

CHAPTER 5 - ITP RECOMMENDATIONS

5.1 OVERALL ITP RECOMMENDATIONS

As mentioned previously, there are two areas of focus within the ITP Project, the Shared Use Trail Plan and the Downtown Streetscape Plan. Sections 5.2 and 5.3 provide specific recommendations for these elements; however, there are some recommendations that apply to both sections that are addressed below.

ITP Recommendation # 1: *Protect the Fox River and Fox River Watershed*



Protecting the Fox River through Best Management Practices and other environmentally-friendly storm water runoff solutions is highly recommended.

Knowing the Fox River and Fox River Watershed are extremely valuable assets to Yorkville and Kendall County, the ITP recommends environmentally-sensitive techniques be utilized, in order to preserve and enhance this most valuable feature. Therefore, protecting the Fox River through preservation of natural features utilizing various techniques, such as innovative storm water solutions, is the first ITP recommendation.

Environmentally-friendly methods such as Rain Gardens and other Best Management Practices (BMP's) are highly recommended within the trail system corridors and/or the downtown area, where feasible. These innovative storm water solutions will ensure steps are being taken to protect and preserve the Fox River and Fox River Watershed.



Example of a Rain Garden to cleanse storm water runoff shown in a parking lot.

The ITP recommends implementing alternative storm water management techniques (i.e. biobasins and bioswales) to limit the potential for flooding and to cleanse storm water runoff. Additionally, these techniques should be used when impervious areas are added to the landscape. These innovative storm water techniques allow infiltration of runoff into the ground to recharge the groundwater and aquifer water resources.

The natural systems can occur in parking area medians,

with native landscape material that absorbs and cleanses the water before releasing to the adjacent creeks and Fox River.

ITP Recommendation # 2: *Incorporate Consistent Theme, Gateway and Wayfinding Signage in the Downtown and Within the Shared Use Trail System*

Theme, Gateways and Wayfinding



Yorkville's history and character should be celebrated and preserved for future generations to enjoy.

Gateways and Wayfinding Signage are an important component of the Shared Use Trail Plan and Downtown Streetscape Plan. These features can help motorists, pedestrians, and bicyclists find specific locations in the downtown area, navigate through the core area and through the trail network, find public parking lots, and locate major activity areas, destinations, and trailheads. An important step

in the ITP project was to identify a theme that would impact the ultimate design concepts for Gateway and Wayfinding Signage (see Exhibit 'H' – Theme and Character Vision).

Important historical items, proximity to the Fox River and the general character of the Yorkville area were incorporated into the theme for downtown Yorkville and, subsequently, the overall signage program. (see Exhibit 'H' – Theme and Character Vision and Exhibit 'I' – Gateways and Wayfinding Signage Concepts).



As the Vision and Concept demonstrates, the overall theme is focused on the physical and natural characteristics of Yorkville. For example, the existing buildings in the downtown area demonstrate a Victorian "Italianate" architecture which were typically constructed with a lower level of

block limestone (quarried from areas along the Fox River) with brick above for the main walls of the building.

The ITP recommends this concept theme be implemented

at key locations in highly visible areas, along sidewalks, public parks, plazas, trailheads and the like. See sections of the Downtown Streetscape and Shared Use Trail Plan later in this report (*Section 5.3*), for examples of how the theme was incorporated into signage and wayfinding concepts.

ITP Recommendation # 3: Implement Walkable and Bikeable Street Concepts Throughout Yorkville

Walkable/Bikeable Streets



The ITP plan calls for refocusing transportation projects and planning efforts on creating walkable and bikeable streets that provide transportation options and a better balance between cars, bikes and pedestrians. These roadways are a key part of a safe, enjoyable downtown for Yorkville and the

overall region. The pedestrian is the priority, however, the automobile is still accommodated. Streets are a significant component of a downtown area, and their role is very important in the safety of bicycle and pedestrian traffic. Well-designed streets can also dramatically impact the look and feel of Yorkville.



Existing school crossing by Yorkville's City Hall and High School.

The recommendations below have been created in order to encourage a safe, comfortable, pleasant environment throughout Yorkville. The ITP proposes future improvements to the downtown streets, specifically, in order to create streets and environments that are user friendly to bicyclists and pedestrians. Some of the design aspects to consider are as follows:

- Pedestrians are effectively separated from moving traffic (wide sidewalks or medians)
- Pedestrians can cross the street safely and easily at designated locations, such as clearly marked crosswalks
- Intersections are designed to reduce pedestrian crossing distances (bump outs)
- Safe refuge (resting) islands are provided

- periodically for bicyclists and pedestrians
- Barriers are minimized – designed for people with disabilities, older adults and children (ADA compatibility with curb ramps, etc.)
- On-street parking is provided, but does not dominate the street scene
- Vehicle access, speeds and geometrics are designed with the pedestrian in mind
- Signing is placed at key locations

For street cross-section concept ideas for the downtown, see *Section 5.3 – Downtown Recommendations*.

ITP Recommendation # 4: Incorporate and Promote Sustainable and Environmentally-Friendly Land Use Planning

Sustainability and Environmentally-Friendly Land Use Planning



While a land use study was not the focus of the ITP project, it is an important aspect when creating a bikeable and walkable community that is sustainable. The United City of Yorkville Comprehensive Plan addresses many related aspects of sustainability and environmentally-friendly land use

planning. The ITP supports the incorporation of such planning and recommends that sustainable design principles be implemented in the future, to ensure that non-vehicular options are maximized. Opportunities should be provided for people to get everywhere they want to go on a daily basis by walking or biking.



Shared Use Trail

Sustainable development practices include a framework of open space and greenways interconnected with trails and walkways. Additionally, this type of land use design proposes a mix of land uses, a variety of housing types, and higher densities next to

commercial areas to make neighborhoods more compact and walkable. These innovative land use patterns are critical to a cohesive shared use trail network. Therefore, the ITP highly recommends these innovative concepts because they have impact on the walkability,

bikeability and aesthetical quality of Yorkville.

Sustainability in Downtown Yorkville

In order to develop the downtown as a sustainable environment the following aspects should be promoted:

- Promote walking and biking by creating safe streetscape environments
- Implement innovative storm water solutions, such as rain gardens
- Require landscape plantings that minimize water use (Xeriscape)
- Create ample green space and open space
- Install street trees throughout the downtown core, to reduce the heat island effect (higher air temperatures due to pavement, rooftops, etc.)
- Promote mixed uses (entertainment, recreation, commercial, office and residential uses) allowing people to recreate, shop and live in the downtown
- By promoting ideas such as these, downtown Yorkville can become a more pedestrian and bicycle-friendly environment in the future – one that is sustainable for generations to come

5.2 SHARED USE TRAIL RECOMMENDATIONS



Safe and accessible trail connections to schools is a primary focus of the ITP allowing children safe routes to school.

The Shared Use Trail Plan analyzed existing conditions and provided recommendations to improve bicycling and walking throughout the City and surrounding region. The recommendations listed in this section are a guide to be referenced and utilized when considering individual improvements to the non-vehicular transportation network. It is understood that trail improvements will occur over the

course of many years, and design standards and guidelines will need to be updated periodically. The ITP Shared Use Trail Plan focuses on direct and safe access to destinations around Yorkville and Kendall County. The ITP also recommends solutions that balance the vehicular transportation needs of the community with the highly desired non-vehicular trails. Therefore, the following items are identified, and recommendations provided, regarding the following categories:

- Types of Trail Users
- ADA (American Disabilities Act)
- Trail Locations

- Priority Corridors
- Loop System Concept
- Design Criteria and Standards

Non-vehicular facilities, such as trails, provide an important mode of transportation that goes beyond recreational use and should provide a means of transportation that allows residents of all abilities to travel to multiple destinations safely. Therefore, it is important to identify the intended users of the trail system and design or prioritize corridors appropriately.

Types of Trail Users

- Bicyclists of all levels (*see below*)
- Joggers
- Walkers and parents with strollers
- Roller bladers
- Skate boarders

ITP Recommendation # 5: Provide Trails Throughout Yorkville for Various Skill Levels of Bicyclists and Users

The ITP recognizes that there are various trail users and skill levels of bicyclists. Each level of bicyclist should be accommodated within the overall trail system. There are three basic skill levels; avid and/or experienced, basic bicyclists, and children, as described below.

1. Avid and/or Experienced Bicyclist

Avid or experienced riders generally use bicycles as they would a motor vehicle. They ride for convenience and speed, and want direct access to destinations - usually via the existing street and highway system, with minimum detours or delay. Avid cyclists are, typically, comfortable riding on high speed routes (they comprise the majority of the current users of collector and arterial streets). In motor vehicle traffic, however, they desire routes that are relatively uninterrupted by traffic lights and stop signs. The avid cyclist will often choose to ride on the road and along major transportation routes without any bicycle facilities (i.e. bike lanes, signage, etc.). This group of experienced cyclists will typically avoid separated bike paths, particularly in neighborhood greenbelts because they feel it slows them down. Avid cyclists are highly attuned to bicycle safety, so they are sensitized to potential hazards. This group of riders is a relatively small segment of the cycling population.

2. Basic Bicyclist



Basic or less confident riders typically prefer to be “off-road” on a trail.

Basic (or less confident) riders may use their bikes for transportation purposes, but prefer to avoid roads with fast and busy motor vehicle traffic. Basic riders are typically more casual adults or teenage riders who are less confident of their ability to operate in traffic without special provisions for bicycles. Comfortable riding on lower traffic volume streets and shared use paths, they prefer designated facilities such as bike lanes or wide shoulder lanes and sometimes avoid routes that may be hazardous or dangerous. This group of cyclists will typically utilize a bicycle as the preferred transportation mode, provided that the destination is reasonably close and a good bicycle route exists. Usually comprised of working adults or high school students and parents with child seats/carts, these cyclists desire safe and efficient bicycle facilities/routes. High-speed arterial streets make them uncomfortable, even when bike lanes are provided. This type of cyclist typically comprises a large segment of the cycling population in any given community.

3. Children



Heartland Circle Trail in Yorkville is an inviting and safe environment for children to travel to a friend's house or the park.

