building better and smarter suburbs: strategic directions and action plan

City of Ottawa
The Planning Partnership
Parsons

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Ottawa Aerial

1 introduction

The City of Ottawa is projected to grow from a population of roughly 950,000 in 2013 to 1.15 million in 2031. Despite the trend of intensification in existing communities, a significant share of population growth is expected to take place in new communities beyond the Greenbelt. The form of this development is expected to be increasingly compact, as the Province, City, and market forces have supported increased density in new suburban communities. The City also has a long-term responsibility to manage the supply of urban land and minimize urban sprawl.

The suburban Ottawa context:

- 70% increase in residential densities in less than 15 years
- The average suburban residential density was almost 43 units per hectare in 2013, up from 25 in 2000
- Outside the Greenbelt
  - o the number of single-detached homes has decreased from 52% in 2005 to 38% in 2013;
  - o Townhouse and Apartment development has increased from 43% to 57% in the same time period.

These higher suburban densities and the corresponding increase in variety of dwelling types has played an important role in supporting housing affordability and high quality public transit, and accommodating increasingly diverse household types and sizes. However, accommodating an increasing number of homes, shops, services, and infrastructure per square kilometre has led to a number of challenges. The issues being faced deal with conflicts between parking, trees, snow storage, and underground utilities for example, and there is a shifting need for suburban design to resolve these conflicts while maintaining support for intensification.

2 study background

Study Scope, Team and Timeline

The challenge to Building Better and Smarter Suburbs is not unique to the City of Ottawa but common to many North American municipalities. In this, the City is considered an innovative and progressive leader in new community design. And, in embarking on this study, it became clear that the task at hand was not as much one of adding an additional set of guidelines, but providing clarity and revisions to existing policies, plans, and practices.

On this basis, the scope of work for this study has been adjusted and this final report has been shaped largely through a process of information distillation and collaborative conversations that engaged all stakeholders.

This study was led by the Intensification Implementation Group (IIG) in the Planning and Growth Management Department, which was established by City Council after the adoption of the 2008 Official Plan (OP) to remove regulatory barriers to intensification and the type of urban city-building contemplated by the OP. The IIG was also directed to examine suburban subdivision design and in so doing, oversee the preparation of new municipal guidelines and strategies with the overarching goals and objectives of:

- Ensuring that the increase in suburban density is accompanied by good subdivision design;
- Promoting complete, walkable and transit-supportive communities;
- Creating residential communities that are attractive, efficient and able to accommodate competing priorities including the reality of multiple-car ownership;

- Accommodating a variety of safe and reliable transportation options;
- Encouraging communities that are land and infrastructure efficient
- Balancing good urban design with long-term maintenance and operational costs.

The study was overseen by a project Steering Committee and a Project Management Group comprised of City Staff and Councillor Sponsors. The Study also benefitted from a large and diverse Technical Working Group (TWG) which included representatives from City departments, school boards, utility companies and the development industry.

The study began in the spring of 2013 with a tour of existing suburban communities, followed by a series of workshops, focused conversations, and a Suburban Councillors Forum, which are briefly described below. These efforts provided the study background and resulted in the Vision and Principles, which were approved in the spring of 2014. This report was prepared with significant input from the TWG during the summer and fall of 2014.

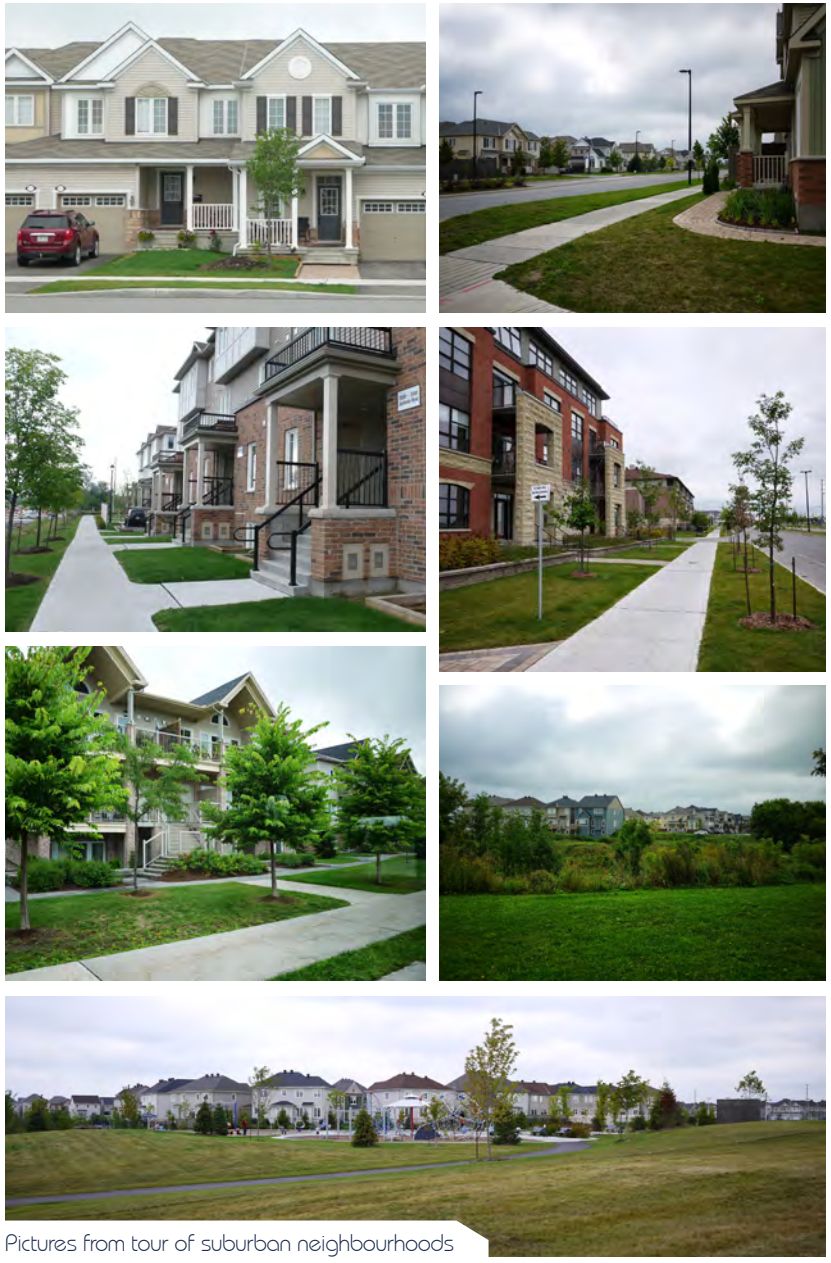
Tour of Suburban Neighbourhoods

Participants in the tour included City staff, Councillors, representatives from the development industry and the project team. The tour highlighted the scope of suburban Ottawa and identified issues to be addressed.

An abbreviated list of topics discussed includes:

i. The use of 'Trafalgar' poles to consolidate some utilities
ii. Trees
iii. The 16.5m ROW
iv. Two-car parking on smaller lots
v. Snow removal in lanes
vi. On-street parking
vii. The economic viability of structured parking

Pictures from tour of suburban neighbourhoods



Pictures from tour of suburban neighbourhoods

viii. The use of bioswales

ix. The opportunity to allow overland flow and stormwater storage from adjacent properties on public parkland

x. The cost of developing urban parks and the collection of development charges

xi. The use of Alternative Subdivision Design Standards

Workshops

Three workshops were organized with Technical Working Group (TWG) members in October 2013. The workshops were facilitated around focused conversations on each of the design elements, grouped as follows:

- Utility placement and trees
- Schools, parks/open space and stormwater management
- Residential parking and visitor parking
- Right-of-way, street network and rear lanes

The purpose of these workshops was to understand the key issues and learn how they are perceived by different stakeholders involved in their planning, design, operation, and maintenance. Other meetings and discussion groups with the TWG took place in April, July, and October 2014.

Similar workshops were held for members of the public. On October 17, 2013, interested citizens and community association representatives attended three concurrent sessions held in the east, west, and south parts of the City. Feedback from these sessions was helpful for defining the challenges in new suburban communities and determining the scope of the study.

Focused Conversations

Following the analysis of input received at the October 2013 workshops, a second round of conversations were convened with the Technical Working Group in January 2014 on eight key issues:

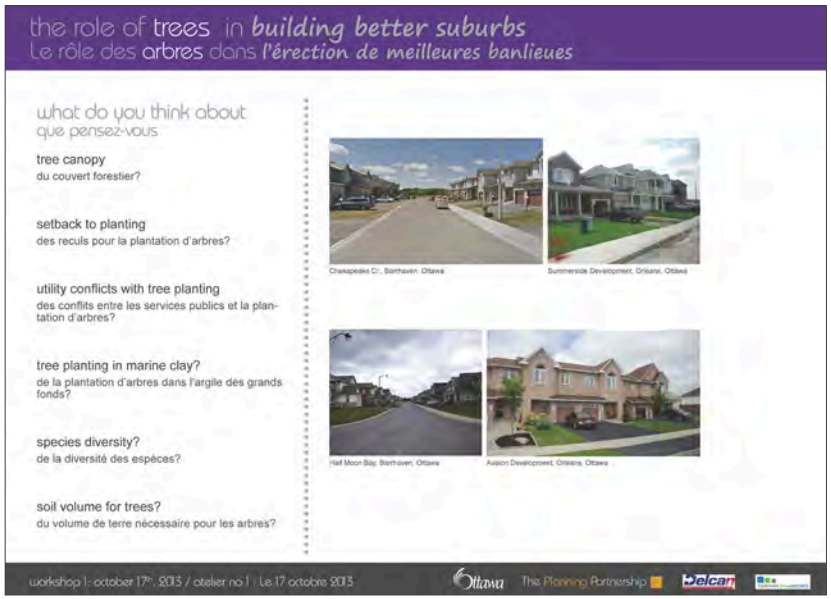
- better integration of schools and parks
- better use of parkland for stormwater function
- better provisions for trees
- better provision of on-site and on-street parking
- better use of rear lanes
- better traffic calming
- better details in street cross sections
- better harmonization of design standards and processes

Suburban Councillors Forum

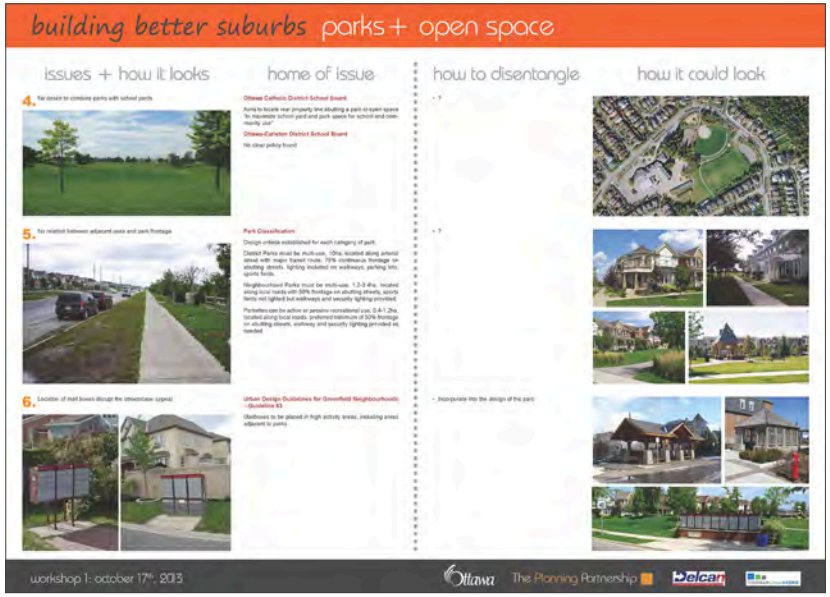
The next stage of the study involved small group conversations with suburban Councillors and members of the development industry in March and April 2014. This culminated in the Suburban Councillors Forum on April 24, 2014, which provided suburban Councillors and members of the development industry a forum to publicly discuss the challenges and opportunities of development in new greenfield neighbourhoods. Highlights of some of the questions and answers are provided below:

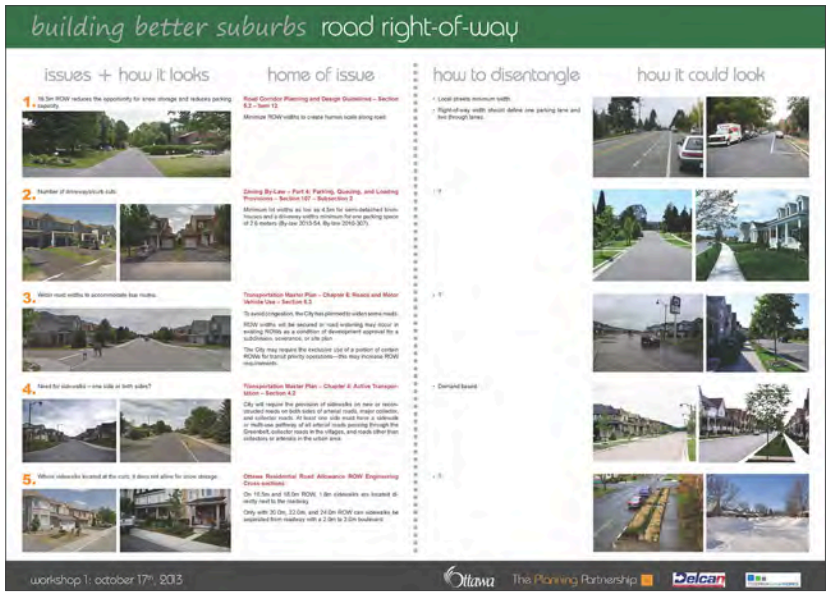
What's working well?

