

2.0 DRIVE-THROUGH FACILITIES

Background

In recent years, drive-through facilities have grown significantly in popularity with drive-through restaurants, in particular, being established on numerous commercial sites across the City. Coffee and donut shops, fast-food restaurants, banks, dry cleaners, pharmacies and convenience retail stores are typical businesses associated with drive-through facilities.

Through the provisions of the Urban Design Manual the functional and aesthetic design of a wide variety of sites is addressed. As a specialized type of commercial development there are often unique concerns that are related to drive-through facilities and it is in the interest of both the drive-through industry and the City of Kitchener to ensure that drive-through facilities operate effectively and safely on each site. It is critical to ensure that expected business operations of drive-through facilities are not detrimental to the function of the local street network or that access to the site is not blocked due to cars queuing. Both parties have an interest in and responsibility for assuring minimal disruption to neighbouring land uses, particularly residential and institutional uses. Pedestrian safety is a priority in the review of Site Plan Approval applications for new drive-through facilities.

Council Policy

On January 28, 2008, City of Kitchener Council unanimously passed a policy that new drive-through facilities be designed to allow pedestrian movement from the street to the building and from the parking lot to the building without crossing the drive-through aisle.

"That the City of Kitchener requires new drive-through facilities to be designed so as to allow pedestrian movement from the street to the building and from the parking lot to the building without crossing the drive-through aisle; alternative designs to be subject to the approval of the Director of Planning."

Other City Policy and Guidelines

The following guidelines will apply to all new drive-through facilities proposed within the City of Kitchener. This design brief does not replace other parts of the City's Urban Design Manual, but works in conjunction with the existing guidelines and standards contained therein. There are other guidelines and standards,

such as lighting, landscaping, and parking guidelines that are not contained in this brief that are to be referenced when preparing a site plan proposing a drive-through facility.

Urban Design Challenges

Designed to efficiently accommodate vehicular customers from an operational perspective, the site plan organization and built form of existing sites with drive-through facilities generally tend to create a landscape designed for and dominated by the personal automobile.

Drive-through facilities can be major vehicle attractors and as such may have a significant impact on the safety and efficiency of the transportation network not only at the entrance to the site but internally on the site as well.

Any site development proposing a drive-through facility must balance a variety of needs and requirements to reduce potential conflicts between pedestrians and vehicles. A diverse group of users visit drive-through facilities everyday including pedestrians, cyclists, and both service and personal vehicles. It is essential that site designs reflect not only the ease of vehicular access and movement, but more importantly, provide generous sidewalks and pedestrian walkways that do not cross a drive-through aisle, in addition to barrier-free accessibility and bicycle racks.

Drive-Through Design Objectives

The City of Kitchener is committed to creating a high quality streetscape and a pedestrian-oriented environment. From an urban design perspective every drive-through facility must not only move automobiles efficiently through the site, but also safely accommodate pedestrian access into and through the site. These guidelines take these issues into account to balance the functional needs of drive-through facilities with Official Plan goals for urban design. Future development of sites with drive-through facilities are expected to satisfy the following design objectives:

1. Minimize pedestrian and vehicular conflict through site design.
2. Create a secure and maneuverable pedestrian environment through physical design elements.

3. Ensure required space is provided for vehicle stacking so as to not impede on- or off-site traffic flow.
4. Organize the site, through the effective configuration of site elements, to enable safe ingress and egress, safe and efficient circulation within the site, and provide adequate vehicular storage and loading space.
5. Design development that fits with and enhances the surrounding neighbourhood with respect to architectural features and landscape design.
6. Create a high quality streetscape that compliments public spaces and is responsive to pedestrian scale.
7. Minimize impacts on adjacent land uses that may result from drive-through operations by integrating appropriate buffers or other alternative measures (i.e. orientation).
8. Balance impermeable surfaces and landscaping.