This group is comprised of school age children (elementary/junior high school) who routinely ride to and from school or to visit friends, neighbors, go to the park, and other after-school activities. This group of cyclists tends to have less experience negotiating traffic, and is not always aware of potential hazards. They often disobey traffic laws and traffic control devices, and tend to prefer the shortest route possible. They also tend to prefer bike lanes and bike paths. Until children reach age nine or ten, they do not have well-developed peripheral vision, and have difficulty with concepts such as closure speed (e.g. approaching motor vehicles). Younger bicycle riders typically have difficulty following a straight track, and they frequently weave from side to side when riding.

Children, riding on their own or with their parents, may not travel as fast as their adult counterparts but still require access to key destinations in their community. Residential streets with low motor vehicle speeds, linked with shared use paths, and busier streets with well-defined pavement markings, or greenways and open space corridors, can all accommodate children without encouraging them to ride in the travel lane of major roadways. Detached trails with ample separation from vehicular traffic are the ideal environment for children. Beginning bike riders are a relatively smaller segment of the cycling population.

Although the trails in Yorkville should be designed (as much as possible) to accommodate all three groups listed above and all types of trail users, it is intended that the Basic Bicyclist will be the primary user of the system in Yorkville.

Americans with Disabilities Act (ADA) Compliance

The Americans with Disabilities Act (ADA) of 1990 has stringent guidelines to improve accessibility for those with disabilities. Public and private agencies must ensure that all users have access to all services and facilities. Guidelines for the ADA include the minimum dimensions required to achieve that access. As trail segments are improved, ADA will need to be examined on a case-by-case basis.

5.2.1 SHARED USE TRAIL MASTER PLAN – TRAIL LOCATIONS

ITP Recommendation # 6:
Execute the Shared Use Trail Master Plan with a Focus on High Priority Corridors

Trail Locations

The Shared Use Trail Plan (see Exhibit 'J' – Shared Use Trail Plan (Overall and four details of quadrants)) identifies the location (*) of all existing and future trail corridors. The Shared Use Trail Plan indicates on which side of the roadway or waterbody the trail should be located, however specific engineering design and field verifications will need to be completed as each project comes to fruition, thus dictating the final location of the trail. Below are the general guidelines and goals as to the locations and alignments of the shared use trail:

- Finalize trail locations and alignments per input from residents, city leaders and staff, Task Force

Committee and all stakeholders.

- Mid-block crossings were avoided, where possible, for high volume and/or low visibility roadways.
- Where possible, street crossings were made at intersections where a safer crossing could occur.
- Railroad crossings are avoided, where possible, though a limited number of designated crossings will be needed, to facilitate trail linkage throughout the community.
- Trails are sited along greenways or waterways and some are located within floodplain areas, assuming no fill will occur. For significant and highly-traveled trail corridors it is recommended that paths be located outside of the floodway and ten (10) year floodplain limits, to avoid frequent inundation.
- Some bridge underpasses or overpasses are required and are shown on the Shared Use Trail Plan. Goals of these areas are minimal impact to the natural (wetlands) or physical environment and minimum bridge span. Prefabricated bridge structures with aesthetic features are recommended.
- Trail locations were sited to minimize areas that cross or conflict with vehicular traffic (separate from traffic where possible).

**Locations and trail alignments shown on the Shared Use Trail Plan are conceptual. Specific geometric and spatial constraints will need to be looked at carefully for each of the trail corridors. Additionally, development patterns and unknown road improvements may also dictate changes to the Shared Use Trail Plan. Therefore, the Plan should be updated every two (2) years or as needed, based on the level or intensity of development activity.*

Priority Corridors and Potential Bike Lane/Shared Roadway Routes

Priority corridors were studied once a draft of the Master Plan was completed. Through input from the public, city staff, etc. a plan depicting high, medium and low priority routes was created (see Exhibit 'K' – Shared Use Trail Plan -Priority Corridors). As part of this step, the project team studied corridors where bike lanes or signed shared roadways might occur (see Exhibit 'L' – Potential Bike Lane/Shared Roadway Routes). If space exists on certain routes bike lanes and signed shared routes are fairly inexpensive to implement. For a detailed description of this plan and the priorities see the Implementation section (Chapter 6) of this report.

Loop System Concept

Creating a loop system was an idea that surfaced from a public workshop meeting as part of the ITP process.

Discussion revolved around the desire to create short, medium and long distance loops to serve residents in the immediate downtown area. The various lengths would allow users to start in one location and loop back to their origin and have various options for distance to travel. Ultimately six loops were created (three north of the Fox River and three to the south). See Exhibit 'M' – Loop System Plan for the locations and distances of the trail corridors.

**ITP Recommendation # 7:
Require Strict Adherence to Section
8: Pathways and Trail Standards (Park
Development Standards within Subdivision
Ordinance)**

5.2.2 DESIGN CRITERIA AND STANDARDS – SHARED USE TRAIL



*Recently constructed trail along
Cannonball Trail Road.*

Design Criteria and Standards provide a regional-wide trail system of safe, convenient, and attractive bicycle and pedestrian networks. Yorkville currently utilizes Section 8 (Pathways and Trail Standards) of the Park Development Standards (as part of the Subdivision Control Ordinance) as the guiding document. As an important part of this ITP study, these standards were

thoroughly reviewed and recommended changes were provided to the City. City staff has revised the standards accordingly, and the draft will be presented to the Park Board and City Council for final approval. All trail development should follow these approved standards and, where items are not addressed in that document, users should follow other accepted planning and engineering guidelines such as;

- AASHTO (American Association of State Highway and Transportation Officials) - "Guide for the Development of Bicycle Facilities"
- BDE Manual (Bureau of Design and Environment Manual-IDOT Chapter 17)
- MUTCD (Manual on Uniform Traffic Control Devices)
- BLR Manual (Bureau of Local Roads – IDOT)

Summary of Section 8 (Park Development Standards) and General Guidelines;

For approved detailed technical information regarding trail

standards, see Yorkville's Park Development Standards noted above. Below is a summary of key items provided for general information. Some elements not currently addressed in Section 8 are provided in this section and should be followed for all trail development within Yorkville.

Design Speed

- Twenty mph design speed should be utilized, unless the grade exceeds four (4%) percent, whereupon 30 mph is advisable.
- The minimum horizontal radius of curvature at 20 mph shall be at 30 feet, and at 30 mph it shall be 90 feet.

Grades

- Vertical grade on the trail shall be kept to a minimum, although it may not be possible in some areas.
- Horizontal grades should allow for sufficient drainage to occur (2% minimum).
- A ten (10') foot wide area with a gentle slope should be adjacent to both sides of the trail.
- Culverts for drainage at ravines, ditches, swales, and small creeks may be required.
- Inventory of Existing Facilities - An inventory and site analysis of the existing conditions and facilities along the proposed trail shall be conducted.
- Analysis of all bridges and drainage structures will be needed, to determine their compliance with the local and state requirements.

Trail Access

- Appropriate access to the trail system shall be designed for all authorized users, emergency and maintenance vehicles.
- Entry points shall be designed to control and prevent access by unauthorized vehicles.
- Parking facilities, information for users, site amenities, access for maintenance, emergency and security vehicles, items to prevent unauthorized use and assist with security, landscaping for aesthetics and function shall be considered at appropriate access locations.

Railroad Crossings



Well marked example of a railroad trail crossing.

- Coordination with the various railroads needs to occur, to ensure safety precautions are taken into consideration when designing, constructing and maintaining these crossings.
- Special pavement surfaces at railroad crossings may be installed, to provide safe and smoother transitions and to alert trail users of the upcoming crossing.

Signage

Trail Route Signage



Trail map signage example.

Overall trail signs provide users with helpful information to assist in navigating the trail system. Yorkville will utilize the Manual of Uniform Traffic Control Devices (MUTCD) standards for most signage within the system. However, trailhead and directional signage may be customized (see *related section in this report*), to resemble the theme and character of the wayfinding signage presented in this report. There are five basic types of sign groups:

- Informational signs (educational or interpretative)
- Identification markers (mileage markers/trail names)
- Warning signs
- Regulatory signs
- Directional markers



Example of educational signage.

Informational Signs

These typically provide the trail user with educational or interpretative information.

Identification Markers

These are for trail users and for vehicular users. This may include mile markers - which are important for trail users, maintenance forces, police, and emergency personnel.

Warning Signs

These alert users of safety issues (curves, intersections,



and steep slopes or terrain). Typically these signs are yellow and diamond-shaped with black lettering.

Regulatory Signs

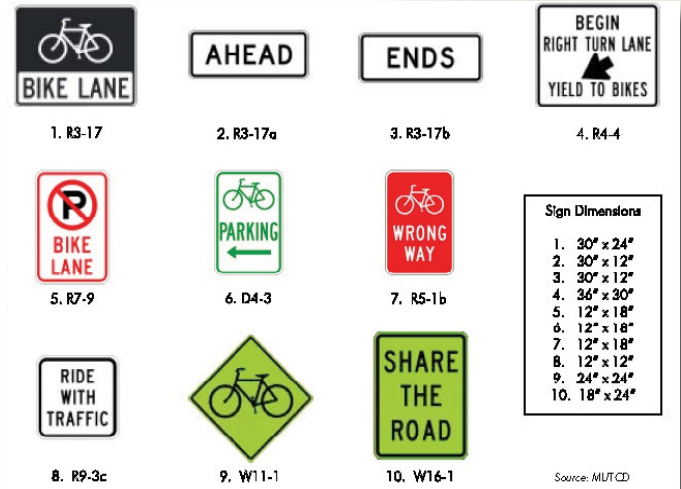
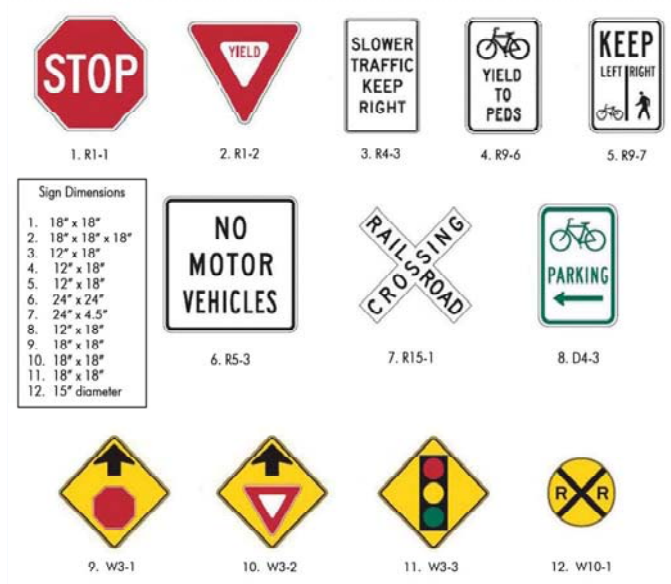
These are usually white and rectangular, with black lettering. Regulatory signs provide information on trail use and etiquette.