- Modified grid street network
- Recessed garages (garages further into the house)
- Updated zoning
- Public spaces on the street
- Front ending of parks by developers
- Variety of dwelling types



Example of Workbooks from October 2013 Workshops





Example of Workbooks from October 2013 Workshops

What are the existing challenges?

- Delayed park construction
- Insufficient infrastructure, especially transit
- Storage challenges (snow, vehicles)
- Street and laneway width
- Parking issues
- Tree planting

How can we get better integration?

- Unnecessary segregation of schools and parks – e.g. fences
- Use of dry stormwater parks for soccer field
- More front ending agreements – e.g. community centres
- Schools yards need to be smaller
- Need better coordination between all City departments
- Need to integrate libraries and schools

What are some of the main issues?

- Competition for space (i.e. trouble allocating space for trees, utilities and sidewalks within the ROW)
- Affordability
- The way in which density is calculated needs to be re-considered

What do you want to see accomplished?

- A collaborative approach resulting in timely implementation
- A review of City standards focusing on efficient use of land and infrastructure
- Design complete communities for residents to enjoy

3 vision and principles

The City's Official Plan, Infrastructure Master Plan, Transportation Master Plan, Cycling Plan and Pedestrian Plan set the vision for Ottawa's future growth to 2031. Together, these five documents provide the over-arching policy direction for Building Better and Smarter Suburbs. The study is also guided by its own Vision and Principles, adopted by City Council in May 2014, which is outlined below.

vision

The principles of good urbanism should apply to the suburbs as they do to other parts of the City

As Canada's capital, Ottawa will take a leadership role on suburban design as part of the nation's ongoing narrative surrounding urbanization in the 21st century. The principles of good urbanism should apply to the suburbs as they do to any other part of the city. New suburbs are new parts of the city. As such, they deserve good design and they deserve to be planned comprehensively as complete communities that can age well and grow well. Suburbs need to be convenient for residents, and land efficient for its builders (public and private) and those who provide services to them, run businesses in them, or employ its residents. This means designing all aspects of suburban communities to provide meaningful options for transportation, housing, employment, shopping, education, recreation and social life.

How We'll Get There

We will plan new suburbs as **healthy, vibrant, safe, and complete communities** with all the facilities and services that meet people's everyday needs, including schools, parks, community facilities and spaces, shops, services and places to work.

Many **different types of housing** will be offered to support a diverse population.

A variety of safe and reliable transportation options, not limited to private automobiles, will be provided.

New neighbourhoods will be designed as **part of the City**, yet have their own identities that will evolve over time.

All streets and public spaces will be designed as **safe and inviting places.**

Design solutions will be **practical and functional**, and include consideration of long-term operations and maintenance requirements.

All City Departments will work together towards this vision and adhere to the following principles. The City will work with partner agencies, stakeholders and other levels of government to obtain support for, and full participation in, this vision and these principles.

principles: our suburbs will be...

Land Efficient and Integrated

- Suburban neighbourhoods will make efficient use of land and infrastructure, and be in the form of compact growth.
- Land use and transportation planning will be integrated and mutually supportive.
- Neighbourhoods will contain a diversity of land uses, dwelling types, and public spaces.
- Combined facilities and multi-purpose spaces will be developed between various City services and Departments and partner agencies and stakeholders.
- Density will be measured to encompass the entirety of an area being developed as a new neighbourhood.

Easy to Walk, Bike, Bus or Drive

- Neighbourhoods will contain complete streets that accommodate automobiles and all other modes of transportation, including safe, convenient and comfortable conditions for walking, cycling and public transit.
- New neighbourhoods will be designed to have nearby destinations, such as shopping or parks, which are reachable by walking and cycling.
- All streets, including arterials where they are in an existing or planned built up area, will be planned as context-sensitive public spaces that are an integral part of their neighbourhood.

Well Designed

- New neighbourhoods will feature an attractive public realm and built environment, and incorporate high quality design that creates a sense of place and community.
- Healthy, mature street trees will occupy a prominent place on complete streets and in other public spaces.
- Piped and electrical infrastructure, with the exception of traffic signals, will be made as invisible as possible.

Financially Sustainable

- Infrastructure will be designed so as to be constructed and maintained over the long term in a way that reflects the most financially efficient model to the City. Potential infrastructure modificat ons that could increase operation costs will be identified and include strategies to mitigate cost escalation or identify additional funding requirements.
- New communities will incorporate necessary community features, such as sidewalks, cycling lanes, and public spaces from the beginning of their development in order to avoid the need for costly repairs and additions at a later time.

4 recommendations

The workshops and various steps in this study revealed a number of key issues related to building better and smarter suburbs, which span all stages of development, from planning and design to implementation and maintenance. This section examines each of these issues in its own separate chapter, starting with those that fall under Community Plans, followed by Streets.

Building Better and Smarter Community Plans:

- Street Network and Land Use
- Parks and Open Space
- Stormwater Management
- School Sites

Building Better and Smarter Streets:

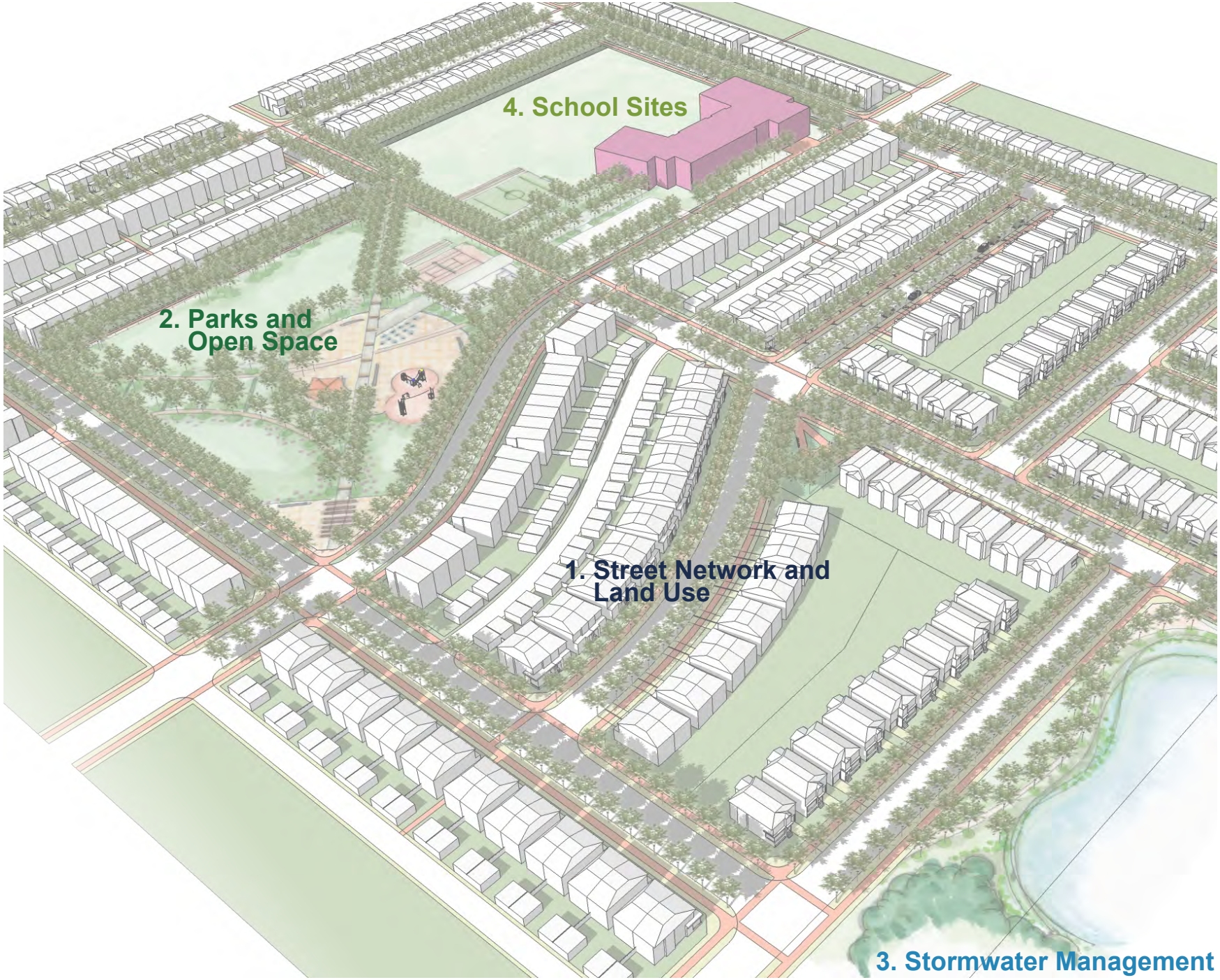
- Parking
- Road Right-of-Way
- Rear Lanes
- Trees
- Utility Placement

Each chapter has consistent formatting, with the following sub-sections:

- Preamble
- What We Heard
- Implications of Not Improving…
- Barriers to Change
- What is on the Ground
- Achieving Sustainable Development
- Precedents
- Objectives
- Strategic Directions
- Action Plan

The first eight sub-sections, from Preamble to Objectives, lead to the Strategic Directions and Action Plan. All Action Plan items are then consolidated and linked to an implementation strategy in the Action Plan Summary Table in Section 5.

These recommendations reflect the Building Better and Smarter Suburbs Vision and Principles, and are aimed at a wide range of devel opment issues. For instance, in some cases the emphasis is on land efficiency, while in others it may be on safety or urban design. Together, these incremental improvements, new directions, and forthcoming ini tiatives will position the City to better accommodate increasing densi ties in the suburbs, and ultimately lead to more liveable communities.


4. School Sites
2. Parks and Open Space
1. Street Network and Land Use
3. Stormwater Management

strategies for
building better and smarter suburbs

building better and smarter community plans

Better and Smarter Community Plans considers broad, strategic planning and design issues that contribute to the quality, safety, and functionality of a community. The following four chapters – Street Network, Parks and Open Space, Stormwater Management, and School Sites – are all fundamental components of a community that must be contemplated early in a Community Design Plan and/or in the Plan of Subdivision stage of a development application. These chapters focus primarily on making improvements to current practices and standards in order to achieve the type of communities described in the approved Vision and Principles.

Many of the components of community plans are conceptually identified in the facing diagram and are discussed in greater detail in the next four chapters.

preamble

The history of suburbs has often resulted in curvilinear streets with relatively isolated residential land uses. In recent years, suburban design has shifted from this approach because it tends to be incompatible with many community objectives such as promoting active transportation and transit, facilitating multi-modal access to other land uses and community amenities, efficient infrastructure servicing, and easy wayfinding.

New suburban communities are once again drawing on more traditional community design models. Street networks with crescents and cul-de-sacs are being set aside in favour of the modified and offset grid, with opportunities for a mix of land uses within walking distance from homes. This strategy provides more direct routes through neighbourhoods, particularly for pedestrians and cyclists, and improves access to transit and other community amenities, such as parks, shops, and services. These improvements to street connectivity also support more reliable water servicing and better fire protection for residents and businesses.

It is not a coincidence that the most desirable neighbourhoods tend to have a grid-like street network and pedestrian access to local shops and services. However, applying this type of street and land use pattern to new suburban communities does present some challenges, including the potential for cut-through traffic and the need for traffic calming, and questions around the market absorption and viability of small local retail spaces. While it is recognized that no built form fits all contexts, a grid-like street network is encouraged.

what we heard

Comments captured from workshops:

- Blocks are too long, resulting in visual monotony, speeding, and a future need for traffic calming measures.
- Disconnected street system works against achieving permeability and improved opportunity for active transportation.
- Disconnected street system is more difficult to serve by public transit.
- Disconnected street system leads to fewer connection points for piped utilities, which may result in the need to oversize some infrastructure.
- Limited connection between local and regional networks.
- Excessive traffic and vehicle speeds on local streets
- Single loaded roads are an inefficient use of land that create a visual dominance of paving.
- Eyebrow roads create parking issues for homeowners.
- Need to minimize driveways on lots facing schools sites and bring buildings closer to the street.
- Noise attenuation measures for properties abutting major collector or arterial roads result in no ‘eyes on the street’ and unsafe conditions.
- Arterial roads are spaced too far apart, resulting in the need for wide, disruptive arterials that divide neighbourhoods.
- Street network and transportation improvements are not enough - need nearby shops and services to give people places to walk or cycle to.

implications of not improving the street network and land use patterns

- Disconnected neighbourhoods with isolated land uses result in longer trip distances, which favour vehicular mode choices.
- Diminished access to transit.

barriers to change

- Reliance on outdated models of community design.
- Expectation that developers can establish general street network concept through plan of subdivision.
- Competition from big box stores makes it more difficult to attract local commercial uses.

what is on the ground

Disconnected street networks

Blocked connections

Noise walls

Eyebrow streets

achieving sustainable development

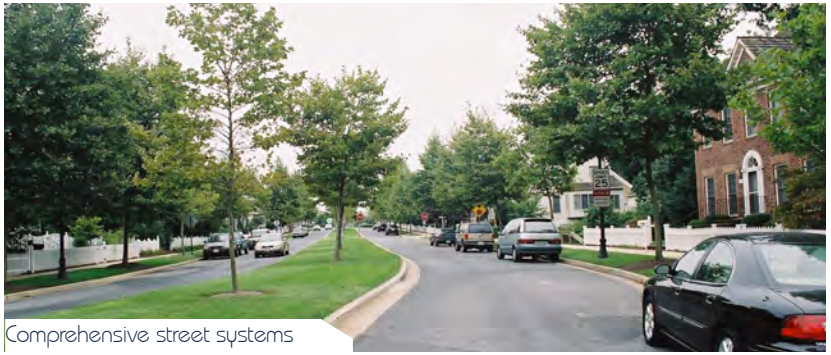
- A grid-like street network improves access to transit routes and supports active transportation, while reducing vehicular travel distances and emissions.
- A highly connected street network supports adequate water supply servicing and fire protection
- Appropriately designed streetscapes become a signifi ant component of the public realm, improving quality of life in front of every home.
- A mix of land uses improves opportunities for walking and cycling for utilitarian trips and supports local employment.
- Homes with second dwelling units (e.g. basement apartments) support housing affordability – both for renters as it increases the supply of rental units, and for owners who receive an additional source of income to help pay the mortgage.