The guidelines have been organized under the following categories:

Site Organization

Streetscapes and Built Form

Pedestrian Circulation

Vehicular Access

Location of Parking and Site Servicing

Drive-through Aisle

Double/Multiple Drive-through Facilities

Landscape Design

Visual Buffers and Barriers

Signs

Noise Mitigation

2.1 The Guidelines

Site Organization

Site organization can be used to maximize the efficient use of the site and reduce potential safety conflicts. The following guidelines apply to site organization:

- Provide a strong organizing structure of roads, paths and built form that supports easy navigation and clear sightlines of the site and surrounding area for pedestrians, cyclists and vehicles.
- Provide minimal building setback from public streets with features to create a consistent street edge and to give a sense of enclosure, which enhances the pedestrian experience.
- Design buildings located on the interior of the site to give priority to pedestrian connections from the public street, while enhancing the pedestrian environment and ensuring the site is easily navigable.
- Where applicable, include public spaces, like seating to further enhance the pedestrian environment and act as an anchor for the overall site and neighbourhood.
- Locate drive-through aisles along interior side yard or rear yard provided that the appropriate setback is maintained and landscaping and buffering measures are introduced.

Streetscapes and Built Form

- Design built form to encourage active frontages along the public street by locating store entrances and windows towards public streets or spaces.
- Maximize transparency of the pedestrian-level façade facing the public street with clear glass windows and doors that animate public streets and maximize views into and out of the building.
- Use building height, setbacks, architectural styles and building orientation to complement adjacent buildings and the surrounding neighbourhood.



Building design and architectural elements, such as this sloped roof, can be used to reinforce neighbourhood character and establish architectural continuity.

- Provide architectural detail and character.
- Provide a diversity of forms, for all building sides and components.



Portico provided for weather protection at drive-through window.

- Provide ample landscaping, in combination with building orientation to define streetscape, enhance aesthetics, buffer/mitigate adverse impacts and create cohesion with other properties.
- Provide weather protection at all building entrances and in places with pedestrian amenities, in addition to drive-through pick-up windows.
- Ensure that built form supports clear sightlines and appropriate lighting to ensure a safe and convenient experience through the site and the public street environment.

- Buffer potential noise impacts with building structures, landscaped berms or noise attenuation measures. These devices, outside of building structures, should not be located along public street frontages.
- Locate public amenities such as patios and bicycle parking close to building entrances while not impeding pedestrian circulation.

Pedestrian Circulation

Clearly organized pedestrian movement into, within, and exiting sites which incorporate a drive-through is imperative. A drive-through facility design must accommodate not only vehicular movement, but more importantly must also incorporate pedestrian access from the street and parking lot, to the main entrance of the building.

The following guidelines apply to pedestrian circulation:

- Design the site to give pedestrian circulation the priority.
- Provide direct pedestrian access from the public sidewalk and parking areas to the main entrance with unobstructed pedestrian walkways. At no point are these walkways to cross the drive-through aisle.
- Distinguish continuous pedestrian walkways from asphalt driving surfaces. Use concrete/paving stones and where necessary raising walkways to curb level.
- Provide customer entrance doors that are close to transit stops and public sidewalks, while providing convenient pedestrian access to parking areas.
- Delineate pedestrian walkways and pedestrian access to the buildings using landscaping or similar means.

Vehicular Access

The location of vehicular access to an adjacent street should ensure minimal impact on the traffic flow on that street. To minimize impact, site design should locate points of access away from street intersections, consider adjacent street access points, ensure

adequate throat width of the access, minimize the number of potential movements in and around the access location, and locate the drive-through aisle so that vehicles will not stack near the site access and therefore onto the adjacent street.

The following guidelines apply to vehicular access for all commercial land uses:

- Design vehicular entrances in both width and number to ensure a consistent built form street edge can be created along the public street, enhancing the overall pedestrian experience.

The minimum required throat widths are:

- **7.6m for two-way access**
- **4.5m for one-way access**
- **9.0m max. to accommodate large trucks**

- Locate vehicular access points to the site as far away as possible from street intersections and adjacent commercial access(es).