Directional Markers

These typically use arrows or wording to indicate in which direction to travel, and include the trail name, distance and direction. Yorkville will utilize customized directional signage at trailheads and key overlooks, or special points of interest.

Per Section 8 (Park Development Standards), the following applies to signage for the Yorkville shared use trail system:

- Approved standard precautions and signage shall be used in the design of the trail at intersections with the roadway. Warning signs, stop signs, striped crosswalks should be utilized at all roadway crossings and must be ADA compliant
- A uniform signage system, incorporating the Park and Recreation Department and the United City of Yorkville sign standards, shall be designed for the trail. All signage shall conform to the guidelines of the MUTCD and the Illinois Supplement to the Manual of Uniform Traffic Control Devices (ILMUTCD)
- All custom signage shall be approved by the Parks Department, prior to installation. Custom signs will be considered on a case-by-case basis



Examples of MUTCD (Manual on Uniform Traffic Control Devices) specific to trail signage

Trailheads

Designed to be effective and usable, the trail system shall incorporate trailheads and access points throughout the community. These elements should be designed to promote safe, efficient and easy access to the trail system. For conceptual locations of trailheads, rest areas and directional signage (see *Exhibit 'N' – Gateways and Wayfinding Signage*). Not all features are located on City or public property and, therefore, easements or land acquisition/donations may be required. For guidelines and more detailed information on Trailheads (see *Exhibit 'O' – Trailheads and Wayfinding Signage*).

Custom Trail Signage (Trailheads and Directional)

All custom trail signs should incorporate consistent visual elements, to reflect the look and feel of the Yorkville parks and trails system and the established Theme and Character, as defined by this ITP document. Each sign should feature a consistent logo, material palette, sign shape, typeface and color scheme (see *Exhibit 'O' – Trailheads and Wayfinding Signage* for example concepts).

Rest Area and Overlooks

Rest areas and Overlooks should be incorporated along the shared use trail at key points. These areas allow users to rest, gather, socialize and, if located at a scenic location, encourage users to take in the view. Rest areas can be a simple shaded bench or more comprehensive, with educational and interpretative signage.

- Sitting areas will be located in conjunction with

existing or proposed parks, historic, scenic, or unique points of interest

- Each location will be individually designed, and take into consideration the existing features of the site and trail alignment

Trail Widths and Clearances

- The trail width shall be ten (10') feet, not including the area needed for shoulders.
- For high traffic volumes, a twelve (12') foot trail width is suggested.
- Reduced widths of eight (8') feet will be considered on a case-by-case basis, based on use, site constraints, or topographic features.
- A minimum two (2') foot wide (preferable three (3'), foot) level graded shoulder with grass on each side, for safety clearance.
- Vertical clearance shall be a minimum of eight (8') feet above the trail.
- A minimum separation of five (5') feet from the face of curb of the roadway, to the edge of trail shoulder.
- Railings shall be considered on a case-by-case basis. Steep side slopes or a fixed hazard that cannot be removed or relocated may dictate railing locations.

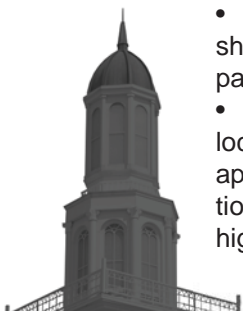
Trail Bridges



Example of a trail crossing over the Fox River.

In places where trails cross creeks or drainage corridors, pre-fabricated single span bridges or culvert crossings may be utilized to create safe passage, while providing visual interest along the trail. Bridges provide trail access during periods of high water, and mitigate safety concerns and maintenance costs associated with low water crossings.

- Bridges shall be installed to connect trails across valleys, streams, creeks, ravines, etc.
- New bridges shall be constructed with a minimum width of ten (10') feet.
- A barrier shall be provided to prevent use by unauthorized vehicles.
 - The minimum clearance width for trails shall be the same as the approaching paved trail.
 - Handrails, barriers, or fences shall be located on both sides of the trail, where appropriate. Taller barriers or fence sections may be desired at locations such as a highway or ravine.



SHARED USE TRAIL SEPARATION

- 10' trail width
- Multi-use trail for bicyclists, joggers, rollerbladers, walkers, etc.
- Handicap accessible
- See Section 8 of Yorkville's Park Development Standards for approved detail and specifications

BACKFILL DISTURBED AREA WITH TOPSOIL AND SEED.
PROVIDE FOR POSITIVE DRAINAGE OFF TRAIL.
MINIMUM 2' GRADED AREA - 1:6 MAXIMUM SLOPE.

PREPARED AND COMPACTED SUBGRADE
(PROOF ROLL WITH LOADED SIX WHEELER)

2" COMPACTED BITUMINOUS CONCRETE
SURFACE COURSE SUPERPAVE MIX C.N50
(MAX. AGGREGATE SIZE 3/8")

2% CROSS SLOPE

10' PAVEMENT WIDTH

11' AGGREGATE BASE COURSE

3' CLEARANCE (NO SIGNAGE OR OTHER VERTICAL OBSTACLES)

3' CLEARANCE (NO SIGNAGE OR OTHER VERTICAL OBSTACLES)

8" COMPACTED AGGREGATE BASE COURSE TYPE B (CA-6 GRADATION)

NON-WOVEN GEOTEXTILE FABRIC FOR UNSTABLE SOIL

NOTE: THE TRAIL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH IDOT'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION"

SHARED USE TRAIL SEPARATION

- 10' trail width
- Multi-use trail for bicyclists, joggers, rollerbladers, walkers, etc.
- Handicap accessible
- See Section 8 of Yorkville's Park Development Standards for approved detail and specifications

ADDITIONAL SEPARATION FOR SAFETY
FOR PROPER DRAINAGE
BIO-SWALE TO CLEANSE STORMWATER
BEFORE RELEASING TO WATERSHEDS

12' DRIVING LANE (TYP)

10' SHOULDER & ADDITIONAL SEPARATION FROM TRAIL

10' PAVEMENT WIDTH

3' CLEARANCE

Landscape

While landscape adds to the aesthetic quality of a trail corridor or trailhead it also provides shade and other environmental benefits. Below is a summary of landscape guidelines specific to trail routes and/or at trailheads:

- Utilize native landscape plant material that is drought tolerant.
- Trees of heights and patterns complementary to human scale, with high branches and upward branching habits.
- At trailheads, perimeter landscaping should define edges that reduce the impact of parked vehicles, and enhance the trailhead, yet provide visibility for security reasons.
- Wind screens may be incorporated, to protect users from cold winds, particularly on ridges and exposed areas.

Trail Cross-Section and Surface

- The trail shall be designed to accommodate the wheel loads of occasional service vehicles, such as emergency, patrol, construction, and maintenance.
- The trail surface shall be suitable for bicyclists, joggers, roller bladers, walkers, etc., and it shall be handicap accessible.

There are several types of trail surfaces that may be constructed depending on location and existing conditions. The City will determine which trail surface is appropriate as more detailed studies are completed for the trail segments. The section below provides a summary of each type of surface that is available for consideration.

Types of Surfaces

Hard or Paved Surfaces

Most existing, shared use paths within the City have been constructed as asphalt trails. Concrete surfaces will only be considered if constraints or other reasons deem this surface is necessary. While a Portland Cement Concrete (PCC) surface is extremely durable, and perhaps aesthetically preferred in some cases, it is not ideal for trail use for several reasons. First, PCC construction is very costly. Second, the rigidity of the surface is undesirable for runners, and thirdly, the required expansion and contraction joints cause discomfort for cyclists and especially in-line skaters.

For these reasons, Bituminous (asphalt) is the preferred surface for trails; however this material does require periodic maintenance (e.g. filling cracks, periodic resurfacing, etc.). Asphalt or bituminous paths should

be constructed per the approved standards (see *Trail Cross-Section*).

Limestone Screening Surface

Another option for shared use trails is a surface consisting of limestone screenings. This surface is much less expensive to install than asphalt, but does require more intensive maintenance. This material is desirable for low traffic areas or in areas of environmental concern. Limestone screenings are typically constructed by stripping the topsoil, placing a compacted gravel base, and then applying a 2-3" surface of limestone screenings. The screenings compact very well and continue to harden over time. The surface provides excellent traction for cyclists, although is undesirable for in-line skaters due to the loose material that can occur.

This type of surface actually creates more noise than other surfaces, however, this can improve safety in a shared use environment, by providing a warning to pedestrians of an approaching cyclist. Finally, because of their lower initial cost, limestone paths can provide an interim improvement until funds are available for an asphalt surface. Loose material is typically limited to the top eighth of an inch, while material below the surface has consolidated into a firm structure. The loose material provides good traction, but tends to erode on steep slopes.

Proper drainage and storm water runoff control is extremely critical with limestone trails. In locations where slopes over 4% cannot be avoided - or within floodplains - an asphalt, concrete or grass surface should be used.

Bark or Grass/Mowed Surface

Bark or Grass/Mowed trail surfaces are rarely utilized for bicycle travel, however, for trails located on steep slopes and within floodplains they may be appropriate. Bark or wood chips should be at least four (4") inches deep and should be replaced every year, due to compaction and dislocation. Bark or wood chips should not be used near streams or wetlands, within the floodplain, or on portions of the trail with cross-drainage or storm water runoff.

ITP Recommendation # 8:
Design and Construct Various Types of Trails Within the ITP Study Area

Trail Type

To address the non-vehicular transportation needs, the ITP provides vision, recommendations, and direction, in

order to create a comprehensive and cohesive shared use trail system. To successfully implement the Shared Use Trail Plan, the ITP proposes that there be many types of trails with associated cross-section options, which allow adjustment to the trail section, depending on the location, constraints and need of the trail users. There are six basic types of bicycle facilities that can be implemented: shared use roadways, signed shared roadways, wide shoulder, striped or marked bike lanes, shared use trail (detached from road), and greenway or nature trail. This section provides a description of each type of trail.