precedents

Highly connected street networks

Pedestrian-oriented street networks

Local commercial and live-work units



Comprehensive street systems

objectives

- Implement a network of street typologies that complements the land uses, densities and built form within a community.
- Create a highly connected street and block pattern with short blocks to support efficient routing of transit, short distances to transit stops and stations, and intuitive wayfinding.
- Design the street network to respond to and respect natural and cultural features.
- Design the street network to enhance access to public facilities and services; prioritize pedestrian and cycling access for short trips, and walking/cycling connections to transit stations and Park and Ride lots for longer distance trips.
- Integrate the street network with the park and open space system.
- Design the street network and block lengths to include a diversity of routes for vehicular and active transportation in order to minimize bottleneck locations.
- Provide opportunities for small local retail or commercial spaces in new neighbourhoods, where appropriate.
- Reduce vehicle operating speeds, particularly on local streets, in order to improve safety be reducing vehicular and pedestrian/cyclist conflicts
- Create a street system that promotes passive traffic calming and includes traffic calming features built in to the initial designs for local and collector roads.

strategic directions

1. Design the street network as an integral part and extension of the municipal grid, taking into consideration its future adjustments and evolution.
2. Design the street network based on a modified or offset grid to maximize choices of travel routes and opportunities for utility connections.
3. Design the street network in conjunction with the land use and open space system to ensure direct pedestrian and cycling connectivity to key destinations in the community (schools, shops, bus stops and stations, etc).
4. Examine opportunities to design the street network with more closely spaced arterial roads in order to minimize the need for very wide ROWs that can be perceived as community dividers and barriers to active transportation.
5. Ensure that a range of appropriate sized roadways complements the character and functional needs of each community area.
6. Implement traffic calming measures at the outset of road design for local and collector streets.
7. Use roundabouts that prioritize pedestrian and cyclist safety in appropriate functional locations.
8. Implement prescribed facilities from the 2013 Ottawa Pedestrian Plan (Section 4.1) and 2013 Ottawa Cycling Plan with development.
9. Avoid reverse frontage lots (rear yards abutting public streets) within a community.
10. Encourage representation from OC Transpo at pre-consultation meetings for plans of subdivision in order to incorporate transit planning into initial subdivision design.
11. Provide flexibility in zoning to accommodate a mix of land uses within a community, such as areas that allow live-work units or local commercial land uses.
12. To support housing affordability, encourage developers to “rough-in” utilities in basements in order to facilitate their future conversion to second dwelling units in single, semi-detached, and townhouse units.

action plan

1. Revise Urban Design Guidelines for Greenfield Neighbourhoods to promote the following in all new Community Design Plans and Plans of Subdivision, where appropriate:
   - A modified or offset grid street network is encouraged, in accordance with the Strategic Directions above;
   - Appropriate block lengths, in accordance with Strategic Directions;
   - Opportunities for live-work units and local commercial land uses.
2. Staff will work with applicants to identify pedestrian and cycling facilities and locations of traffic calming measures at the pre-consultation and circulation stage of new plans of subdivision, prior to draft plan approval. The agreed upon pedestrian and cycling facilities and traffic calming measures will be identified as draft plan of subdivision approval conditions. This way, the detailed designs can occur together, at the same time as the streets, and be approved prior to registration of plan of subdivision.
3. Work with OC Transpo to identify future transit routes, stops and stations in the initial design of new plans of subdivision.
4. Ensure zoning has the necessary flexibility to allow live-work and local commercial land uses, as identified in Strategic Direction 1.

preamble

As suburban communities become more dense, it is increasingly important to design neighbourhoods that give residents access to an appropriate range of parks and open space. This is fundamentally important to the health and well-being of residents, for the ability to protect trees and natural features, to support biodiversity, and to manage stormwater. Some challenges to improving parks and open space in new communities include:

- Determining the appropriate size, location, and distribution of parks and open space.
- Combining large open spaces with other uses such as schoolyards, to minimize land consumption.
- Using parts of open space for emergency stormwater management purposes.

implications of not changing the park and open space standards

- Lost opportunity to create accessible and convenient neighbourhood amenities around small open spaces, especially for seniors and families with young children.
- Inconsistent delivery of parks and open space for the community.

what we heard

Comments captured from workshops:

- Smaller, more 'urban' type parks are more costly to maintain.
- There are no City standards for parks smaller than 0.4 ha in size.
- The City typically does not give parkland credit for parks that are less than 0.4 ha in size.
- Plan for a built form that takes advantage of amenities and views resulting from adjacency to parks, open spaces, and stormwater management facilities.
- Plan for parks so they act as the focal points of their communities.
- Need for better integration between planning for natural systems, parks, and stormwater management facilities.

barriers to change

- A lack of agreement as to the nature, size, and design of suburban parks.
- The number of active sports fields may be reduced with the provision of more small parks or open spaces.
- Higher construction and maintenance costs associated with building smaller parks.

what is on the ground

Park pedestrian path

Integrated soccer field

Screened stormwater management facility

achieving sustainable development

- Role of parks and vegetation in improving air quality and health.
- Integrated parks and open space systems play a significant role in promoting physical activity and public health for people of all ages.
- Access to natural areas play a role in the education and healthy development of children and in the psychological health for people of all ages.
- Local parks (including parkettes and squares) and open spaces generally within a 5 minute walk from homes provide important pedestrian access for seniors and children.
- Parks and open spaces can provide permeable surfaces for storm-water infiltration.

precedents

Active neighbourhood park

Enhanced landscape

Framed public open spaces

Small park spaces

objectives

- **Achieve an accessible, connected and safe network of open spaces.**
- **Establish a hierarchy of parks and open spaces that reflects the needs of the community.**
- **Implement the park hierarchy and standards defined in the Park and Pathway Development Manual, but also consider smaller park typologies.**
- **Aim to achieve an urban tree canopy linking the green space system.**
- **Provide access to a range of parks and open space features within reasonable walking distances.**
- **Incorporate existing trees, woodlots, or hedgerows into new parks or open spaces wherever possible.**

strategic directions

1. **Investigate the conditions and criteria around adding new smaller park typologies to the Park and Pathway Development Manual.**

2. **Review existing metrics for accessibility/walking distance to all parks and open spaces that take into consideration health and age of residents.**

3. **Create street and lot patterns and building orientations that frame and enhance the presence of all parks, regardless of size.**

4. **Identify opportunities to connect separate features of the open space network (e.g. a park to a nearby woodlot) with streets that support canopy trees.**

action plan

1. Following the investigation of Strategic Direction #1, revise the Park and Pathway Development Manual to add an appropriate range of new smaller park typologies.

preamble

With the need to use land more efficiently, surface stormwater man agement (SWM) facilities provide the opportunity to be combined with other compatible uses. Conversely, there may be opportunities to provide stormwater functions within open space areas or within the road ROW. Among the questions to consider are:

- How can SWM facilities be better integrated within the overall Open Space System?
- How can SWM facilities be better accommodated in road ROWs?
- Can recreation facilities be accommodated within dry pond areas, and if so, is there a form of parkland credit that should be considered?
- Are there opportunities to introduce progressive design standards (i.e. Low Impact Development standards)?

what we heard

Comments captured from workshops:

- Publicly used open space and public amenities within stormwater management blocks are not eligible for parkland credit.
- With minimal frontage on public streets, stormwater management facilities often have little to no presence in new communities.
- It is difficult to incorporate low impact development standards in the design of large stormwater management facilities.
- Overland flow and storage of stormwater from adjacent uses is not permitted in public parks and City-owned woodlots.

implications of not changing approach to swm facilities

- More land area required for SWM facilities and related infrastructure.
- Increased risk of flooding and damage to private property.

barriers to change

- SWM facilities are still often seen as serving only one role.
- Understanding of the special circumstances related to stormwater management required for some areas in a neighbourhood.
- Perceived or real liability of publicly accessible SWM facilities.
- Lack of unanimous support for playing fields in dry pond areas
- Disagreements on treatment of watercourses - either as part of stormwater management or part of the parks or open space.

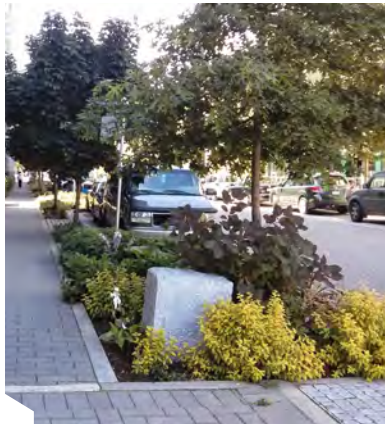
what is on the ground

Stormwater management facilities

achieving sustainable development

- SWM facilities provide opportunities for a linked and integrated open space network, supporting physical activity objectives.
- The reduction of stormwater flows through alternative capture methods reduces pond discharge to natural systems.
- Captured stormwater can support vegetation growth and biodiversity.

precedents



Integrated stormwater management features

Parks integrated with stormwater management facility

Open and accessible stormwater management facility

Residential units fronting and animating stormwater management facility

objectives

- **Re-consider use of parks and open space areas for emergency storage and conveyance of stormwater.**
- **Plan and design beautiful stormwater management ponds that are integrated into the open space system.**
- **Continue assessing creative and innovative ways to manage and reduce stormwater on a community wide basis, including consideration of using public open spaces.**

strategic directions

1. **Investigate ways of minimizing space attributed to SWM facilities.**
2. **Provide street frontage for sites that contain stormwater management ponds.**
3. **Ensure that land attributed to large SWM facilities can serve additional functions, such as recreation trails or multi-use paths as part of the open space system, and support the connection of trails in SWM facilities to parks and open spaces, and to pedestrian and cycling facilities.**
4. **Examine opportunities to reduce 'end of pipe' water volume discharge.**
5. **Examine opportunities for innovative stormwater management in new road ROW cross-sections, such as bioswales and integrated systems that support tree hydration.**
6. **Review best practices from former municipalities to determine improved stormwater management practices, and examine opportunities for emergency stormwater management in public open spaces and parks, where available.**

action plan

1. Consider the use of portions of parks and open space systems for emergency stormwater conveyance and storage, where appropriate.
2. Evaluate options for reducing land requirements associated with SWM functions.

preamble

School sites tend to be community hubs of activity and play an important role in contributing to the character and transportation patterns of a neighbourhood. The discussion around school sites is linked to that of parks and streets, and is grounded by principles such as the efficient use of land and the need to support active transportation.

There are four different school boards that operate in Ottawa, resulting in a number of different policies, regulations, agreements, and practices. This study provides an opportunity to review some of these issues and consider improvements that could lead to better neighbourhoods. Some of the questions to be considered include:

- How to design school sites to support the development of communities that are compact, walkable, attractive and safe for cycling, and transit-supportive?
- What is the appropriate relationship of school sites to parks?
- How to coordinate the planning, maintenance and operations of both schools and parks for maximum efficiency and community benefit?
- How to improve pedestrian and cycling safety to encourage active transportation trips to school?
- How to expand on existing agreements between the school boards and the City in order to reduce duplicate amenities and services and increase efficiencies?

what we heard

Comments captured from workshops:

- Too much land required for schools.
- Too much space required for drop-off areas.
- Need to implement greater greening of school yards and buildings.
- School sites need to promote active transportation.
- School sites and building designs need to support pedestrian friendly, compact communities.
- Trend towards larger schools with larger catchment areas.
- Trend towards separation of school and park blocks, due to various cost, maintenance, and operational issues.
- Diminished opportunity for walking requires more busing and driving.
- Opportunity to make temporary use of vacant school sites that have been optioned by school boards.

implications of not revising policies for school sites

- Potentially inefficient use of land
- Perpetuated silos of activity and duplication of facilities and amenities.
- Pedestrian and cyclist safety concerns around schools.

barriers to change

- Separate policies and practices of each school board.
- Lack of consensus around the benefits of combining schools and parks.
- Lack of ownership of the role of schools sites in supporting a child's daily physical activity needs.
- Liability issues of sharing facilities (e.g. playgrounds).

what is on the ground

Building and street frontage separated by large bus lay-bys

School building isolated from street edge

achieving sustainable development

- Schools that are safe and attractive for walking and cycling provide an important part of a child's daily exercise needs.
- Schools provide multiple uses and act as community hubs.
- Neighbourhood parks linked to schools provide both formal and in-formal sport and exercise opportunities.
- Shared facilities may reduce pressure on operations budgets.

precedents

School buildings framing the street - enhanced streetscape



Direct pedestrian connections to schools



High quality architecture - landmark buildings



Schools integrated with open space facilities

objectives

- **Promote the efficient use of land and compact built form.**
- **Prioritize pedestrian and cycling safety on streets around schools.**
- **Plan and design schools sites as part of the open space system.**
- **Consider expanding shared facility agreements that lead to improved efficiencies.**

strategic directions

1. Encourage the planning and design of school and park blocks as one comprehensive site and part of a neighbourhood's grid of streets and blocks.