The minimum required distance from an intersection to an access is:

- **65m from a signalized access**
- **33m from an unsignalized access**
- **20m from an adjacent commercial access**

- Align opposing vehicular accesses where possible.

Location of Parking and Site Servicing

The City of Kitchener's commitment to creating a vibrant and pedestrian-supportive streetscape necessitates particular attention when determining the location of on-site parking and services. Parking and loading areas on a site with a drive-through facility must be clearly delineated to add to the efficient and safe movement of all patrons on site.

The following guidelines apply to location of parking and site services:

**Section 6 of the City of Kitchener's
Zoning By-law 85-1 outlines the parking and
loading requirements for specified land uses.**

- Locate parking and loading areas to maximize their functionality and use.
- Show loading areas (i.e. for material drop-off or garbage pick-up) on the site plan to illustrate that their design satisfies the following minimum **exterior** turning radius requirements:
 - 6.4m - drive-through aisle (passenger cars, vans)
 - 12.8m - garbage trucks
 - 14.5m - heavy trucks
- Do not locate service and loading zones in any area that would be visually prominent from the street, or any area that could cause conflict with other site circulation.
- Clearly indicate vehicular traffic movements throughout the entirety of the site, including entrance and exits points of the drive aisle, by using the required signage and pavement markings. Use an alternate material to asphalt for the drive-through aisle when it is not clearly delineated.
- Plan the site to include areas for temporary snow storage without conflicting with site circulation, landscaping, utility boxes and sightlines.
- Design garbage and recycling enclosures that are internal to the building, or fully enclosed, roofed and secure, and use the same materials and architectural style as the primary building.
- An appropriately located deep well garbage and recycling system is a preferred alternative for garbage and recycling storage. Locate these systems within a concrete pad.
- Enclose all utility equipment within buildings or screen them from both public streets and private properties. These include utility boxes, garbage

and recycling container storage, loading docks and ramps, and HVAC equipment.

- Surface parking areas and drive-through aisles should be located in the interior side yard or rear yard of buildings where possible.
- Locate noise-generating areas, including order board speakers, outdoor loading areas and garbage storage, away from sensitive uses such as residential and institutional.
- Design lighting to minimize light spillage, glare or light cast over adjacent uses. Direct and/or shield lighting sources away from adjacent properties and provide screening as necessary.

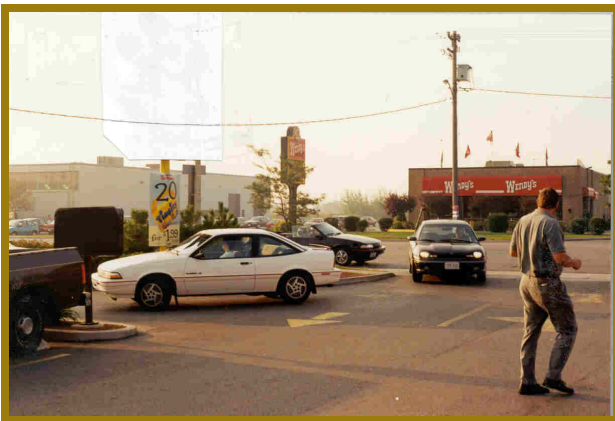
Drive-through Aisle

Sufficient vehicle stacking space in the drive-through aisle is critical to ensuring that drive-through facilities do not cause on- or off-site traffic concerns. There are two distinct parts of a drive-through aisle; the area between the pick-up window and order menu station (if applicable) and the area between the order menu station and the beginning of the drive-through aisle. The drive-through aisle includes the entirety of the lane; the point from which a vehicle leaves the circulation of street or parking flow until that vehicle re-enters the circulation of traffic flow.