1. Shared Use Roadway



Fox Road, River Road and Lisbon Road are examples of potential Shared Use Roadway Facilities for the short term, until future improvements occur.

The term Shared Use Roadways simply refers to roads and streets that may be legally used by cyclists. Under Illinois law, cyclists may use any street or highway unless posted otherwise. Generally, bicyclists are prohibited only on Interstate Highways and other high speed limited access routes. Therefore, almost all streets in Yorkville and Kendall County technically qualify as Shared Use Roadways. While cyclists may

legally use any public roadway, it does not guarantee that the routes are safe for cyclists, and they may not have signage designating it as a bike route. Cyclists can utilize any part of the road lane and, therefore, cause vehicle and bicycle conflicts. This type of facility is only used where there are significant spatial constraints, or reasons that preclude other options, as listed in this section. Given these constraints, the corridor becomes very important, in terms of reaching destinations and, therefore, needs to be included as part of the system. Fox Road may be a good candidate for this type of trail, until future road improvement can occur or funding is provided for more significant trail improvements. Rural roads with low traffic volumes, such as Lisbon Road, may be good corridors for this type of facility as well.

2. Signed Shared Roadways



A more recent practice and option to the Shared Use Roadway designation is to have a Shared Use Symbol painted on the pavement - with associated signage along the right-of-way. This facility type encourages

the motorist and the bicyclist to share the road and, most importantly, shows the cyclist where they are expected to ride. This type of facility is most appropriate on roads with wider pavement widths. They are typically signed, and serve to provide continuity with other bicycle facilities through corridors where construction of a dedicated five (5') foot bike lane or detached shared use path is not feasible. The signage of these routes indicates a determination has been made that these routes are suitable for bicycle use. Low traffic neighborhood streets or collector streets without on-street parking (or minimal on-street parking) are the best candidates for this type of system. The markings on the pavement may demonstrate the destination of the route as well (i.e., Downtown Yorkville) so that cyclists know where they are going.

3. Wide Shoulder



A wide shoulder (e.g. existing situation along Van Emmon Road generally from downtown to Route 71) is also an acceptable means of promoting bicycle use on roadways. Occasionally they may only be 2' to 3' wide, however five (5') foot is preferred, so bicyclists can feel more comfortable and

have an area in which to ride. As compared with the Signed Shared Roadway, which may designate the bicyclist to ride within the vehicular travel lane, this use provides a wider shoulder, separating bicyclists slightly more. This can help to minimize erratic maneuvers on the part of motorists, and enhance the comfort level for the bicyclist.

4. Striped or Marked Bike Lanes

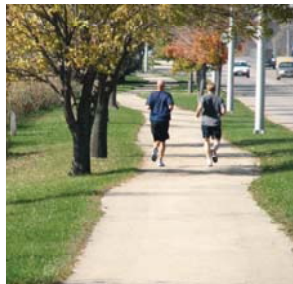


Bike lane example.

Spatial constraints within the right-of-way may hinder the construction of a side path or detached trail and, therefore, sometimes a bike lane makes more sense for the experienced bicyclist's direct travel, as part of the street cross-section. Also, bike lanes on roadways provide an excellent means of achieving efficient, non-motorized transportation through Yorkville and the surrounding region, without significant cost. Striped bike lanes are configured along the right edge of the roadway with a solid white painted line. They help to define the space to ride, decrease stress for bicyclists, encourage bicyclists to ride in the correct direction, and alert motorists that cyclists have a right to the road. Overall these types of facilities help to better organize the flow of traffic, and reduce the chance that motorists will veer into a cyclist's path of travel. Bike Lanes are intended for the exclusive use of bicyclists, so vehicular traffic is often prohibited from crossing into a bike lane, except when making a turn. Vehicles can sometimes be allowed to park in the bike lane on low traffic volume roads, or where minimal parking use occurs. If parking is allowed, there is typically space and room to pass the cars without veering into the adjacent lane. "Share the Road" signs and pavement markings can also be utilized in this type of facility. Design guidelines published by AASHTO do present recommendations for inclusion of Bike Lanes on routes that allow parallel parking.

The ITP study specifically examined where bike lanes or signed shared roadways could occur. In the Implementation section of this document, roads are listed with designations regarding the type of on-road facility that may be possible (see Exhibit 'L' – Potential Bike Lane/Shared Roadway Routes).

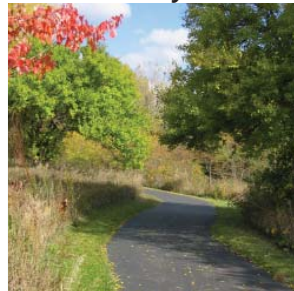
5. Shared Use Trail



Shared use trails are typically physically separated from roadways, and are normally shared by bicycles, joggers, wheel chairs, strollers, pedestrians, roller bladers, skateboarders, and dog walkers. They are usually paved, with an asphalt surface, but may

also have a gravel or Portland Cement Concrete surface. More importantly, shared use trails serve as extensions of road networks, offering viable connections between key nodes and destinations, such as work, schools, library, parks, shopping areas, historical and cultural sites and tourist attractions. Most of the trails shown within the ITP study limits are shown as this type of trail. Sidewalks are not considered shared use paths, primarily for safety reasons. In selected high traffic pedestrian areas, namely downtown Yorkville, bicyclists should walk their bikes if using the sidewalk until they can access a shared use trail or roadway. Yorkville may need to revise or update ordinances in the future to address potential conflicts.

6. Greenway and Nature Trails



Greenway and Nature Trails typically incorporate varying types and intensities of human uses, including trails for recreation and travel and passive or active park facilities, including open playing fields. Nature trails are a form of shared-use path, although they typically run through environmentally-sensitive areas. The surfacing and width specifications are more flexible than for shared-use paths; for example, nature trails may have a soft, permeable surface, such as bark, wood chips, or crushed aggregate (limestone screenings) in lieu of asphalt. Therefore, nature trails are not necessarily designed to be ADA accessible, except at parking areas, restrooms, and picnic areas. The width of the nature trail may be very narrow to allow for passage through densely vegetated areas and hilly terrain.

5.3 DOWNTOWN STREETSCAPE PLAN

RECOMMENDATIONS

The purpose of the Downtown Streetscape Plan is to provide general standards and guidelines for the pedestrian and bicycle environment in the downtown area of Yorkville. While the ITP study is not a comprehensive or detailed Streetscape Plan, general standards are provided which focus on the pedestrian and bicycle environment, circulation, and safety. An active downtown seeks to achieve elements such as reduced traffic speeds, which can result in making the streetscape more enjoyable, aesthetically pleasing, and safe for all users. Therefore benefits are recognized, such as: reducing conflict between non-vehicular and motorist traffic, increasing pedestrian and vehicular access to the downtown area (enhancing economic development), and providing connections to

recreational opportunities like the Fox River.

The following categories are addressed in this section:

- Attracting Market Groups to the Downtown
- Theme and Character
- Environment in and Access to Downtown, Including Discussion on IL Route 47, Bicycle Access, Pedestrian Environment, and Downtown Streets
- Traffic Calming Techniques, ADA, Parking and Façade Treatments
- Streetscape Elements

ITP Recommendation # 9: *Attract a Variety of Market Groups to the Downtown*

Attracting Market Groups to the Downtown

A market study was not included in the scope for this ITP project, however, it is important to understand how Yorkville might attract various market groups to the downtown. Streetscape improvements alone do not bring residents and businesses to a downtown, and therefore a comprehensive approach is needed. Working with the Economic Development Corporation, the City should endeavor to design a vibrant downtown, appealing to - and attracting - the various groups listed below.

Community Residents

For this group, downtown Yorkville should represent the center of social recreation, as well as a place to live and conduct business. For example, if City Hall is located in the downtown, residents from all over Yorkville will travel downtown to attend City Hall meetings, and conduct other government business. In addition, downtown Yorkville can also draw residents from throughout the City for special events and other occasions. Many citizens also periodically frequent downtown retailers, restaurants, and bars. A truly successful downtown revitalization will cause more community residents to visit the downtown more often, greatly contributing to the vitality of the area.

Shopping, Food and Entertainment

Many vibrant downtowns are home to a large number of restaurants and entertainment options. As Yorkville grows, the downtown can improve on the food and entertainment options. Restaurants, bars, and other entertainment venues can often benefit greatly from proximity to other similar venues along with special events or occasions. Visitors are likely to stay longer (and spend more) downtown, if additional venues are located there.

Local Students and Youth

Many young people are attracted to downtowns and, therefore, youth-friendly stores should be provided. Stores selling clothing, toys, music, candy, soda, etc. and restaurants attract younger consumers. Additionally, community events attract high school students and young families to the downtown.

Downtown Residents

A fair number of people already live within walking distance of Downtown Yorkville and this plan proposes efforts to increase the number of residents in the immediate area. Higher densities that are typically appropriate in an urban core bring additional consumers within walking distance to a marketplace. Also, having a significant population in the downtown draws visitors from out of town. Having significant population (purchasing capacity) is typically a critical component of a successful downtown.

Downtown as a Workplace

Attracting businesses and offices is a key component to having a vibrant downtown during the day. People who work downtown represent a significant market for restaurants (breakfast, lunch, and coffee break). Also, after work hours, bars and restaurants are prime destinations, and shops can offer convenience shopping, as well.

As mentioned above, it is important to have a downtown that is appealing to these groups, to truly make it a vibrant area. While some streetscape improvements can attract people to an area, it is often the synergy of the above items that brings people to a downtown.