2. Examine opportunities and best practices for incorporating existing trees or woodlots into functional spaces (e.g. natural play areas or outdoor classrooms) on school sites.

3. Work with school boards to minimize land requirements for school sites, including:

- Promote adjoining school and park sites where possible.
- Proactively seek out partners for facility partnerships and combined use agreements between the City and school boards (e.g. playgrounds, libraries, sports fields).
- Consider the requirement for multi-storey school buildings (minimum 2 storeys).
- Investigate options for more efficient bus lay-bys and student pick up / drop off areas.

4. Prioritize pedestrian and cycling safety by including traffic calming measures on streets abutting school sites at the outset of school and street design.

5. Review best practices for bicycle parking on school sites.

6. Consider ways to make temporary use of optioned school sites that will benefit the community while these sites are vacant.

action plan

1. Prioritize safe walking and cycling for children around schools by ensuring that plans of subdivision identify pedestrian and cycling facilities and traffic calming measures in appropriate locations in proximity to schools.
2. Review bicycle parking requirements for schools.
3. Develop a protocol to allow developers the opportunity to make temporary use of optioned school sites.
4. Work with school boards to develop new school site, location, and building policies and practices and/or guidelines, in accordance with the Strategic Directions above.

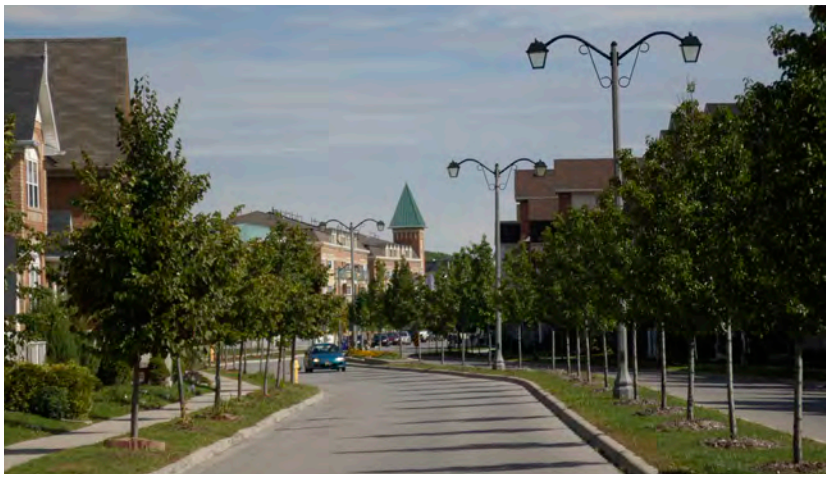

5. Parking
7. Rear Lanes
8. Trees
9. Utility Placement
6. Road Right-of-way

strategies for
building better and smarter suburbs

building better and smarter streets

Building Better and Smarter Streets includes five chapters that operate at a different scale than those under Building Better and Smarter Community Plans. The following chapters – Parking, Road Right-of-Way, Rear Lanes, Trees, and Utility Placement – focus on resolving spatial conflicts in the ROW or on adjacent lots and blocks. The problems are often technical in nature, but are guided by the approved Vision and Principles, which speak to streets and public spaces that are attractive, safe, inclusive, functional, and cost-effective. The challenge lies in matching the technical solutions to the vision in order to create better streets that ultimately lead to improved quality of life in new communities.

Many of the components of Building Better and Smarter Streets are conceptually identified in the facing diagram and are discussed in greater detail in next five chapters.



preamble

Suburban neighbourhoods with higher densities, narrower lots, and shorter building setbacks than in the past have led to a number of residential parking challenges. These include:

- Paving of front or side yard landscaped areas to accommodate parking.
- Using a garage for a purpose other than parking.
- Driveway lengths that are incompatible with vehicle dimensions, either resulting in insufficient space to park a vehicle in a driveway leading to a garage or carport, or instances of parked vehicles overhanging sidewalks or the road right-of-way.
- In some cases, garages are closer to the front property line than the front face of the dwelling, diminishing the quality of the streetscape.

Residential parking is also tied to visitor parking. For instance, smaller lots generally do not have the space to accommodate visitor parking on private property, forcing visitors to seek on-street parking. However, where there are narrow lots with frequent curb cuts and driveways, the distance between driveways is sometimes insufficient in length for on-street parking. Adding to these challenges is a lack of clarity amongst many residents as to where and when on-street parking is permitted, particularly during winter months.

what we heard

Comments captured from workshops:

- Inconsistent enforcement of infractions related to driveway widening.
- Setbacks to house/garage are too great - driveways and cars dominate the streetscapes.
- Setback to the garage is inadequate - cars hang over the sidewalk and interrupt pedestrian flow.
- Driveways are too wide for the front yard.
- Residential parking standards are too high at 1.2 vehicle spaces per lot.
- Lack of appropriate interior space in the garage for both car parking and storage needs.
- Garages that do not meet the minimum dimensions to accommodate larger vehicles.
- Lack of acceptance and consistent rules around on-street parking.
- People do not understand parking rules and feel entitled to park in front of their houses.
- Standards do not work year round.
- There are inconsistencies in parking regulations on residential streets.
- Where on-street parking is permitted, it is limited to 3 hours.
- Conflict between 24 hour on-street parking and snow removal.
- The City does not use on-street parking for calculation of visitor (or residential) parking.
- Narrow lots result in close spacing of driveways and limited capacity for on-street parking or snow storage.
- On-street parking provides traffic calming, but some residents see it as a safety hazard.
- Opportunity for bicycle parking to reduce the demand for visitor parking at public facilities.
- Consider innovative ways to provide visitor parking, such as a dedicated lot as a community parking facility instead of on-street parking.

implications of not changing approach to parking

- Short driveways can create conflicts with sidewalk users and contribute to pressure from residents to not build sidewalks.
- Front yard green space may be compromised.
- Wide driveways and curb-cuts limit on-street parking opportunities.
- Wide driveways diminish opportunities for tree planting and storm-water retention.
- Wide garages limit possibilities for habitable rooms in the front of the house which provide visual surveillance on the street (eyes on the street).
- Garage-dominated front building elevations diminish the quality of the streetscape.
- Roadway widths that anticipate on-street parking can end up having little or none, resulting in a wider street than necessary, which encourages speeding.
- Residents will continue to illegally pave the front lawn to be able to park second and third cars.
- Limits to on-street parking opportunities also limit potential traffic calming benefits.

barriers to change

- Demand for parking 2-3 cars on small lots.
- Public transit is not currently a convenient option in many suburban areas outside peak periods for commuter trips.
- Garages are used for storage, pushing parking to the driveway or street.
- On-street parking is occasionally not permitted overnight, and is limited during the day.
- Perception of inconsistent signage, interpretation, and enforcement of on-street parking.
- Managing parking demand transitions while moving from auto-dominated to transit-oriented suburbs.
- Resistance to accept and adopt permit parking and the associated rules, enforcement, and signage required.
- Resources required for implementing and enforcing new parking solutions.

what is on the ground

Driveways dominate front yards

Streetscape dominated by long and closely-placed driveways

On-street parking

Large areas of surface parking

Distance between driveways do not allow space for on-street parking

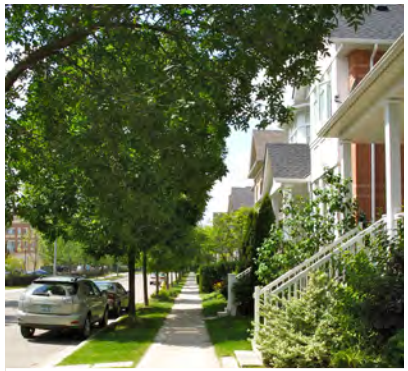
achieving sustainable development

- Appropriate driveway lengths and sidewalk locations reduce conflicts with pedestrians on the sidewalk, which supports active transportation.
- Controlling driveway widths increases permeable surfaces, increases stormwater retention, allows space for tree planting, and permits more habitable space in the front of the house which results in more eyes on the street and safer neighbourhoods.
- Controlling garage dominance on the front elevation encourages higher quality architecture to face the street and enhances streetscape quality.
- Traffic calming enhances safety and promotes active transportation.
- On-street parking can help maintain green space in front yards.

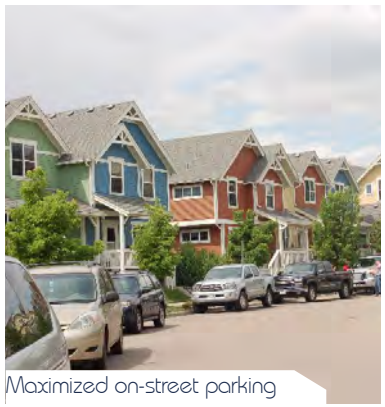
precedents

Enhanced front yard landscaping and shallow front yard setbacks

Paired driveways allow larger green areas



Enhanced pedestrian-oriented streetscapes



Maximized on-street parking

On-street parking coordinated with driveways

objectives

- Accommodate two cars per ground-oriented dwelling (one in-garage and one in-driveway in single-detached, semi-detached and townhouse units with driveways) while ensuring the visual predominance of front entrances and the inhabited parts of the residence.
- Minimize the potential for conflicts between sidewalk users and vehicles in driveways.
- Minimize driveway widening and lot area dedicated to driveways in order to maximize space for tree planting, landscaping, and stormwater retention.
- Use on-street parking as a traffic calming measure on streets already wide enough to accommodate on-street parking.
- Accommodate on-street residential parking for multiple car households with a permit system, in order to reduce the need to pave front yards.

strategic directions

1. Develop criteria to determine where street-accessed parking and rear-accessed parking are appropriate.
2. Where street-accessed parking is appropriate, establish setbacks that will allow a vehicle to be parked in front of the garage or carport, while preventing the visual prominence of garages on the streetscape.
3. Determine appropriate driveway width based on lot width; provide range of options.
4. Consider minimum parking space dimensions inside garages to ensure they can function as intended, to park vehicles.
5. Consider options for multi-car households through the on-street residential parking permit program, and seek to provide adequate curbside parking supply by ensuring sufficient space between driveways (single or paired), or the use of rear lanes or buildings with parking at rear, where appropriate.
6. Encourage on-street parking on all local and collector streets, including 24 hour on-street parking with permits.
7. Consider alternating on-street parking on each side of the street during winter, to assist in snow removal.

action plan

1. Revise parking and setback provisions in the zoning by-law:
   - Minimum setback between garage or carport and sidewalk (or curb where there will be no sidewalk) to ensure sufficient parking space for one vehicle in a driveway leading to a garage or carport;
   - Consider minimum parking space dimensions inside garages, in consultation with the development industry.
   - Consider reducing garage projections where the zoning by-law allows a garage or carport to be closer to the front lot line than the front wall of a dwelling. This will include a consideration of linking the permission for such projections to the provision of architectural features that can mitigate the impact of garage projections on the quality of the streetscape.
2. Consider the introduction of new zoning regulations:
   - Link lot width to front parking access permission, which may require very narrow townhouse lots to have rear lane or rear-access parking.
   - Minimum spacing between driveways and curb-cuts in order to allow at least one on-street parking space between driveways or paired driveways.
3. Include in the purchase/sale agreement an information package to provide awareness and clarity of expectations regarding parking, transit, and pedestrian and cycling facilities.
4. Complete On-Street Permit Parking Policy Review and make recommendations to revise on-street permit parking program if appropriate.

preamble

Roads are an integral component of new communities. They are a major component of the public realm, serve as vehicular and active transportation routes, and accommodate key infrastructure. As such, the design of the right-of-way (ROW) should support multiple community objectives, such as multi-modal transportation, provision of utilities, and space for trees and stormwater management. However, there is increased competition for space in the ROW, and pressure to minimize the amount of infrastructure that needs to be maintained by the City. As a result, there is a need to re-examine space requirements in the ROW and consider opportunities for new efficiencies. ROW elements to consider include:

- Accommodation of utilities.
- Appropriate space for snow storage.
- On-street parking.
- Sufficient space for healthy trees.
- Width requirements for vehicle travel lanes.
- Accommodation of all modes of transportation.
- Traffic calming.
- Stormwater management.

what we heard

Comments captured from workshops:

- The City's 16.5m right-of-way, as currently configured, is too narrow and reduces the opportunity for snow storage, on-street parking, and street trees.
- Wider right-of-ways are required on some roads to accommodate bus routes.
- No consistent approach to the provision and location of sidewalks.
- Where sidewalks are located at the curb, snow storage is not accommodated.
- Lack of a large enough palette of right-of-ways to choose the most appropriate road type to suit the context of the local neighbourhood.
- Building setbacks accentuate the perception of wider roads.
- Speeding is a recurring issue on many local streets.
- Curb radii on local streets is often excessive and encourages speeding.

implications of not building better road ROWs

- Lost opportunity to use streets as a component of the public realm with trees and sidewalks.
- Lack of trees, sidewalks and cycling facilities discourage active transportation.
- Excessive road width encourages speeding and increases snow clearing costs.

