit. In addition to significant expansion of transit capacity and service, transit based strategies may also include emphasizing greater infill development, transit oriented development at key nodes and parking supply and pricing mechanisms.

- Transportation demand management (TDM) and transportation system management (TSM) scenarios—these strategies focus on addressing travel demand via behavioural changes, and lower cost infrastructure improvements relative to roadway or transit system expansions. Ride sharing, compressed or flexible work schedules and employer subsidized transit passes are examples of TDM measures. Examples of TSM measures include intersection and traffic signal improvements.
- Any combination of above-mentioned scenarios—many communities typically include a combination of various strategies as part of any alternative scenarios.

The local community and their project management team will identify the most appropriate and applicable alternative transportation strategies to evaluate, balancing vision with implementation potential.

v. Evaluation and Selection of Preferred Transportation Strategy and Actions

Evaluation criteria used to assess alternative transportation strategies and actions can be very diverse. For example, a quantitative cost-benefit analysis that includes factors such as travel time savings, vehicle operating savings and accident reduction can be used to evaluate road-based alternatives.

In many cases, alternative transportation scenarios will also be evaluated using a series of qualitative measures. Qualitative criteria may include social, economic and environmental factors typically derived from the broader goals and objectives established early in the planning process. Communities may also determine that different evaluation criteria carry various levels of importance and influence. Often criteria will be weighted to reflect the priorities of the community.

Specific policies that link objectives with implementation are normally developed for the preferred transportation strategy. For a TMP, transportation policies can be diverse and extensive, covering many different areas of transportation such as:

- access management
- road functional classification
- neighbourhood traffic calming
- parking
- active transportation
- transportation demand management (TDM)
- public transit
- integration of transportation with land use (ex: right of way protection, road form designs, transit oriented development) depending on type, location and scale of development
- goods movement

vi. Funding the Plan

A community should be aware of implementation considerations, specifically whether the transportation scenarios and strategies can be funded. A preliminary financial overview of transportation strategies and feasibilities should be part of the evaluation of alternatives for transportation strategies and actions.

Several steps should be followed to establish a financial plan to implement a TMP, including:

- Identify transportation needs and solutions.
- Develop cost estimates for solutions.
- Assess the ability to pay for projects and programs.
- Develop financing policies.
- Develop a financing schedule by matching transportation projects and services to revenue projections.
- Establish policies to govern the management of the transportation financing program.

vii. Plan Implementation and Monitoring

The last step in the TMP planning process is to implement the plan and monitor its progress and performance.

The planning horizon for a TMP is generally 20 to 25 years. Most plans have a phased implementation schedule for transportation investments: short term (five years), medium term (10 years) and long term (20 to 25 years). Project prioritization depends on factors such as community and travel demand growth, transportation policies stemming from community goals and objectives, and the availability of funding and resources.

An often-overlooked component of transportation planning is ongoing monitoring of the TMP. Developing appropriate TMP performance measures and targets directly related to objectives is one part of an effective monitoring process. Municipalities or planning districts will be required to commit the resources needed to follow the progress of the TMP and to assess whether targets are being achieved. A TMP should be reviewed approximately every five years to assess the progress of the plan and determine whether there have been any significant changes in the community to warrant adjustments and updates to the TMP.

APPENDIX 2: SAMPLE TMP TABLE OF CONTENTS

EXECUTIVE SUMMARY

CHAPTER 1: Transportation Vision/Issue Identification/Goals and Objectives

CHAPTER 2: Analysis of Existing/Future Conditions (Demographic and Transportation)

CHAPTER 3: Forecasting Future Travel Demands/Needs Analysis

CHAPTER 4: Identification of Alternative Long Range Transportation Strategies and Actions

CHAPTER 5: Evaluation and Selection of Preferred Transportation Strategy and Policy Actions

CHAPTER 6: Plan Funding

CHAPTER 7: Plan Implementation Schedule/Monitoring

APPENDIX 3: RESOURCES

Manitoba Legislation and Regulations

The Highways Protection Act

The Highway Traffic Act

The Highways and Transportation Act

The Planning Act

Provincial Planning Regulation

Subdivision Regulation

Links to all Manitoba laws are available here: <http://web2.gov.mb.ca/laws/index.php>

Guidelines and By-laws in Manitoba Communities

City of Brandon: Traffic Calming

<http://brandon.ca/departments/engineering/traffic-home/traffic-calming>

City of Brandon Urban Design Standards and Guidelines

<http://brandon.ca/images/pdf/bylaws/zoning/urbanDesignStandards.pdf>

East St. Paul Development Plan

<http://selkirkplanning.com/assets/downloads/2007-14%20development%20plan.pdf>

MacDonald Ritchot Planning District Development Plan

http://www.rmofmacdonald.com/index.asp?ID=2&Sub_ID=3896653&Sub2_ID=0&Doc_type=17

OurWinnipeg

<http://winnipeg.ca/interhom/CityHall/OurWinnipeg/pdf/OurWinnipeg.Jul15.2010.pdf>

Steinbach Official Community Plan

http://www.steinbach.ca/city_services/planning_and_properties/official_community_plan/

St. François Xavier Settlement Centre Secondary Plan

http://www.rm-stfrancois.mb.ca/documents/FINAL_SECONDARY_PLAN_110224.pdf

Transportation planning and design documents

Federal Highways Administration: Corridor Access Management

http://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_006.pdf

Institute of Transportation Engineers: Designing Walkable Urban Thoroughfares: A Context Sensitive Approach

<http://www.ite.org/css/online/>

Institute of Transportation Engineers: Traffic Calming Measures

<http://www.ite.org/traffic/tcdevices.asp>

Manitoba Infrastructure and Transportation: Provincial Highway Functional Classification System

http://www.gov.mb.ca/mit/tspd/pdf/appendix_a_tp1_98.pdf.

Manitoba Infrastructure and Transportation: Traffic Impact Study Guidelines

<http://www.gov.mb.ca/mit/hpd/pdf/trafficimpact.pdf>

Transport Canada: Active Transportation in Canada: A Resource and Planning Guide

<http://www.tc.gc.ca/media/documents/programs/atge.pdf>

Transport Canada: Sustainable transportation in small and rural communities

<http://www.tc.gc.ca/eng/programs/environment-utsp-smallnruralcomms-1012.htm>

Transport Canada: Traffic Calming in Canadian Urban Areas

<http://www.tc.gc.ca/eng/programs/environment-utsp-trafficcalming-1172.htm>

Websites for additional information on transportation planning

Canadian Institute of Transportation Engineers

<http://www.cite7.org/>

Complete Streets for Canada

<http://completestreetsforcanada.ca/>

Green Action Centre

<http://greenactioncentre.ca/>

Manitoba's Action Plan on AT

<http://www.gov.mb.ca/ia/at/>

Transport Canada

<http://www.tc.gc.ca/eng/menu.htm>

Vélo Quebec

<http://www.velo.qc.ca/en/Home>

Victoria Transport Policy Institute

<http://www.vtqi.org/>