ITP Recommendation # 10: *Apply the Gateway and Wayfinding Signage Throughout the Downtown Region per the Established ITP Theme Concept*

Theme, Character and Wayfinding/Signage

As described previously in the report, the ITP defines a theme for the shared use trail signage, as well as the downtown wayfinding and signage. The signage for downtown Yorkville can be applied at key “gateway” locations, parks, public spaces, and along roads at the city limits and other key gateway locations. Gateway signage for the downtown welcomes visitors and residents into the region, and establishes pride in the community. As described in the Theme and Character Vision (Exhibit H), incorporating historical items of Kendall County and

Yorkville will ensure the history of the area is preserved for and enjoyed by future generations. Wayfinding and signage concept sketches for Yorkville's downtown embrace the theme described previously. (see Exhibit 'I' – Gateway and Wayfinding Signage Concepts). Also, a Gateway and Wayfinding Signage Downtown Plan reflects potential locations of features, such as public spaces, plazas, parks and open space corridors. (see Exhibit 'P' – Gateway and Wayfinding Signage– Downtown Plan). Pedestrian informational signs, directional signage and kiosks are located throughout the downtown area.

Pedestrian Environment, Downtown Streets and Traffic Calming Techniques

Design improvements should be provided for key streets within the downtown, to create a pedestrian environment and to improve accessibility to the downtown within the core area. Pedestrian-oriented streets place emphasis on areas where buildings abut the streets, and should feature proper spatial relationships for streetscape elements, including landscape plantings, street lighting and street furniture, such as bench seating. The streets in downtown Yorkville are very visible and, if properly designed, can vastly improve the aesthetics and pedestrian/bicycle environment, thus inviting people to come downtown.

ITP Recommendation # 11:
Improve Downtown Streets, Pedestrian Environment and Non-vehicular Access with Traffic Calming Techniques

Pedestrian Environment



The primary pedestrian routes within downtown are the sidewalks. While many of the sidewalks within the downtown core area are in fair condition, sidewalks in other areas are either missing, or may require significant maintenance and repair. The plan should identify a continuous, safe and attractive sidewalk system, to service all areas of downtown Yorkville. The existing pedestrian network has been examined, specifically, within a 10 minute walk of the core downtown area, as described in Chapter 3 of this report. Based upon those findings, the ITP recommends sidewalk improvements within this defined area - as specified on Exhibit

11. The plan should identify a continuous, safe and attractive sidewalk system, to service all areas of downtown Yorkville. The existing pedestrian network has been examined, specifically, within a 10 minute walk of the core downtown area, as described in Chapter 3 of this report. Based upon those findings, the ITP recommends sidewalk improvements within this defined area - as specified on Exhibit

'R' - Downtown Area Sidewalk Improvements.

Priority corridors shown on the exhibit as “identified for improvement” were chosen because they achieve one or more of the following goals:

- Improve walks in areas devoid of sidewalks
- Provide direct access to the downtown core area
- Provide efficient mobility and direct routes
- Enhance accessibility and connectivity
- Promote a comfortable/attractive environment
- Improve slope or grade

By implementing the sidewalk improvements, the core of downtown Yorkville will become a much more walkable area.

Pedestrian Zones

Appropriate pedestrian zones in the downtown core area are an important focus, when trying to achieve a better pedestrian environment. The pedestrian zones are located from the curb to the front property line or building façade of the adjoining parcels. These zones provide areas along the street corridor for landscaping, street furnishings, and pedestrian circulation. Currently the downtown street corridors lack defined or appropriately designed zones. This ITP recommends incorporating these design recommendations as property re-develops, and as future streetscape improvements occur. The following section discusses the specific functions and minimum dimensions for each sub-zone within the pedestrian zone. There are typically four sub-zones (see descriptions and exhibits on the following page)

1. Frontage Zone
2. Pedestrian Zone
3. Planting/Amenity Zone
4. Edge Zone

1) Frontage Zone

The frontage zone is the area adjacent to the property line. It may be defined by a building facade, landscaping area, fence, or screened parking area. A minimum width of three (3') feet should be provided for the frontage zone. The width of the frontage zone may be increased, to accommodate a variety of activities associated with adjacent uses, such as outdoor seating or merchant displays. If space does not permit, this zone can be eliminated.

2) Pedestrian Zone

The pedestrian zone is intended for pedestrian travel only, and should be entirely clear of obstacles and provide a smooth walking surface. The throughway zone should be, at a minimum, six (6') feet wide, which is the minimum comfortable passing width for two wheelchairs on a sidewalk.



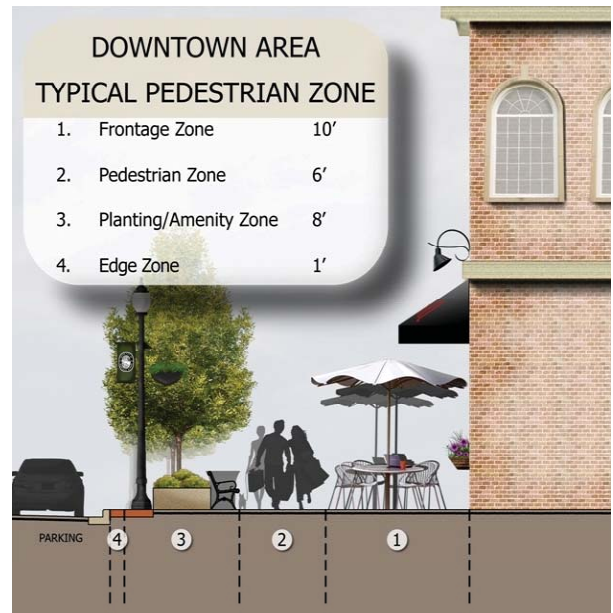
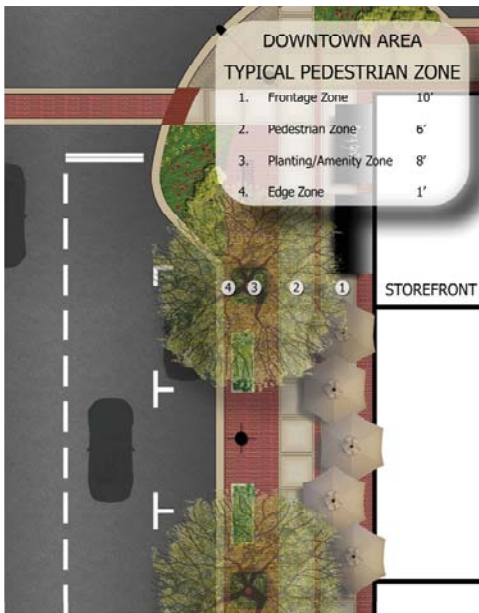
3) Planting/Amenity Zone

The planting/amenity zone is the key buffer component between the active pedestrian walking area and the vehicle traveled area. Street trees, planting strips, street furniture, bollards, signal poles, signals, electrical, telephone and traffic signal cabinets, signs, fire hydrants and bicycle racks should be consolidated in this zone, to keep them from becoming obstacles to pedestrians. The planting/amenity zone should have a minimum width of three (3') feet in narrow road sections. A more comfortable and, therefore, desirable dimension is eight (8') feet for the planting/amenity zone.

4) Edge Zone

The edge zone (sometimes called obstruction free zone) provides an interface between parked vehicles and street furniture. This zone should, generally, be kept clear of any objects. Parking meters or other small vertical features may be placed here with consideration to door swings. The edge zone should have a minimum width of one (1') foot, preferably two (2') feet.

Often existing conditions do not allow the appropriate amount of space for all of the pedestrian zones. Therefore, Options A, B, C, and D are provided below for reference, and each street or area should be studied in detail and planned on a case-by-case basis, depending on available space. The exhibits below show the “*typical*” treatments in plan and section view.

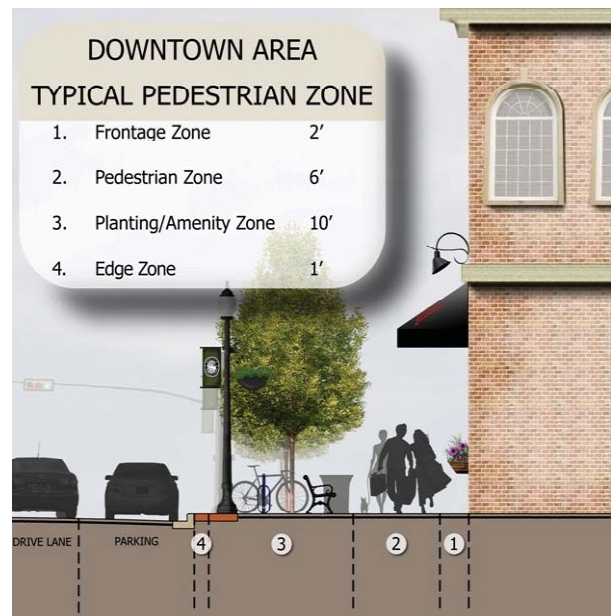
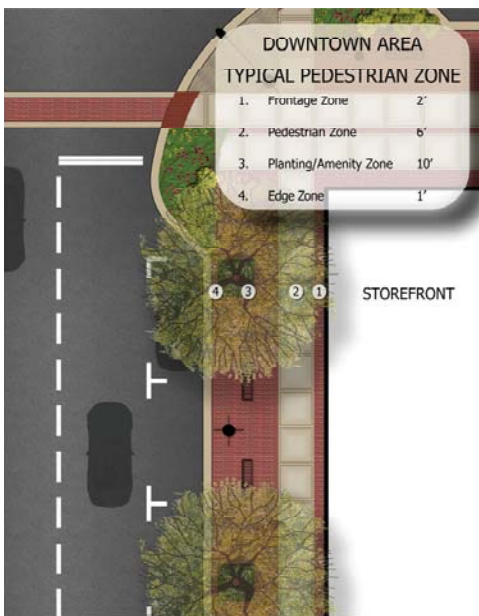


OPTION A

- 25' total width

-Typically, street right of way does not allow the space for this option, so the front setback will need to be increased, resulting in the property owner having the "frontage zone" on their property

-Utilized for restaurants and businesses that desire the public space in front of their facility



OPTION B

- 19' total width

-Large frontage zone is eliminated (space for planter boxes)

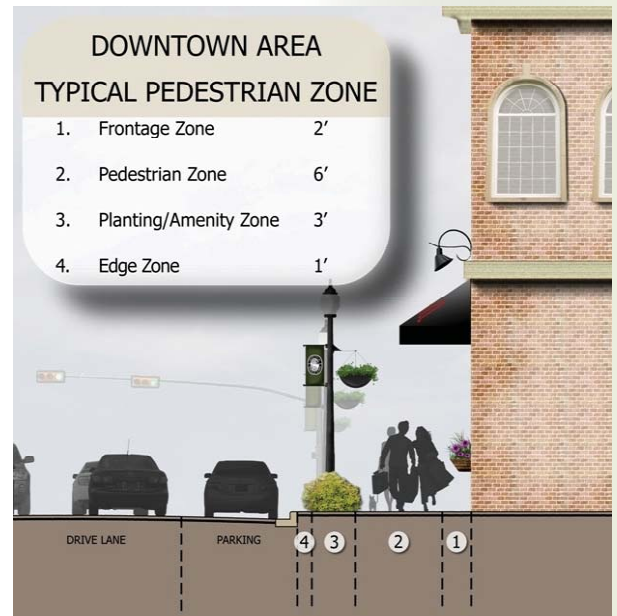
-Emphasis on the planting/amenity zone, to allow maximum area for street trees, benches, bike racks, flower beds, etc.