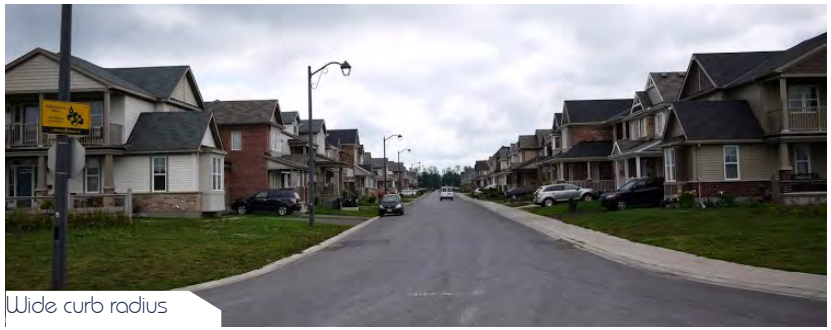
barriers to change

- Limited selection of existing approved street types.
- Alignment of road standards with new higher density and compact communities.
- Trend towards wider vehicle lane widths and resistance to change back to narrower widths.
- More space-efficient designs for utilities may result in higher maintenance costs for some utility providers.
- Inherent difficulty of working with multiple parties that have different jurisdictions and safety standards in order to determine acceptable compromises on setbacks and utility clearances.

what is on the ground

No sidewalks

Wide right-of-ways



Wide curb radius

Poor front yard landscaping - uninviting streetscapes

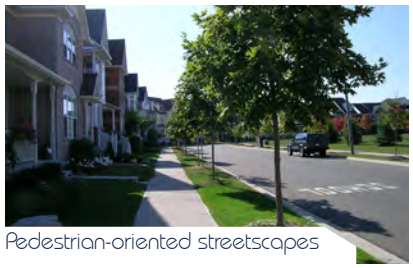
achieving sustainable development

- Complete streets that include trees and sidewalks support active transportation.
- Street trees reduce heat island effect and stormwater run-off.
- Innovative stormwater management in the ROW can reduce storm-water demand on piped infrastructure and improve water quality.

precedents

Sustainable streetscapes

Inclusive streetscapes



Pedestrian-oriented streetscapes

Complete street: trees, sidewalk, enhanced front yards and lighting

objectives

- **Balance the needs of all elements within the street right-of-way.**
- **Ensure a range of street cross-sections that are appropriate for the application, area, and community design context.**
- **Create complete streets that accommodate all modes of transportation.**
- **Create street environments that enhance safety and livability.**
- **Create beautiful tree-lined streets as a key component of the public realm.**
- **Accommodate stormwater management strategies in the ROW.**

strategic directions

1. **Add a series of new ROW cross-sections that respond to built form context, better accommodate street trees, and address items 2 to 9 below.**
2. **Consider adding an extra narrow ROW for a one-way street design.**
3. **ROW cross-sections, roadway widths, and design speeds should respond to built form and land use context.**
4. **Ensure new cross-sections consider offset geometry and differences between ROW width versus paved road width.**
5. **Reduce width of vehicle travel lanes in new ROW cross-sections.**
6. **Accommodate public transit and related amenities in the design of streets with existing or anticipated transit service.**
7. **Implement traffic calming measures (such as those in the Canadian Guide to Neighbourhood Traffic Calming) at the outset of road design for local and collector streets.**
8. **Allow for increased storage of stormwater volumes within the ROW, taking into consideration opportunities to use bioswales for tree hydration.**
9. **Determine preferred sizes and locations for combined mail boxes in the right-of-way that support active transportation and safety, and reduce the creation of short vehicular trips.**
10. **Ensure components of a 'complete street' are provided in the ROW, such as:**
    - Pedestrian facilities;
    - Cycling facilities;
    - On-street parking;
    - Traffic calming features;
    - Trees on both sides of the street, including canopy trees;
    - Utility placement and operational considerations that do not interfere with the attributes of complete streets.

action plan

1. Develop a series of new right-of-way cross sections that will expand the menu of approved street types in order to give additional options for street designs in new plans of subdivision. New street types to consider include:
   - Local and collector streets that accommodate street trees on both sides of the street within the right-of-way.
   - Streets that accommodate canopy trees.
   - Local street or street segment with a reduced design speed to discourage speeding and improve safety.
   - Local and collector streets with reduced vehicle lane widths and traffic calming measures
   - Local and collector streets with innovative stormwater management strategies.
   - Local and collector Green Streets, used to connect components of the Urban Greenspace Network, as described in the approved Greenspace Master Plan and Road Corridor Planning and Design Guidelines.
   - Arterial roads designed for street-front retail uses that accommodate on-street parking and cycling facilities.
   - Complete Streets that best accommodate all road users, where appropriate, as recommended by the Complete Streets policies in the Transportation Master Plan.
2. Determine design speed of all new ROW cross-sections based on adjacent future land use so that vehicle operation speeds are appropriate for all users of the street.
3. Implement Ottawa Pedestrian Plan 2013 policy requiring a low speed street design for streets where pedestrian facilities are not provided.
4. Develop new illustrations for each road type to show cross sections as plans and 3D images, to reinforce the relation among all considerations (e.g. building, driveway, landscape, utilities, etc).
5. Revise the Urban Design Guidelines for Greenfield Neighbourhoods to identify preferred criteria for community mailboxes in accordance with Strategic Direction 9.
6. Update Greenspace Master Plan to include more detailed specifications for Green Streets.

preamble

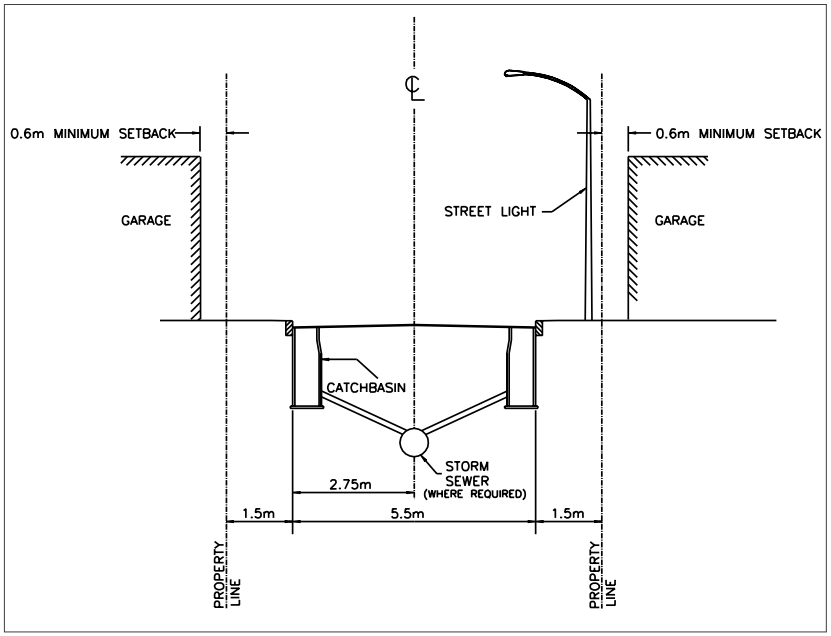
Rear lanes are a traditional yet innovative street option that creates greater opportunity for on-street parking and street tree planting without the interruption of driveways. Rear lanes support the location of buildings closer to the street, which can result in attractive, tree-lined, pedestrian streetscapes. The lack of driveways directly onto the streets also improves safety by reducing the number of vehicles entering and exiting driveways, which is especially important on transit corridors and streets with busy public facilities. However, challenges include:

- Whether lanes should be City-owned or privately-owned (maintenance and operations).
- Perceived safety issue.
- Loss of amenity space in rear yard.
- Parking procedures in rear lanes and resulting parking enforcement.
- Snow and stormwater storage and clearing/conveyance.
- Potential for increased maintenance costs.
- Increase in impermeable surfaces.
- Location of utilities in rear lanes.

what we heard

Comments captured from workshops:

- Parking in the rear lanes hinders circulation/access.
- Rear lanes are used as ‘short-cuts’.
- Speeding occurs in rear lanes.
- Rear lanes are too wide, feel like roads.
- Rear lanes are too narrow.
- Garbage handling/collection is safer from a rear lane.
- City acceptance of rear lanes has been hindered by questions around cost and maintenance.
- City does not have the resources to pay for snow removal in rear lanes.
- Need to resolve stormwater and snow storage issues in rear lanes.



Current standard: 8.5m lane - section

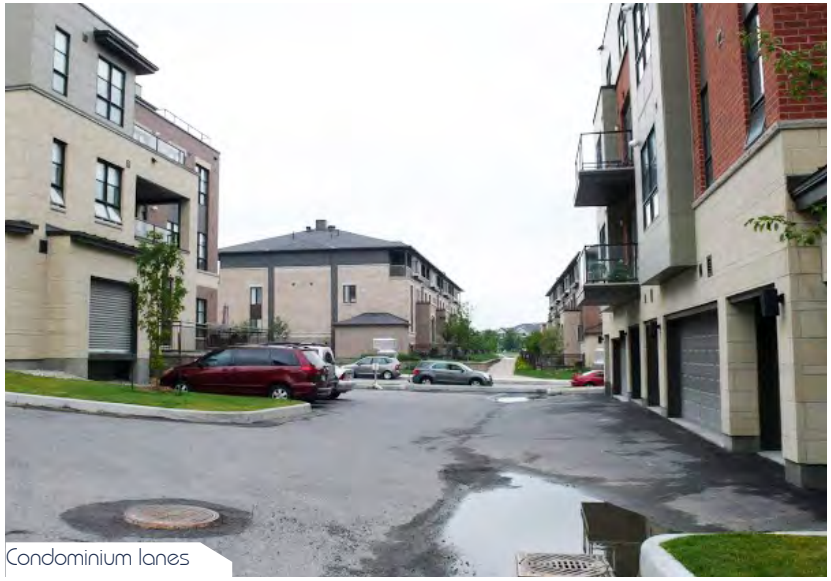
implications of not changing approach to rear lanes

- On townhouse blocks and smaller lots, driveways dominate the front yard and reduce habitable rooms facing the street.
- Front yard driveways reduce supply of on-street parking.
- Tree planting areas within the boulevard are limited.
- Excessive car parking in the front yard diminishes the quality of the streetscape.

barriers to change

- Resistance due to lack of understanding that rear lanes are site/block specific solutions based on need, and may not necessarily be applied neighbourhood wide.
- Snow removal will require storage areas or trucking snow after major snowfalls.
- Utility companies may have to consider revised standards.
- Lack of consensus on standards and their application across the City.
- Concern about the cost of maintenance without consideration of benefits of lanes.
- Where rear lanes are private: concerns around additional maintenance costs for homeowners.
- Differing interpretations by builders on the use of lanes and uncertainties around market acceptance.

what is on the ground



Condominium lanes

Townhouse block lane

achieving sustainable development

- Lanes are an important component of building complete communities and better suburbs.
- Lanes support safer sidewalks, which promote walkability and healthier lifestyles.
- Lanes enable more efficient use of front yards for enhanced permeability and more opportunities to create urban tree canopy.
- Lanes free up the home's front elevation and permit habitable rooms to face the street.

precedents

Landscaped lane

Upgraded townhouse block lanes

Enhanced streetscape on block with rear lane

Rear lane as informal community amenity space

objectives

- **Promote higher density development and compact form with less impact on the streetscape.**
- **Enhance the streetscape by removing cars from the front face of the house and maximize the living space overlooking the street.**
- **Consider rear lanes in areas where front yard driveways could conflict with adjacent land uses, such as school sites.**
- **Resolve snow and stormwater storage and conveyance concerns.**
- **Examine potential to place some underground utilities in rear lanes.**
- **Maximize green space and opportunities for tree planting and landscaping.**

strategic directions

1. **Determine locations where rear lanes or development with rear-access parking (e.g. townhouse or stacked townhouse blocks with limited curb-cuts and driveway access, and parking at the rear of each dwelling unit) are appropriate. For example, locations may include lots facing schools, parks, community centres, and on major collector and arterial roads.**
2. **Analyze budgetary implications and community design benefits of City ownership of lanes; evaluate model of private lane ownership with public pedestrian easement.**
3. **Determine which utilities can and should be located in rear lanes.**
4. **Revisit design for rear lane blocks in order to improve snow and stormwater storage and conveyance issues.**

action plan

1. Revise Urban Design Guidelines for Greenfield Neighbourhoods and Zoning By-law to provide a framework for rear lanes or development with rear-access parking, according to findings from Strategic Directions.
2. Develop longitudinal ROW cross-sections, block design standards, and zoning regulations for lanes that incorporate functional requirements for utilities and maintenance and design specifications for low speeds, maximum block lengths, rear setbacks and off-lane parking, stormwater management, and snow storage.
3. Develop new lane cross-section based on a narrower width than 8.5 metres (potentially one-way) for use where feasible.

preamble

Trees contribute to the sustainability and beauty of our communities. They provide environmental benefits and are fundamental elements of great streetscapes. There have been challenges in the past to planting trees in new communities which have resulted in 'tree-less' streetscapes and uninviting neighbourhoods. The factors contributing to this condition include:

- Competition for space within the ROW.
- Ongoing geotechnical issues related to soils.
- Limited options for planting large canopy trees.

what we heard

Comments captured from workshops:

- There is diminished tree canopy and species diversity throughout Ottawa, partly due to invasive species, disease and development.
- Trees are not being planted in appropriate growing conditions or soil volume.
- Restrictions are imposed on tree planting regarding setbacks and utility placement.
- Tree planting in suburban areas has been limited or put on hold for too long due to the ongoing assessment on the effect of trees on marine clay soils.
- Predominantly small trees or large shrubs are used in areas of marine clay soils in the City of Ottawa; these will never achieve a connected canopy.
- Marine clay soils are located throughout much of Ottawa. They have been blamed for causing soil subsistence, which has resulted in damage to building foundations.
- The City has developed tree planting guidelines based on recommendations from geotechnical engineers.
- Developers do not get credit for trees on private property if they are not planted in the road right-of-way.
- Although aesthetically better to plant trees in boulevards, it results in higher maintenance costs and reduces health and survival of trees.
- Need to prioritize tree retention before new tree planting.
- Place more emphasis on tree maintenance, especially watering of young trees, rather than planting a specific number of trees.