The following guidelines apply to the design of the drive-through aisle:

- Design vehicle stacking spaces to the following dimensions:
 - length - minimum 6.5 metres
 - width - minimum 2.6 metres
- Ensure adequate throat widths (3.66m – 4.57m) for each access point and minimize the potential movements around such access locations.
- Locate drive-through aisles so that stacked vehicles do not impede adjacent on- or off-site traffic. A minimum setback of 16.5 metres is required from the entrance of the drive-through aisle and the edge of the public road allowance to accommodate vehicle movement into and out of the site.

- Drive-through aisles should be located at the side or rear of buildings and not between the building and the street. Alternate configurations which adequately address both Urban Design concerns and pedestrian safety and access may be considered.
- Provide a drive-through aisle to accommodate a minimum of 13 total vehicle stacking spaces on site for each restaurant or food sale use. Locate at least 10 spaces between the order menu station and the entrance of the drive-through aisle and 3 spaces between the order menu station and the pick-up window.
- Provide drive-through aisle to accommodate a minimum of 3 stacking spaces on site for all non-food related use drive-through facilities except car wash.
- Provide a drive-through aisle to accommodate a minimum of 10 vehicle stacking spaces on site for an automated car wash.



An example showing vehicles stacking into the principle entrance and onto the adjacent street.

- Locate the entrance of the drive-through aisle so that queued vehicles do not block pedestrian and vehicular circulation throughout the site or along public streets.



Drive-through aisles should avoid disruption to internal traffic flow, site access and pedestrian routes.



An example of a drive-through aisle distinguished through use of alternate surfacing material.



This drive-through facility provides an attractive portico with a soft landscaped edge to delineate the drive-through aisle.

Double/Multiple Drive-through Facilities

A site with multiple drive-through order stations or windows poses a particular challenge in site planning. A double drive-through can be described as one building with two drive-through aisles, whereas a multiple drive-through is more than one building on a site having a drive-through. Some facilities have lanes which either merge or divide along their length.

The following guidelines apply to the design of double and multiple drive-through facilities:

- Provide separate drive-through aisles when two drive-through facilities exist on the same site.
- AutoTURN or similar technology may be utilized as an acceptable alternative to the minimum City of Kitchener standards for turning radii.
- Use raised traffic islands, knock down barriers, combined medians or other constructed barriers to separate drive-through aisles from one another and other parts of the site.
- Each drive-through exit location must provide clear and unobstructed visibility in order to minimize conflict with motorists using an adjacent drive-through aisle or vehicular traffic aisle.



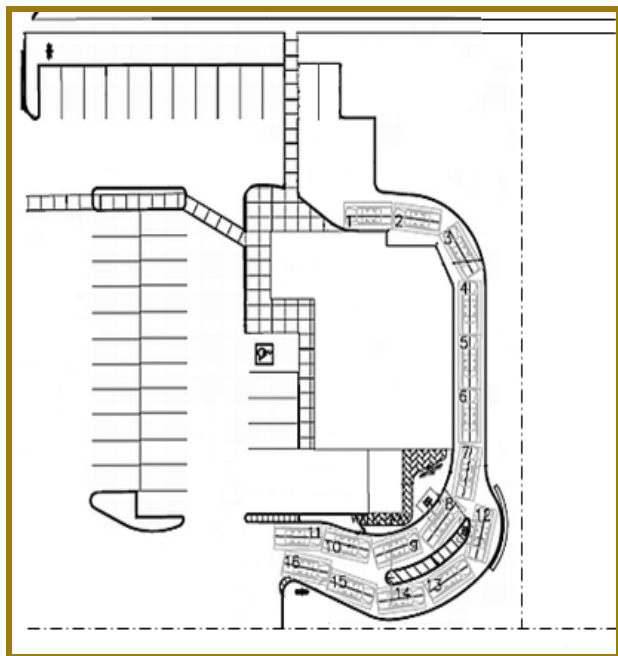
An example of a double drive-through with two pick-up windows.

Landscape Design

Landscape maintenance can be challenging in any commercial site and a drive-through site is no exception. Low-maintenance, salt tolerant planting is particularly important to both streetscape and on-site aesthetics given the regularity and volume of vehicles visiting a site with a drive-through facility.