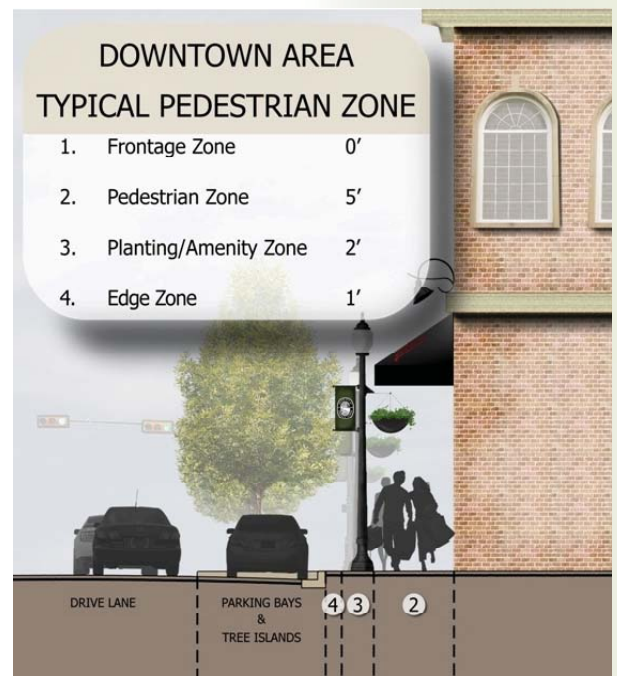
OPTION C

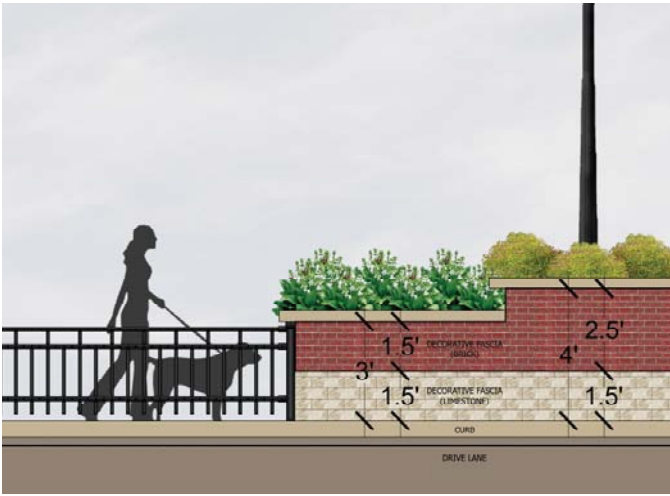
- Limited space exists (12' total), so amenity planting zone is reduced; however, space exists for small landscape plants, light poles and hanging baskets
- This situation is fairly typical in most downtown areas, due to limited space in the right of way



OPTION D

- This situation occurs when only eight (8') feet or less exists
- No frontage zone can be accommodated
- Space may exist in the amenity zone for lighting poles and bollards
- Parking bays should be added periodically (eliminate some parking spaces), in order to provide a streetscape program





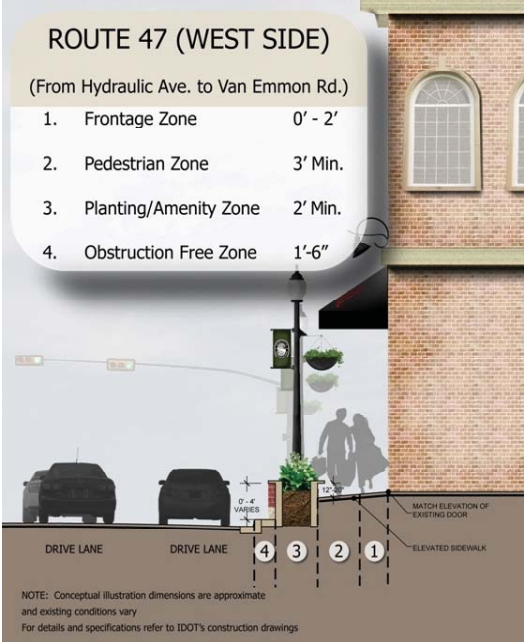
Based upon the understood pedestrian zones described above, the ITP suggests future improvements to specific streets in downtown Yorkville. The overall characteristic of street cross-sections should create an environment that is appropriate to the design speed of the street. When modifying a street cross-section, the design elements need to be considered, along with the traffic volume. Design elements relevant to the vehicle include lane widths, pavement markings, materials and colors; curb design, and on-street parking. Design elements more relevant for the pedestrian include: building setbacks, street trees, sidewalks and furnishings. The greater the level of pedestrian activity, the lower the design speed and posted speed should be, to improve the pedestrian environment in downtown Yorkville. The streets listed below were studied to determine how they could be modified in the future to be more pedestrian and bicycle-friendly.

Note: These are conceptual illustrations only designed to fit within the existing right-of-way. However field conditions and other variables may not allow the exact dimensions as shown. Roadway improvements and easements may need to be acquired in some areas, to achieve the proposed cross-section. The sections also assume potential redevelopment on sites where easements could be acquired.

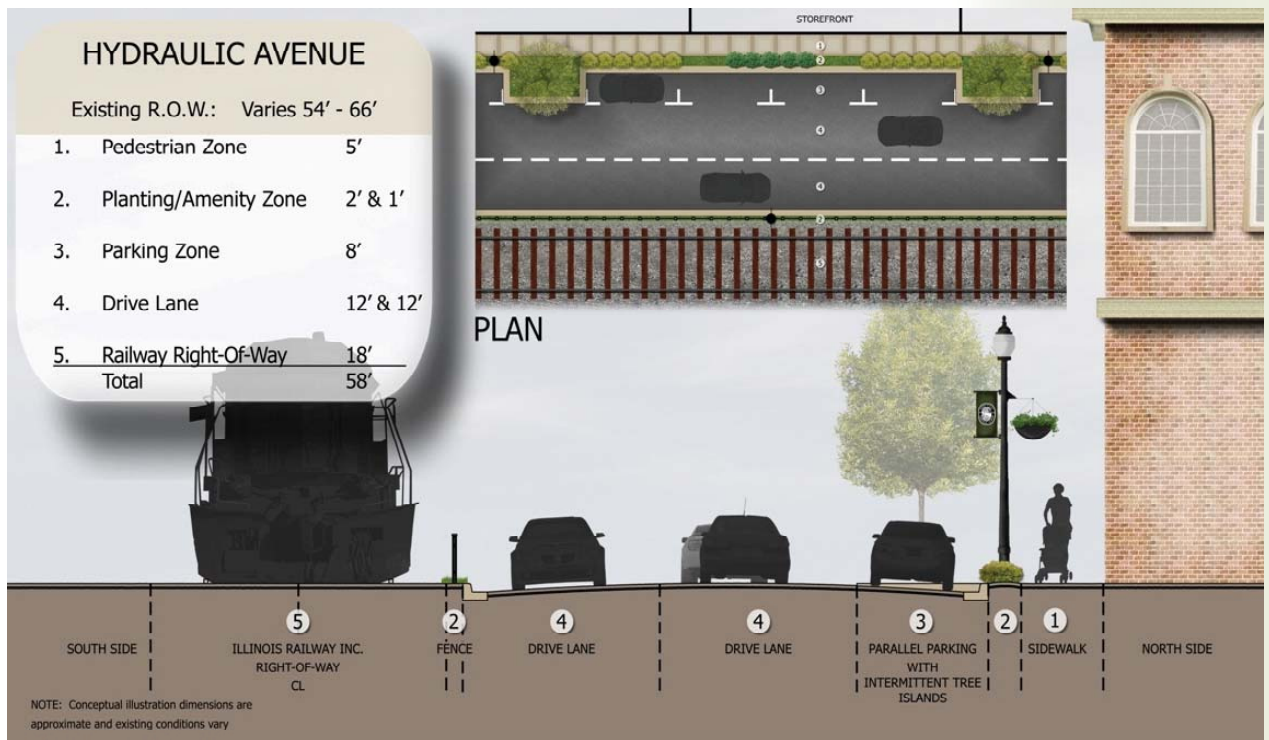
- Route 47 (focus on west side)
 - Hydraulic Street
 - Fox Street (residential sections or areas only)
 - South Main Street

Route 47

The future widening of IL Route 47 and additional improvements considered for the downtown Yorkville area will, potentially, have a negative impact on the pedestrian environment. Crossing IL Route 47 at Van Emmon and Hydraulic is a significant constraint, as pedestrian crossings will need to be clearly identified for the pedestrian and the automobile user. Also, the east and west sides of IL Route 47 are very narrow and with the elimination of parking and widened lanes the pedestrian environment is challenged. To accommodate the negative factors, as part of this ITP project, Yorkville and IDOT are pursuing solutions to these impacts. Currently a wall/raised planter bed is being proposed along each side of Route 47 along with decorative fencing. The ITP recommends that this wall be faced with materials that match the theme for signage and wayfinding (see Exhibits 'H'-Theme and Character Vision and 'I' - Gateways and Wayfinding Concepts).