implications of not improving tree planting

- Important aesthetic, environmental and psychological benefits of trees are lost or reduced for new communities.
- Microclimates susceptible to the urban heat island effect are not improved.
- Increased stormwater flows to catch basins, with reduced ground infiltration
- Unmitigated wind corridors.
- Decreased wildlife habitat.

barriers to change

- Plans of Subdivision frequently lack sufficiently detailed geotechnical information on clay soils to determine applicability of Clay Soils Policy.
- Lack of flexibility in current Clay Soils Policy to account for variations in plasticity and sensitivity of clay soils in different parts of the City.
- Misunderstanding of importance of both soil quality and soil quantity in supporting trees.
- Misunderstanding of the impact of reduced lot size, narrowing of ROW widths and the Clay Soils Policy on ability to achieve Official Plan and Design Guidelines objectives regarding the planting of street trees.
- Inability to have a balanced discussion on the significant benefits of tree canopies in neighbourhoods versus competition for other uses within the ROW.
- Large complete tree canopies could limit street lighting levels on the roadways.

what is on the ground

Minimal tree planting

Tree-less streetscapes

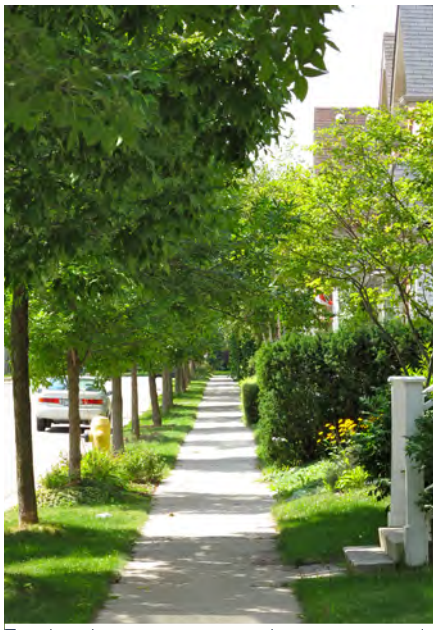
achieving sustainable development

- Trees and landscaped areas absorb water runoff that is otherwise directed to road surfaces and into piped infrastructure.
- Mature trees enhance property values.
- Tree canopies reduce heat island effect and improve energy conservation.
- Street trees enhance active transportation opportunities and con-tribute to traffic calming.
- Trees improve air quality and public health.
- Appropriate tree species planting improves passive solar opportunities.

precedents

Landscape promenades

Enhanced urban canopy



Tree-lined streetscapes - pedestrian-oriented environments

objectives

- **Ensure sufficient space for healthy trees in the ROW.**
- **Resolve the issue of tree planting in marine clay soils with technical solutions that will allow larger and more diverse street trees.**
- **Expand the urban forest and enhance its biodiversity.**
- **Select appropriate tree species for the local environment.**
- **Achieve suitable conditions to ensure mature tree development.**

strategic directions

Street Trees

1. In new ROW cross-sections, ensure conditions to support healthy street trees, including canopy trees, in the ROW.

2. Implement tree planting strategies identified in the Street Tree Manual for Greenfield Neighbourhoods (to be approved in early 2015).

Preservation of Existing Trees

3. Where appropriate, incorporate retained tree stands or woodlots in parks and open spaces.

4. Improve retention of healthy trees and treed areas in new neighbourhoods.

action plan

1. Finalize design options that will consolidate utilities in new ROW cross-sections in order to provide greater space for trees.
2. Update the submission requirements for geotechnical assessments for Plans of Subdivisions to include more precise parameters for determining the type (plasticity and sensitivity) of clay soil that may be present.
3. Investigate options to revise the existing Clay Soils Policy once more precise geotechnical information on clay soils becomes available (Action Plan 2). Use this information to bring flexibil ty to the Clay Soils Policy where less sensitive clay soils are present in order to expand the allowed tree species and reduce minimum setbacks between trees and building foundations. This may include the use of soil cells and/or root barriers.
4. In the development of new ROW cross-sections, include consideration of new street tree species recommended in the Street Tree Manual for Greenfield Neighbourhoods (to be approved in early 2015).
5. Review options for giving developers credit for retaining and/or transplanting mature trees in new plans of subdivision.

preamble

The placement of above and below ground utilities is influenced by many factors, including available space in the ROW, the required clearances between utilities, and the design of utility trenches and related infrastructure. With increasing densities and compact development, the accommodation and coordination of all elements within the ROW present many challenges, including:

- Competing space requirements for sidewalks, trees and utilities.
- Setbacks and minimum clearances from utilities and the prioritization of space for utilities over other features such as street trees.
- Design standards for some utilities have not been updated to reflect higher densities.

what we heard

Comments captured from workshops:

- Trees are losing out to infrastructure for above and below ground utilities.
- Above-ground utilities have a negative visual impact on the streetscape.
- Developers would like to plant more trees along the streets, if the utility alignments allow it.
- There is a potential to have differing cross-sections along a single road depending on land use.
- The City's current requirements typically result in providing 18m road right-of-ways, despite the desire for higher densities and more compact developments.

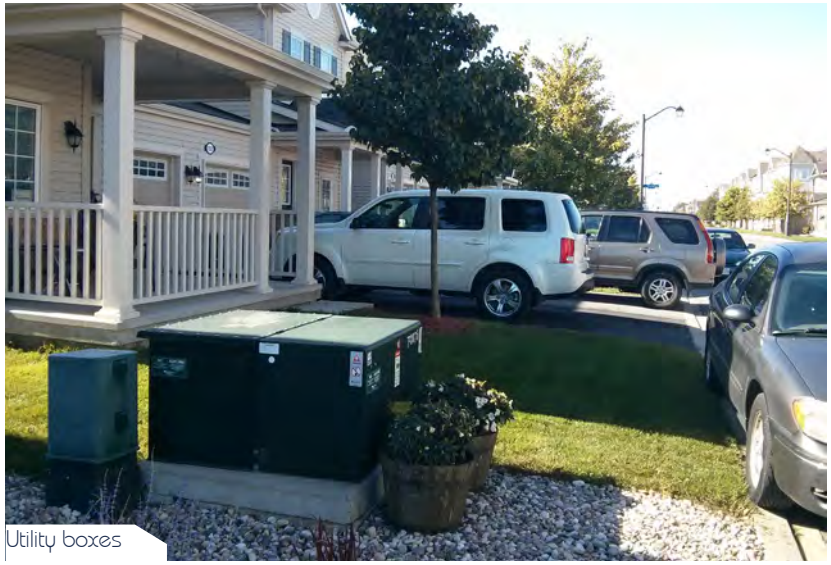
implications of not changing approach to utilities

- Increased stress on already limited right-of-way and front yard space.
- Unnecessarily wide ROWs and associated problems (e.g. speeding).
- Circumstances where street trees cannot be planted because of a lack of remaining space in the ROW.

barriers to change

- Risk management and liability concerns.
- Established local practices.
- Impacts on maintenance costs.

what is on the ground



Utility boxes

Exposed utilities

achieving sustainable development

- More efficient use of space for utilities will support more appropriate size ROWs, as well as more and healthier street trees.

precedents

Buried hydro cables

Light poles integrated to streetscape design

Combined utilities in Trafalgar Pole

objectives

- **Balance the needs of all elements within the street right-of-way.**
- **Wherever possible, combine location of services to minimize space requirements in ROW.**
- **Locate utilities to be compatible with urban design objectives.**
- **Minimize the impact of utilities on the streetscape.**

strategic directions

1. **Favour design solutions that make all utilities and infrastructure (except traffic signals and fire hydrants) as invisible as possible.**
2. **Find design solutions that accommodate all utilities using less space in the ROW (e.g. joint utility trench) while ensuring sufficient space for street trees.**
3. **Minimize the numbers of utilities crossing soil trenches for trees.**
4. **Ensure utility placement and network design can accommodate increasing densities without compromising service quality and safety standards.**
5. **Combine above-ground utilities to reduce their visual impact on the streetscape.**
6. **Continue to support the burial of overhead wires on new roads.**

action plan

1. Establish Working Group that will produce new ROW cross-sections that accommodate all infrastructure within the ROW, including trees and all utilities.
2. Determine the minimum achievable clearances for all utilities.

5 implementation strategies

Building better and smarter suburbs is the shared responsibility of:

- **The City of Ottawa**
- **Public agencies**
- **The community and residents**
- **The development industry**

action plan

The Building Better and Smarter Suburbs Action Plan ensures that the ideas in this report lead to tangible action items and deliverables. It ties every Action Plan item in each of the nine chapters in Section 4 to one or more specific implementation strategies outlined below and identified in the Action Plan Summary Table at the end of this report.

The Action Plan contains four different types of implementation strategies:

- **Quick Wins**
- **Revisions to Guidelines or Policies**
- **Zoning Studies**
- **Working Groups**

This Action Plan recommends Quick Wins to be completed throughout 2015, while the Revisions to Policies and Guidelines, Zoning Studies, and Working Groups are larger collaborative endeavors that have a Term of Council timeline (2015-2018). Each one of the implementation strategies will take into account the City's Comprehensive Asset Management Policy and seek to balance the long-term affordability of City-owned assets with the City-building objectives in the Official Plan.

Quick Wins (2015)

Update submission requirements for new plans of subdivision:

- Build traffic calming measures as part of initial road construction
- Update on-street parking policies to make it easier to apply for special parking permits.
- Revise Zoning By-law to better accommodate residential parking.
- Add information to purchase/sale agreements of new homes to clarify parking regulations and transportation options.
- Involve OC Transpo earlier in the design of new plans of subdivision.
- Require better analysis of marine clay soils in order to bring fle ibility to tree planting restrictions.
- Incorporate dry ponds into park design.

Revisions to Guidelines or Policies

Some of the Action Plan items are important high level principles that require some flexibility to be applied on a site by site basis. These concepts are best introduced through revisions to existing guidelines, which are applied to Community Design Plans and Plans of Subdivision. Most relevant will be revisions or additions to the Urban Design Guidelines for Greenfield Neighbourhoods, the Marine Clay Soils Policy, and the Park and Pathway Development Manual. Some of the topics to address include:

- Modified or offset grid.
- Spacing of arterial roads and block sizes.
- Rear lanes or buildings with parking at rear.
- Reverse frontage lots.
- Locations for community mail boxes.
- Tree planting restrictions in marine clay soils.
- Smaller park typologies (<0.4 ha).

Zoning Studies

The Action Plan items recommend a review of certain zoning issues that require separate study and consultation, which include:

- Flexible zoning in new subdivisions to allow live-work and local commercial land uses
- Minimum parking space dimensions inside garages
- Maximum garage projections
- Minimum distance between driveways
- New block designs for rear lanes

Working Groups

1. **Streets:** Road ROW Cross-Sections, Street Trees, and Utilities.
    - Chair: Phil Landry, Manager, Traffic Services Branch, Public Works Department.
    - Develop new ROW cross-sections that reconcile numerous elements, including: utility placement, street trees, stormwater management, snow storage, design speeds, vehicle lane widths, traffic calming

2. **Parks:** Parks, Stormwater Management and Tree Retention.
    - Chair: Fel Petti, Manager, Development Review, Suburban Services Unit, Planning and Growth Management.
    - Issues include: emergency stormwater conveyance and storage in parks and open spaces, improved retention of existing trees, new typologies for smaller parks, and increased flexibility to the Clay Soils Policy where soil conditions allow it.

3. **Schools:** School sites.
    - Chair: Lee Ann Snedden, Manager, Policy Development and Urban Design, Planning and Growth Management.
    - Timeline: 2015-2016.
    - Some of the challenges and opportunities to discuss with school boards include: multi-storey schools, pedestrian and cycling facilities, traffic calming, temporary use of optioned school sites, Shared Facilities and Community Use agreements, bus lay-bys and student pick-up/drop off areas, tree and woodlot retention in school sites.

Timing and Terms of Reference for Working Groups

The Terms of Reference and the technical solutions to be recommended by each Working Group will adhere to the Strategic Directions and Action Plan items contained in this document and the approved Building Better and Smarter Suburbs Vision and Principles. Each Terms of Reference will receive input from group members and be approved by the Building Better and Smarter Suburbs Steering Committee and Councillor Sponsors. Any competing interests between members of a Working Group will be resolved by the Chair (in accordance with the Vision and Principles and Strategic Directions and Action Plans), and if necessary, in consultation with the Project Steering Committee and Councillor Sponsors.

The Terms of Reference for each Working Group will clearly outline the following:

- Chair and membership
- Background, Purpose, Objectives
- Time commitments (meeting frequency and duration)
- Project timeline
- Deliverables
- Resource requests

Action Plan Summary Table

The following summary table lists each Action Plan item in the order it appears in this report, along with its timeline and implementation strategy.