The following guidelines apply to landscape related features of a drive-through facility:

- Protect existing vegetation by minimizing grade changes and preserving permeable surfaces.
- Plant an average of 1 shade tree/7.5 metres along all street frontages. Plant trees in permeable surface areas, with approximately 10 - 25m³ of topsoil/planting mixture volume per tree.
- Select trees, shrubs and other vegetation considering their tolerance to urban conditions, such as road salt and heat. Give preference to native species of the region that are of equal suitability.
- Divide large parking areas into smaller and well-defined sections using soft and hard landscaping in order to reduce the amount of paved area.
- Integrate landscape features with ground-supported signs.
- Provide a minimum 3.0 metre wide landscape area along the perimeter of a site where parking areas, drive lanes or drive-through aisles are adjacent to a public street. Use trees, shrubs and low walls to screen cars from view while allowing eye level visibility into the site.
- Provide a minimum 3.0 metre wide landscape area, which may include a solid wall or fence in addition to planting, along the perimeter of sites that abut residential or institutional properties.



An example of a constructed barrier separating drive-through aisles from one another.

- Provide continuous soft landscaped areas no less than 2.6 metres in width to define drive-through aisles.
- Provide an irrigation system to ensure adequate watering of soft landscaping and increase the possible range of planting materials while decreasing long-term maintenance costs and ensuring the viability of the landscaping.

Visual Barriers

In order to eliminate the impact of vehicle headlight glare and to clearly separate the drive-through aisle from other driveways, a visual barrier may be required. A barrier could take the form of a fence, berm, landscaping, or a combination of two or more of these elements and would have the dual effect of screening the drive-through from sensitive land uses such as residential and institutional zones, as well as blocking headlight glare from vehicles using the drive-through.

The following guidelines apply to the use of visual buffers and barriers at drive-through facilities:

- Provide landscaping along public streets (low- to mid-height vegetation) to buffer parked cars, while maintaining eye level visibility into the site.

- Implement visual barriers to eliminate the impact of vehicle headlight glare on other driveways, residential and institutional areas and adjacent streets.
- Provide no less than a 3.0 metre wide landscape area along adjacent residential or institutional property lines to accommodate tree planting, fencing, and snow storage requirements.



An example of a visual barrier adjacent to residential uses.

Signs

Signage has a direct impact on streetscape character and quality. All signage should be considered in site design to contribute to the pedestrian environment and reduce roadside visual clutter for motorists.

The following design guidelines apply to signs for drive-through facilities:

- All signs are subject to Chapter 680 of the City's Municipal Code.
- Locate and design ground-supported signs to be integrated with the built form and landscape theme. Integrate ground supported signs into the landscaping design.
- Design buildings to include defined spaces to accommodate fascia signs that respect building scale, architectural features, signage uniformity and established streetscape design objectives.
- Utilize an automatic or manual changing copy component on ground supported signs to reduce the need for multiple sign locations on site.

- Design sign illumination to be task-oriented and avoid glare/light spillover toward adjacent land uses.
- Provide locations for portable signs during the site plan process in order to determine if the site will support it.

Noise Mitigation

The presence of a drive-through operation in close proximity to residential uses can create conflict in terms of noise. Intercom order stations typically operate throughout the day, but are of particular concern during peak periods. Without proper noise mitigation measures, intercom order stations can become continual concerns for neighbouring residents.

Section 5.26 of the City of Kitchener's Zoning By-law 85-1 outlines that a noise study must be prepared by a qualified Professional Engineer where a drive-through facility with an intercom order station is proposed within 60 metres of a Residential or Institutional Zone.

The following guideline applies to noise mitigation for drive-through facilities:

- The noise attenuation feature (i.e. berm, fence, vegetation) must be compatible with adjacent properties with respect to appearance and overall landscape design.



An example of a wall used as an acoustic barrier.