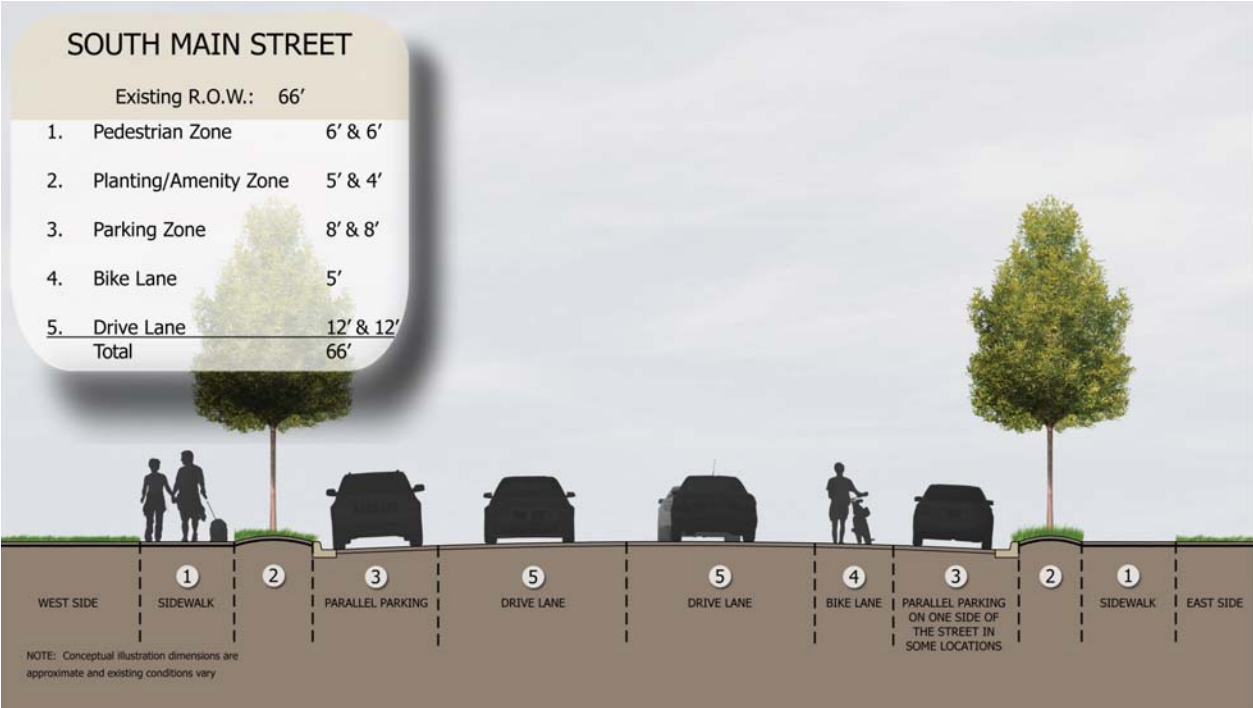
Proposed Conceptual Street Section for Hydraulic



Proposed Conceptual Street Section for Fox Street (Residential areas only)



Proposed Conceptual Street Section for South Main Street



Proposed Conceptual Street Section for Van Emmon



Traffic Calming Techniques



Example of traffic calming sign.

Modifying or improving street cross-sections is an important step in making downtown Yorkville a more pedestrian-friendly place. In relationship to the street sections there are various other traffic calming and safety techniques to be considered and, therefore, recommended as part of this ITP.

Traffic calming is a combination of techniques used to: reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for pedestrians and bicyclists. Traffic calming objectives are: enhance the street environment and aesthetics, reduce cut-through vehicle traffic, slow vehicles down, reduce accidents, and increase safety perceptions. The ITP recommends consideration of traffic calming techniques such as;

- Refuge islands (bump outs) with barriers (where needed) to protect the pedestrian
- Intersection improvements
- Alternative trail and sidewalk surfaces and colors at crossings
- Raised pavement areas
- Safe sight and stopping distances
- Clearly visible traffic and directional signing and pavement markings

In summary, the ITP recommends solutions to improve interactions between vehicular, bicycle and pedestrian routes, and to overall improve the walkability of the downtown area (see *Exhibit 'S' – Downtown Recommendations*).

Intersection Improvements

Several intersections have been identified as prime candidates for future improvements for pedestrian safety. (see *Exhibit 'S' – Downtown Recommendations*). Improvements at these intersections may include bump outs, pedestrian refuge islands, special crosswalk pavement (see *below*), and additional signage and pavement markings.

Crosswalk Treatments



Crosswalk treatments can occur at intersections and mid-block crossings. Improved crossings should be established at intersections (as mentioned above), to better unify the downtown areas and provide safe connections between existing and future locations such as:

- Existing downtown core (IL Route 47 and Hydraulic/Van Emmon)
- Surrounding residential areas
- Whitewater Recreation Facility
- Riverwalk
- Bicentennial Riverfront Park
- Future public plazas, shopping areas, civic uses

When designing crosswalk treatments, appropriate signage and striping measures should be applied per the MUTCD (Manual on Uniform Traffic Control Devices). The hierarchy and appropriate locations include the following applications:

- Standard Markings - All crossings should be identified with parallel lines
- Enhanced Markings - Ladder striping, if colored/textured pavement is not utilized (i.e. stamped concrete)
- Colored pavers – A distinctly patterned paver may be applied to distinguish intersection crosswalks and mid-block crossings in the core or transition zone, consistent with the proposed theme and as shown on the Streetscape Elements Exhibit 'Q'

Slope / Grade

Where possible, the cross slope of pedestrian street crossings, at either marked or unmarked crosswalks, should be not more than eight (8%) percent, measured perpendicular to the direction of pedestrian travel. Also, where possible, the running grade of pedestrian street crossings, at either marked or unmarked crosswalks should be not more than five (5%) percent in the direction of pedestrian travel in the crosswalk. Crosswalks at signalized intersections should be marked on the roadway with pavement markings, and should be at least eight (8') feet wide and preferably ten (10') feet wide.

Intersection Sight Triangles

A corner triangle of thirty (30') feet by thirty (30') feet should be kept clear of any unnecessary visual obstruction. In addition, minimal obstructions should be maintained in a sight triangle, as defined using AASHTO recommended methodologies and appropriate street cross-section and intersection designs.

High Visibility Crosswalk Markings



High visibility crosswalk marking is an added feature beyond the use of the standard or enhanced pavement markings, colored pavement, or special pavers. High visibility crosswalk markings can be in the form of signage, special pavement markings, flashers, or in-ground lights. High visibility

crosswalk markings should be provided at all mid-block crossings and at intersection crossings where no traffic control is provided. Signage identifying the pedestrian crossing location should be incorporated wherever a mid-block crossing is designed. In high pedestrian and bicycle activity areas, or for pedestrian and bicycle path crossings, enhanced features such as flashers or in-ground lights should be considered.

Mid-Block Crossing and Pedestrian Refuge Islands

Mid-block crossings and pedestrian refuge islands with curb extensions should be considered at locations where a substantial number of pedestrians or bicyclists attempt to cross streets, regardless of the presence of protection or identification of the crossing. These circumstances typically occur in locations with pedestrian attractions on both sides of a roadway, in areas with a combination of street-facing retail shops and on-street parking, and the presence of long blocks (i.e., blocks of 600-feet or greater). Mid-block crossing will only be applied to limited locations, and will be analyzed on a case-by-case basis. Multilane un-signalized, controlled mid-block crossing should be avoided. Refuge islands should, generally, be considered for crossings wherever there is a median. Refuge islands in medians should be at least six (6') feet wide.

Curb Extensions (Bump Outs)



Curb extensions are the sidewalk areas that extend beyond the regular curb lines, into the traveled way or parking lane. When on-street parking is provided, curb extensions should be provided at all intersections.

They are encouraged at mid-block crossings in limited locations. Curb extensions should not be constructed beyond bicycle and vehicle travel lanes.

Applicable MUTCD Standards

MUTCD standards should be followed for crosswalk improvements in Yorkville. Below are some of the applicable standards for this ITP project. Pedestrian crossing intervals should be calculated at the walking speed of four (4) feet per second (less if other factors are present, such as steeper slopes, or if the crosswalk length is greater than 50 feet). Extended time for pedestrian crossing may be initiated by a long (e.g., greater than three (3) seconds) button press. MUTCD recommends calculating the clearance interval, based on the pedestrian reaching the farthest edge of the traffic lane on the opposite side of the street. Total crossing distance, as defined by MUTCD, should include the entire length of the crossing - plus the length of one curb ramp.

ITP Recommendation # 12:

Encourage redevelopment opportunities and improve bicycle and pedestrian connectivity between the core downtown and key destinations/attractions

Pedestrian Environment Along the Fox River - Bike/Pedestrian Bridge, Riverfront Park and Whitewater Recreation Facility



Yorkville has a tremendous opportunity given the recent construction of a whitewater recreation facility on the Fox River. Combine this amenity with natural beauty of the Fox River Valley, Riverfront Park and the proximity to downtown Yorkville there is endless potential. The ITP recommends the City maximize on this potential by taking actions steps such as pursuing additional

public land along the Fox River, and acquiring easements and accessibility to expand the Riverwalk.

Fox River Bike/Pedestrian Bridge



Yorkville recognizes that portions of the Fox River waterfront is privately owned yet access along and across the natural feature is desired. The Plan shows a river side trail (along the south side of the Fox River) and four potential bridge crossing locations. As part of this ITP project the crossings have been identified and a priority assigned. Two viable locations for the Fox River Trail crossing have been identified (1A and 1B) however both are not needed. Further study is required to determine which location is best suited for a bridge and associated landing areas on the north and south banks of the River.

Bike/Pedestrian Bridge Priority # 1A

West side of Riverfront Park to the north bank

Bike/Pedestrian Bridge Priority # 1B

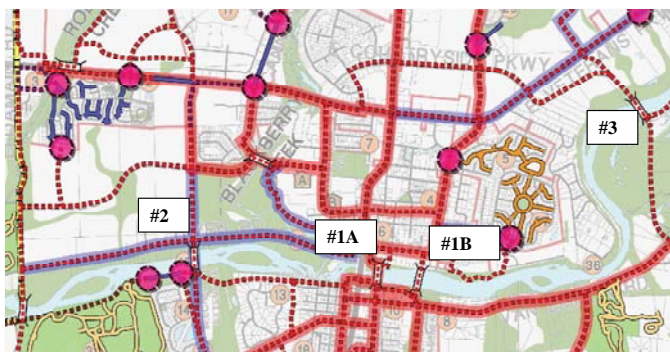
East side of Riverfront Park to Worsley

Bike/Pedestrian Bridge Priority # 2

Beecher Extension

Bike/Pedestrian Bridge Priority # 3

Van Emmon (Saw Wee Kee Park) to Route 34

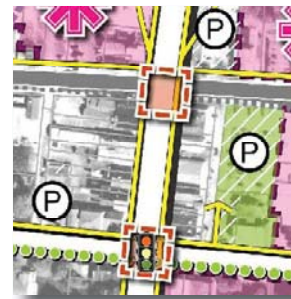


Potential Redevelopment Areas/Sites

Many redevelopment opportunities exist in the downtown (see Exhibit 'S'-Downtown Recommendations). Unlike many downtowns, Yorkville has large parcels of land that are either under one owner or can be compiled into significant development projects. The City should encourage cohesive parcels of land to be assembled and should also pursue purchasing key properties for future public use (parking, parks, and open space). Lastly, as these properties are improved, recommendations within this

report can be implemented.