Location of Action Plan Item in Report	Details of Action Plan Item	Timeline		Implementation Strategy
		2015	2015-2018	
Street Network and Land Use #1	Revise Urban Design Guidelines for Greenfield Neighbourhoods to promote the following in all new Community Design Plans and Plans of Subdivision, where appropriate: • A modified or offset grid street network, in accordance with the Strategic Directions above; • Limit block lengths, in accordance with Strategic Directions; • Opportunities for live-work units and local commercial land uses.		✓	Revisions to Guidelines and Policies
Street Network and Land Use #2	Staff will work with applicants to identify pedestrian and cycling facilities and locations of traffic calming measures at the pre-consultation and circulation stage of new plans of subdivision, prior to draft plan approval. The agreed upon pedestrian and cycling facilities and traffic calming measures will be identified as draft plan of subdivision approval conditions. This way, the detailed designs can occur together, at the same time as the streets, and be approved prior to registration of plan of subdivision.	✓		Quick Wins
Street Network and Land Use #3	Work with OC Transpo to identify future transit routes, stops and stations in the initial design of new plans of subdivision.	✓		Quick Wins
Street Network and Land Use #4	Ensure zoning has the necessary flexibility to allow live-work and local commercial land uses, as identified in Strategic Direction 11.		✓	Zoning Studies
Parks and Open Space #1	Following the investigation of Strategic Direction #1, revise the Park and Pathway Development Manual to add an appropriate range of new smaller park typologies.		✓	Revisions to Guidelines and Policies and Parks Working Group
Stormwater Management #1	Consider the use of portions of parks and open space systems for emergency stormwater conveyance and storage, where appropriate.		✓	Parks Working Group
Stormwater Management #2	Evaluate options for reducing land requirements associated with SWM functions.		✓	Parks Working Group
Stormwater Management #3	Review options for incorporating dry ponds into park design	✓		Quick Wins

Location of Action Plan Item in Report	Details of Action Plan Item	Timeline		Implementation Strategy
		2015	2015-2018	
School Sites #1	Prioritize safe walking and cycling for children around schools by ensuring that plans of subdivision identify pedestrian and cycling facilities and traffic calming measures in appropriate locations in proximity to schools.	✓		Quick Wins
School Sites #2	Review bicycle parking requirements for schools.		✓	Schools Working Group
School Sites #3	Develop a protocol to allow developers the opportunity to make temporary use of optioned school sites.		✓	Schools Working Group
School Sites #4	Work with school boards to develop new school site, location, and building policies and practices and/or guidelines, in accordance with the Strategic Directions above.		✓	Schools Working Group
Parking #1	Revise parking and setback provisions in the zoning by-law: • Minimum setback between garage or carport and sidewalk (or curb where there will be no sidewalk) to ensure sufficient parking space for one vehicle in a driveway leading to a garage or carport; • Consider minimum parking space dimensions inside garages, in consultation with the development industry. • Consider reducing garage projections where the zoning by-law allows a garage or carport to be closer to the front lot line than the front wall of a dwelling. This will include a consideration of linking the permission for such projections to the provision of architectural features that can mitigate the impact of garage projections on the quality of the streetscape.		✓	Zoning Studies
Parking #2	Consider the introduction of new zoning regulations: • Link lot width to front parking access permission, which may require very narrow townhouse lots to have rear lane or rear-access parking. • Minimum spacing between driveways and curb-cuts in order to allow at least one on-street parking space between driveways or paired driveways.		✓	Zoning Studies
Parking #3	Include in the purchase/sale agreement an information package to provide awareness and clarity of expectations regarding parking, transit, and pedestrian and cycling facilities.	✓		Quick Wins
Parking #4	Complete On-Street Permit Parking Policy Review and make recommendations to revise on-street permit parking program if appropriate.	✓		Quick Wins

Location of Action Plan Item in Report	Details of Action Plan Item	Timeline		Implementation Strategy
		2015	2015-2018	
Road Right-of-Way #1	Develop a series of new right-of-way cross sections that will expand the menu of approved street types in order to give additional options for street designs in new plans of subdivision. New street types to consider include: • Local and collector streets that accommodate street trees on both sides of the street within the right-of-way. • Streets that accommodate canopy trees. • Local street or street segment with a reduced design speed to discourage speeding and improve safety. • Local and collector streets with reduced vehicle lane widths and traffic calming measures. • Local and collector streets with innovative stormwater management strategies. • Local and collector Green Streets, used to connect components of the Urban Greenspace Network, as described in the approved Greenspace Master Plan and Road Corridor Planning and Design Guidelines. • Arterial roads designed for street-front retail uses that accommodate on-street parking and cycling facilities. • Complete Streets that best accommodate all road users, where appropriate, as recommended by the Complete Streets policies in the Transportation Master Plan.		✓	Streets Working Group
Road Right-of-Way #2	Determine design speed of all new ROW cross-sections based on adjacent future land use so that vehicle operation speeds are appropriate for all users of the street.		✓	Streets Working Group
Road Right-of-Way #3	Implement Ottawa Pedestrian Plan 2013 policy requiring a low speed street design for streets where pedestrian facilities are not provided.		✓	Streets Working Group
Road Right-of-Way #4	Develop new illustrations for each road type to show cross sections as plans and 3D images, to reinforce the relation among all considerations (e.g. building, driveway, landscape, utilities, etc).		✓	Streets Working Group
Road Right-of-Way #5	Revise the Urban Design Guidelines for Greenfield Neighbourhoods to identify preferred criteria for community mailboxes in accordance with Strategic Direction 9.		✓	Revisions to Guidelines and Policies
Road Right-of-Way #6	Update Greenspace Master Plan to include more detailed specifications for Green Streets.		✓	Revisions to Guidelines and Policies

Location of Action Plan Item in Report	Details of Action Plan Item	Timeline		Implementation Strategy
		2015	2015-2018	
Rear Lanes #1	Revise Urban Design Guidelines for Greenfield Neighbourhoods and Zoning By-law to provide a framework for rear lanes or development with rear-access parking, according to findings from Strategic Directions.		✓	Revisions to Guidelines and Policies and/or Zoning Studies
Rear Lanes #2	Develop longitudinal ROW cross-sections, block design standards, and zoning regulations for lanes that incorporate functional requirements for utilities and maintenance and design specifications for low speeds, maximum block lengths, rear setbacks and off-lane parking, stormwater management, and snow storage.		✓	Streets Working Group and/or Zoning Studies
Rear Lanes #3	Develop new lane cross-section based on a narrower width than 8.5 metres (potentially one-way) for use where feasible.		✓	Streets Working Group
Trees #1	Finalize design options that will consolidate utilities in new ROW cross-sections in order to provide greater space for trees.		✓	Streets Working Group
Trees #2	Update the submission requirements for geotechnical assessments for Plans of Subdivisions to include more precise parameters for determining the type (plasticity and sensitivity) of clay soil that may be present.	✓		Quick Wins
Trees #3	Investigate options to revise the existing Clay Soils Policy once more precise geotechnical information on clay soils becomes available (Action Plan 2). Use this information to bring flexibility to the Clay Soils Policy where less sensitive clay soils are present in order to expand the allowed tree species and reduce minimum setbacks between trees and building foundations. This may include the use of soil cells and/or root barriers.		✓	Revisions to Guidelines and Policies
Trees #4	In the development of new ROW cross-sections, include consideration of new street tree species recommended in the Street Tree Manual for Greenfield Neighbourhoods (to be approved in early 2015).		✓	Streets Working Group
Trees #5	Review options for giving developers credit for retaining and/or transplanting mature trees in new plans of subdivision.		✓	Parks Working Group
Utility Placement #1	Establish Working Group that will produce new ROW cross-sections that accommodate all infrastructure within the ROW, including trees and all utilities.		✓	Streets Working Group
Utility Placement #2	Determine the minimum achievable clearances for all utilities.		✓	Streets Working Group

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6 appendix: suburban design framework

background documents

The design of new suburban communities is guided by a long list of existing policies, plans, by-laws, guidelines, and master plans, as well as important stakeholders with their own policies and regulations. Other ongoing initiatives may come into play as developers anticipate new regulations and guidelines. To appreciate the breadth of this design framework, a sample of relevant documents, studies, and list of key stakeholders is provided below.

Policies and Plans

- Official Plan
- Secondary Plans
- Community Design Plans
- Comprehensive Asset Management Policy

By-laws

- Zoning By-law
- Private Approach By-law
- Traffic and Parking By-law
- Residential On-Street Parking Permit Policy
- Winter Parking Restrictions
- Driveway Zoning Study (ongoing)
- Encroachment and Management Policies for Urban Lanes

Master Plans / Design Guidelines

- Transportation Master Plan
- Ottawa Pedestrian Plan
- Ottawa Cycling Plan
- Infrastructure Master Plan
- Greenspace Master Plan
- Urban Design Guidelines for Greenfield Neighbourhood
- Park and Pathway Development Manual
- Road Corridor Planning and Design Guidelines
- Sewer Design Guidelines

- Water Design Guidelines
- Traffic Calming and Management
- Construction Details
- Street Cross Sections
- Urban Tree Conservation By-Law
- Trees and Sensitive Marine Clay
- Tree Planting Details
- Subwatershed Studies
- Environmental Management Plans
- Environmental Impact Statement Guidelines
- Water Environment Strategy
- Air Quality and Climate Change Management Plan
- Slope Stability Guidelines for Development Applications

Subdivision Agreements

- Standard Conditions and Legal Requirements
- Approved plans and reports: Landscape Plans, Servicing Plans, Geotechnical Reports, Tree Conservation Reports, etc.

Other Ongoing Initiatives

- Joint Utility Trench / Four Party Trench
- Street Tree Manual for Greenfield Neighbourhood
- On-Street Permit Parking Policy Review
- Road Design Guidelines

Stakeholders

- Development industry
- Conseil des écoles publique de l'Est de l'Ontario
- Conseil des écoles catholique du Centre-Est
- Ottawa Carleton District School Board
- Ottawa Catholic School Board
- Hydro Ottawa
- Enbridge
- Bell, Rogers, and other telecommunications

directions already provided

The following is a relevant but not exhaustive list of applicable existing policies, by-laws or guidelines.

.1 Street Network and Land Use

Road Corridor Planning and Design Guidelines

Guidelines allow blocks with intersecting side streets every 150-200m along a Collector Road, as opposed to every 50m-100m in non-Greenfield areas

Guidelines to establish “frequent connections of Collector Roads to Arterial Roads…locate these intersections between 250m to 400m apart to enable efficient traffic flow along the Arterial Road”.

Guidelines to create a connected network of block patterns that allow “frequent Local Road intersections with Collector Roads to promote accessibility, connectivity, and continuity along and across the Collector Road corridor”.

Provide on-street parking to calm traffic along Collector Roads

Minimize ROW widths.

Minimize frequent driveways on collector roads.

Avoid rear-lotting along collector and arterial roads and avoid conditions where sound attenuation fences would be needed.

Regional Road Corridor Design Guidelines

Block length and intersection spacing along regional road corridors should be designed to accommodate all transportation modes including walking, cycling, and public transit.

Ensure that regional road corridors will act as community “integrators” rather than “dividers” by having land uses and built form relate to the road and avoid back-lotting (reverse frontage). Consider subdivision and site plan design for adjacent lands, which includes parallel local streets, frequent intersections, short blocks, sidelotting, and front-lotting with rear access.

Encourage a grid street and block pattern with frequent intersections to promote accessibility, connectivity and continuity along and across the corridor. To achieve a highly urban corridor, design blocks with intersecting side streets every 50 to 100m and signalized intersections every 100 to 150m.

.2 Parks and Open Space

Urban Design Guidelines for Greenfield Neighbourhoods

Concentrate higher density residential units around neighbourhood focal points that include transit stops, commercial areas, schools, community facilities, parks, and multi-use pathways.

Create a walkable neighbourhood with pathways, trails, and sidewalks that connect destinations such as transit stops, commercial areas, schools, community facilities and parks.

Connect new streets to existing streets in adjacent development and plan for future connections to land that has yet to be developed.

Layout collector streets that are direct and continuous through the neighbourhood so that homes are within 400 metres of transit and other destinations along them.

Layout local street patterns so that development blocks are easily walkable – between 150 and 250 metres in length.

Incorporate mid-block walkways where long blocks cannot be avoided.

Environmental Noise Control Guidelines

Guidelines to provide noise attenuation in noise-sensitive development without the use of noise barriers along roads and transit corridors.

New developments must undertake noise studies and include noise attenuation measures in the development agreement.

City of Ottawa Design Guidelines – Sewer

City of Ottawa Design Guidelines – Water Distribution

Official Plan 2.4.5 and 4.10

Greenspace Master Plan and Parkland Dedication.

City of Ottawa Parkland Dedication By-law 2009-95

City will not accept unsuitable lands such as that prone to flooding, hazards, etc.

Park and Pathway Development Manual, March 2012

Standardizes the park and pathway development process for both City-built and Developer-front-ended projects, and identifies the types and sizes of different parks:

- District Park (+10.0 ha)
- Community Park (3.2 – 10.0 ha)
- Neighbourhood Park (1.2 – 3.2 ha)
- Parkette (0.4 – 1.2 ha)

Also lists the facilities to be accommodated and design criteria for such things as target canopy cover and naturalization percentages.

Design criteria established for each category of park can be found in the Park and Pathway Development Manual.

City of Ottawa Parkland Dedication By-law 2009-95

For >18uph (net) = 1ha/300 units and for apartments not to exceed 10% of site area.

For <18uph (net) = 5% of gross land area.

Urban Design Guidelines for Greenfield Neighbourhoods

The Urban Design Guidelines for Green Neighbourhoods list a number of key guidelines for protecting natural areas and enhancing parks and open space in new communities, such as:

- Create a connected network of parks, greenspaces and public lands that is structured by existing natural features and connected by pathways and sidewalks.

.3 Stormwater Management

- Conserve natural features such as woodlots, wetlands, and creeks, and the natural connections between them, to sustain healthy habitats for plants and animals.
- Design streetscapes with open accessible frontages along greenspaces, such as woodlots and stormwater management ponds.
- Locate parks so that they front onto at least two streets, or have their longest edge front onto the street.
- Locate parks at 'T'-intersections to terminate streetscape views.
- Mailboxes to be placed in high activity areas, including areas adjacent to parks.

Official Plan 4.8.1

Stormwater management ponds not permitted in floodplains

Official Plan 2.4.5 Policy 5

Target for open spaces and leisure lands include stormwater management facilities.

Urban Design Guidelines for Greenfield Neighbourhoods

Locate stormwater management areas to be an integral part of the overall greenspace and pedestrian network within the neighbourhood.

Design stormwater management areas with the majority of their frontage onto public roads to make a visible contribution to the neighbourhood.

Naturalize the edges of stormwater management areas to deter public access and to create wildlife habitats.

Infrastructure Master Plan 4.5.3

Greenfield developments are required to be designed with sewers that can convey five year events and 100 year events, and to meet treatment facility requirements for mitigating flooding, erosion and water quality degradation.

Infrastructure Master Plan 5.4

The City will adopt low impact development design standards, prioritize stream restoration projects and complete a Stormwater Retrofit Master Plan.

City of Ottawa Design Guidelines – Sewer

City of Ottawa Design Guidelines – Water Distribution

Ministry of Environment Stormwater Management Planning and Design Manual

Provides guidance on the planning, design and review of stormwater management practices.

.4 School Sites

Ottawa Catholic School Board

- Community Use of School Facilities policy
- Facility Partnership policy
- School siting policies, including:
  - Elementary schools between 2.4 – 2.8 ha.
  - Secondary schools require a minimum of 8 ha.

Ottawa-Carleton District School Board

- Community Use of School Facilities policy
- Facility Partnership policy
- School siting policies, including:
  - Elementary schools between 2.8 – 3.2 ha, subject to the availability of adjacent parkland.
  - Secondary schools between 6.5 – 7.3 ha.
  - School site size depends on whether or not the school site is adjacent to parkland that is available for school program use.
  - Preference for school sites located adjacent to parkland in order to facilitate joint use opportunities with municipal agencies.
  - Locate elementary schools on sites with at least one road frontage on a local road or a minor collector road and secondary schools on sites with at least one road frontage on or near a major collector road or arterial road.
  - For Secondary schools, preference for sites with access to major OC Transpo routes.
  - Builds multi-storey schools in order to maximize available play area/green space.

Conseil des écoles catholiques du Centre-Est

- Partenariats pour le partage des installations
- School siting policies include:
  - Elementary schools: minimum 2 - 2.4 ha.
  - Secondary schools: minimum 5.7 ha.
  - Requirement for two storey schools.
  - Preference for school sites located adjacent to a park, which could reduce school site size requirement and increase likelihood of sharing facilities.
  - Bus lay-bys that are separate from mixed traffic

Conseil des écoles publique de l'Est de l'Ontario

- Examen des installation scolaires destinées aux élèves
- Location des locaux d'école
- School siting policies include:
  - If located adjacent to a park:
    - Elementary schools: minimum 2 ha.
    - Secondary schools: minimum 3.6 ha.
    - JK to 12 schools: minimum 4 ha.
  - If not located adjacent to a park:
    - Elementary schools: 2.4 ha.
    - Secondary schools: minimum 4 ha.
    - JK to 12 schools: minimum 4.86 ha.
  - Locate school in centralized part of residential area to maximize pedestrian access.
  - Preference for a square or rectangular school site adjacent to a park with minimum frontage of 50 metres and depth of 100 metres.
  - Requires geotechnical conditions that would permit a two storey elementary school.

City of Ottawa Schoolyard Tree Planting Program

Provides funding for tree planting programs on school property.

.5 Parking

Zoning By-Law – Part 4: Parking, Queuing, and Loading Provisions – Section 101, Table 101

Low, Mid, and High-rise apartment buildings in Suburban Areas not within 600m of a rapid transit station require 1.2 parking spaces per dwelling unit.

Zoning By-Law – Part 4: Parking, Queuing, and Loading Provisions – Section 107 – Subsection 2

A driveway providing access to parking spaces for detached, linked detached, semi-detached, duplex, townhouse or stacked dwellings must have a minimum width of 2.6 metres (the minimum required width of one parking space under Section 106) (By-law 2013-54, By-law 2010-307).

Zoning By-Law – Part 4: Parking, Queuing, and Loading Provisions – Section 109 – Item 12

In R1-R5 Zones, a maximum of 50% of the area of a front or corner side yard or the required minimum width of one parking space (whichever is greater) may be used for a driveway, the remainder of which must be landscaped with soft landscaping (By-law 2010-307).

Zoning By-Law Part 6 – Residential Zones Section R2 (Sec.157-158)

The City of Ottawa Zoning By-law specifies minimum front yard setbacks for the various Sub Zones based on unit type and lot size. This includes 6.0m, 4.5m and 3.0m.

Additional zoning provision note #8 (R3), #10 (R4) and #11 (R1, R2) specifies that for some of the zones that have 3.0m setback, the minimum setback from the entrance to a private garage or carport to an existing or planned sidewalk is 6.2m.

Traffic and Parking By-law No. 2003-530

Cars not permitted to park on driveways within 0.5m of a sidewalk or 1.5m of the roadway if there is no sidewalk.

Urban Design Guidelines for Greenfield Neighbourhoods

Provide shared driveways for ground-oriented attached dwellings to maximize areas for trees, utilities, on-street parking, and snow storage.

Traffic and Parking By-law No. 2003 – 530

On-street permit parking only allowed in certain residential zones, allowing residents to park for up to 48 hours in the same spot and to be exempt from winter overnight parking restrictions. Elsewhere, on-street parking is not allowed for periods of over 3 hours between 7am and 7pm or anytime between 1am and 7am from November 15-April 1st during publicly announced overnight restrictions for snow removal. Only in certain residential zones with on-street permit parking are cars allowed to park for periods of up to 48 hours in one spot. Restrictions also in effect for parking near intersections, fire hydrants, laneways, driveways, schools and parks.

Transportation Master Plan – Chapter 6: Roads and Motor Vehicle Use – Section 6.11

The City will support the availability of short-term on-street parking for residential uses, providing short-term parking that meets the needs of residents but limiting the supply of long-term parking (to balance needs of auto drivers with those of transit riders).

Winter Parking Restrictions

On-street parking permit holders are exempt from winter overnight parking restrictions, but are not permitted to park their car on streets with temporary “no parking” signs during planned overnight snow removal.

Zoning By-law – Part 4: Parking, Queuing, and Loading Provisions – Section 101/102 – Subsection 1 and Table 101/102

All R1-R5 areas must provide off-street parking at their respective required rates of 0.5 - 1.2 spaces per dwelling unit.

Low, Mid-, and High Rise apartment buildings, townhouse lots containing more than 12 units, and stacked dwelling units containing more than 12 units must provide off-street visitor parking.

.6 Road Right-of-way

Zoning By-law – Part 4: Zoning, Queuing, and Loading Provisions – Section 101 – Table 1

Apartment buildings (Low, Mid-, or High Rise) require 0.5-1.2 off-street parking spaces per dwelling unit.

Zoning By-Law – Part 4: Parking, Queuing, and Loading Provisions – Section 107 – Subsection 2 / Section 109 – Subsection 11 (By-law 2010-307)

In R1-R5 zones, a maximum of 50% of the area of a front or corner side yard may be used for a driveway, the rest of which must be landscaped with soft landscaping.

Minimum lot widths as low as 4.5m for townhouses and a driveway width minimum for one parking space of 2.6 meters (By-law 2013-54, By-law 2010-307).

Road Corridor Planning and Design Guidelines

Guidelines to avoid locating detached homes or townhouses with narrow lots and front driveways along Collector Roads to avoid excessive driveways.

Road Corridor Planning and Design Guidelines

Minimize ROW widths to create human scale along road.

Guidelines for tree planting at least 2.0m - 2.5m from the curb for snow management and 1.0m behind and 2.0m laterally from street lights to minimize interference.

Regional Road Corridor Design Guidelines

For wider roads in suburban contexts, the road edge should be a minimum of 6 to 7m wide to accommodate a 2m wide clear pedestrian travel route, a 2 to 3m wide landscape buffer and a 2 to 3m wide inner boulevard.

Separate the sidewalk from vehicle lanes by trees, landscape strips, light standards, utility poles, parking meters, signage, transit shelters, etc., to enhance the sense of security for pedestrians and to improve splash protection.

Transportation Master Plan – Chapter 6: Roads and Motor Vehicle Use – Section 6.3

ROW widths will be secured or road widening may occur in existing ROWs as a condition of development approval for a subdivision, severance, or site plan.

The City may require the exclusive use of a portion of certain ROWs for transit priority operations—this may increase ROW requirements.

Ottawa Pedestrian Plan 2013 - Section 4.1: Policy for Pedestrian Facilities

City requirements for the provision of sidewalks and other pedestrian facilities, including:

- On both sides of arterial and collector roads in the Urban Area and Villages.
- On at least one side of all arterial and collector roads passing through the Greenbelt.

.7 Rear Lanes

- On both sides of all roads that serve transit in the Urban Area and Villages.
- On local roads that lead directly to transit stations, schools, public parks, recreation centers, public buildings and institutions, neighbourhood and regional commercial/retail/employment centres.
- Within and between neighbourhoods and from neighbourhood streets (including cul-de-sacs, P streets and crescents) to connect to arterial and collector roads at sufficient intervals to create porous walkable communities.
- On all new and reconstructed urban local roads where pedestrian facilities are required in accordance with these policies but no dedicated pedestrian facility is provided, require that roads be designed for a speed of 30 km/h or lower (pending development of a new 30 km/h roadway design standard).
- Consider a multi-use pathway in the right-of-way in lieu of a sidewalk if determined to be appropriate for the urban context. Such multi-use pathways that function in lieu of a sidewalk should be considered as a sidewalk for winter maintenance in accordance with appropriate winter maintenance standards.

Ottawa Residential Road Allowance ROW Engineering Cross-sections

On 16.5m and 18.0m ROW, 1.8m sidewalks are located directly next to the roadway.

Only with 20.0m, 22.0m, and 24.0m ROW can sidewalks be separated from roadway with a 2.0m to 3.0m boulevard.

12 ROW options exist, ranging in widths from 8.5m to 24m, with and without sidewalks and boulevards.

16.5m ROW leaves 1.5m to accommodate trees, but trunks must be 0.6m from the property line and in certain situations, this 1.5m must also accommodate hydro transformer/telecom hardware.

8.5m lanes include catch basins at edges.

Zoning By-Law – Part 6: Residential Zones – Section 155-168

Rear lanes permitted in residential areas with minimum width of 8.5m and minimum setback is reduced to 1.0m.

Urban Design Guidelines for Greenfield Neighbourhoods

Plan development based on rear lanes or rear parking areas at important neighbourhood focal points such as mixed-use activity areas, surrounding parks, greenspaces, and entrances to the community.

Urban Lanes Management Policies and Encroachment Policies for Urban Lanes

Encroachment into lanes receiving municipal maintenance is subject to enforcement through the Encroachment By-law. Encroachment into lanes not receiving municipal services, such as lanes that provide sole vehicular access to a property fronting on the lane, to private garages or rear yards, or that provide alternate access to an existing property or garage are also subject to enforcement through the Encroachment By-law.

Urban lanes classified as Class A, receiving municipal maintenance, or Class B, without municipal maintenance. The City has sole discretion in classifying and reclassifying lanes.

Road Corridor Planning and Design Guidelines

Guidelines allow blocks with intersecting side streets every 150-200m along a Collector Road, as opposed to every 50m-100m in non-Greenfield areas. Length of the block could contribute to length of rear lanes parallel to the street.

.8 Trees

City of Ottawa document: "Trees And Foundations Strategy In Areas Of Sensitive Marine Clay In The City Of Ottawa"

Identifies trees as a source of moisture depletion in silty clay soil in Ottawa, potentially leading to differential soil settlement and associated foundation damage.

"Trees should be planted no nearer to the foundations than their ultimate (mature) height".Official Plan Section 3.11 and 3.12

Requires the identification of a site's natural heritage system, independent of the potential developable area.

Official Plan Section 4.7.2

"Development proposals will be required to preserve vegetative cover or propose compensation measures, through a set of policies including specific requirements for a Tree Conservation Report and a landscape plan as part of applications for subdivision."

Geotechnical Investigation and Reporting for Development Applications in the City of Ottawa

Restrictions on planting trees and preservation of existing trees in areas of new development to address moisture depletion of clay and potential distress to building foundations.

Municipal Trees and Natural Areas Protection By-law No.2006-279 - Part II: Trees on Municipal Property – Section 5

Protects all trees on City-owned lands, details methods of protection, and compensation requirements for trees which cannot be retained.

Zoning By-law Part 6: Residential Zones – Section 155-156

R1-R5 areas have a minimum front yard setback as low as 3m.

Urban Tree Conservation By-law 2009-200

Includes requirement for a Tree Permit to remove existing trees.

Tree Conservation Report Guidelines

Outlines how vegetation must be protected on development sites.

.9 Utility Placement

Residential Road Allowance Engineering Cross-Sections

Hydro transformers and telecommunications pedestals placed between sidewalk and property line (where sidewalks are present). Fire hydrants placed on either side of sidewalk. Street lights placed between sidewalk and curb or roadway.

ROW guidelines for utility placement leave between 1.25 and 2.25m for trees, dependent on the presence of hydro transformers, telecommunications pedestals, and sidewalks. Trees can be no closer than 0.5 to the property line.

In ROW guidelines for utility placement, utility trenches for light ducts, hydro, traffic, or telecommunication ducts, and gas mains are placed 0.65-1.0m below ground level. Potential interference with tree root systems.

City of Ottawa Design Guidelines – Sewer

City of Ottawa Design Guidelines – Water Distribution

City of Ottawa ISD Standard Tender Documents for Unit Price Contracts - Volume 2 Material Specifications and Standard Detail Drawings


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