Alleys Behind Businesses on IL Route 47



The existing alleys behind the businesses along Route 47 has potential to be improved aesthetically while also providing improved pedestrian access.

Behind the businesses that front on to IL Route 47 alley ways exist that access City owned public parking. The ITP recommends improving the vehicular and pedestrian environments in this area. Pedestrian promenades could be developed and landscaping and other streetscape elements could be incorporated to improve the aesthetics and walkability. Further study of details for this area should be conducted.

Focal Points and Gathering Places



Focal points (identified on Exhibit 'S'-Downtown Recommendations) could be locations for small plazas, courtyards, open spaces and vertical features. The features are located at a very prominent position - often at the terminus of a street in downtown Yorkville. Because of the

areas' high visibility and vicinity within the downtown, these are ideal areas to implement pedestrian gateways, signage monumentation, streetscape amenities, public art, perennial flower beds and the like. These areas could also simply be gathering places designed to accommodate both passive use and organized events.

Bicycle Access in the Downtown

Downtown bicycle access needs to be improved. It is an important mode of current and future transportation in Yorkville. A clearly-designated bicycle route should be developed downtown, with connections to core businesses or public areas (whitewater recreation facility, riverwalk, etc.). Exhibit 'S' – Downtown Recommendations shows the potential location for bicycle access and routing.

The downtown streets should be designed to be "bicycle-friendly" however, in some isolated areas, bike traffic may be limited due to potentially high pedestrian traffic or limited space (IL Route 47, Hydraulic, etc.). The existing and future Riverwalk may be a prime location to provide bicycle access; however, the corridor will need to be very

wide to accommodate significant pedestrian traffic, as well as other users.

Americans with Disabilities Act (ADA) Compliance



ADA improvements need to be incorporated in downtown Yorkville.

Similar to the overall Shared-Use Trail Plan, ADA compliance will be extremely critical in the downtown environment. Pedestrian facilities to be utilized by the general public should be planned, designed, constructed and maintained, so that a wide range of people can use them and rely on them for their daily travel, including people with disabilities and older adults. This ensures people with various degrees of

mobility and disability can all enjoy downtown Yorkville, and will bring great diversity to the downtown environment.

ITP Recommendation # 13: Improve Availability and Treatment of Parking Areas

Parking Recommendations



Parking is a critical component of a successful downtown.

Parking is a critical use for downtown. Three spaces per 1,000 occupants is the ratio used for new suburban office development, but Yorkville should plan on doubling that amount for the core downtown area. As housing development and re-development occurs in the downtown, there will be a need for additional parking.

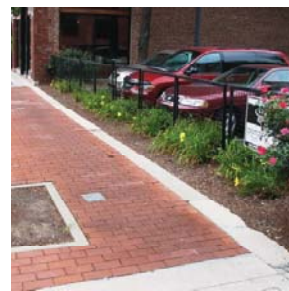
IL Route 47 Parking

The movement of motor vehicles is the primary function of IL Route 47 and, therefore, IDOT is eliminating all on-street parking. As a result, coordination with IDOT is occurring to obtain and develop off street parking areas to replace these spaces that will be eliminated. The vehicular needs of the downtown businesses, residents and festivals must meet current demands and

identify the growth potential in future years.

Parking types and general recommendations

There are, generally, two types of parking in a downtown. “Point” parking represents spaces that are provided at the demand location. They include both on-street and off-street spaces adjacent to the destination. “Area” parking entails off-street lots and on-street spaces located within a convenient walking distance of the destination. Area parking lots can often be designated for employees, commuters and other long-term users. The City should promote a balance between the overall supply of parking spaces and the amount of future “point” parking.



If parking is visible from pedestrian walkways or streets, it should be visible yet screened appropriately as shown above.

Furthermore, parking should be located with entrances visible from the streets or alleys, however, the entire parking lot should not be located along the street corridor. Rather, parking should be located in the rear of buildings or, if located on the street, it should be screened appropriately. Parallel parking is preferred over angle or 90-degree parking. Parallel parking shall be encouraged over angle parking.

Typically the slight increase in the number of stalls realized using angle or 90-degree parking vs. parallel parking is more than offset by the benefits of parallel parking such as fewer parking accidents, improved drainage, and ease of street cleaning and snow plowing. Additionally, for angle parking and 90-degree parking vehicles have to back out into traffic lanes with limited visibility of oncoming traffic. Other parking-related recommendations are:

- Apply and enforce parking and signage standards to all new developments downtown. However, new businesses should provide adequate parking, without placing unnecessary restrictions on property owners of small lots
- The City should continue to acquire vacant property for future parking lots
- Examine reorganization of existing parking and the identification of new sites

As Yorkville and the downtown expand, parking will become more of a premium and, therefore, planning needs to occur now.

ITP Recommendation # 14: ***Utilize Form-Based Codes in the Downtown Core Area***

Form-Based Codes

To create a vibrant mixed-use downtown, the ITP recommends changes and modifications to the Zoning Code, Subdivision Ordinance and sign standards, in order to be friendlier to pedestrians and bicycles - specifically in the downtown core area. Concepts, such as form-based codes, should be considered, to achieve the desired look and feel in the downtown area. Items such as street widths, street patterns, vehicle parking requirements, building location and orientation, safety standards and open space amenities should be flexible, to ensure that downtown Yorkville is a walkable environment versus a vehicular-dominated environment. Therefore, the ITP recommends exploring the use of form-based codes as a solution. Form-based codes are less focused on strict zoning standards. The concept of form-based codes is to address the relationship between buildings and the public realm, such as open spaces, open space and green space, form and mass of buildings, quality of architecture, the pedestrian scale and types of streets. The goal is to designate the appropriate form and scale of development, rather than only distinctions in land-use types. Form-based zoning prescribes build-to lines, specifically defining desired development patterns. Mixed use is encouraged and promoted, where traditional strict zoning codes make mixed-use development difficult, if not impossible.

Improve Building Façades and Relationship to Pedestrian Corridors

To make the pedestrian environment as pleasing as possible, building façades should be appropriately designed. Materials, colors, forms, textures, building setbacks, etc. all impact the look and feel of the streetscape and pedestrian experience. The ITP recommends these general guidelines, as they relate to creating pedestrian friendly environments:

Building Materials

Materials used in the construction of infill buildings should be similar to that used of adjacent buildings. A new building should not stand out from other buildings on the block.

Detailing

Details from adjacent buildings, such as the masonry

work, cornice lines, window shapes and bulkheads should be reflected in the architecture of infill buildings.

Building Form/Elevation

The floor level of an infill building should relate to, and be consistent with, the floor levels of adjacent structures. All sides of a building should receive design consideration. Expanses of blank wall should be softened through the use of landscape treatments such as foundation plantings or trellises.

Mechanical Equipment

Or other utilities should be located so as to not be visible from any public ways, customer parking areas or neighboring residential or public uses.

Utilities

Newly installed utility services, and service revisions necessitated by new construction, shall be underground.

ITP Recommendation # 15: ***Apply Consistent Downtown Streetscape Elements to Future Improvements***

Streetscape Elements



Example of landscaping along a downtown street.

A successful implementation of Streetscape Elements (see *Exhibit 'Q' – Streetscape Elements*) will increase attractiveness, thus creating a desirable location for shopping, entertainment and recreation. The following recommendations address:

Landscape Plantings

- Street Tree Program
- Planters and Planter Boxes
- Foundation Plantings and Wall Expanses

Decorative Streetscape Elements

- Bench
- Trash Receptacle
- Bollard
- Lighting and Banner
- Bike Rack
- Tree Grate
- Fencing
- Crosswalk Paving and Hardscape Treatments



Landscape Plantings



Downtown Yorkville contains minimal landscape plantings, therefore improvements to the landscape environment can greatly enhance the aesthetic appearance. The addition of landscaping can help to soften areas in the downtown, by adding color and life to an otherwise hard and noisy area.

When properly located and maintained, landscape elements can enhance the appearance of the streetscape, and provide a place of relaxation and refuge for residents and visitors. Landscaping, overall, plays a significant role in defining downtown character. The landscape plan for the downtown should include parkway trees, planting beds and raised planters in strategic locations, potted planters and hanging baskets. It may also include hard-scape items, such as masonry walls, textured concrete, paver bricks, and flagstone.



The ITP recommends landscape planting schemes and treatments, to make Yorkville a “greener” city. There are several goals that the City can pursue, in order to achieve this goal:

- Encourage the implementation of the Downtown Street Tree Program as part of the Parkway Tree Program that has already been established
- Create more planting areas (bump outs, parkways and boulevards)
- Preserve existing trees in the core downtown area
- Promote the use of native plants and xeriscape plant material (lowers water usage)

Downtown Street Tree Program

The ITP recommends a specific Street Tree Program for the downtown. Location, species and treatment of street trees in an urban environment differs from a more non-urban environment. The absence of a cohesive and consistent street tree program in downtown Yorkville provides a great opportunity to improve the look and feel of the area. Parkway trees, for example, frame the street, provide shade for pedestrians, and help soften tall walls and buildings. Listed below are recommendations regarding landscaping in downtown Yorkville.

- A consistent spacing of street trees is recommended, unless adjustments need to be made in order to minimize the obstruction of signage or businesses
- Tree species with compact narrow forms should be utilized, due to the limited space available between building face and curb. In areas of limited space, a smaller canopy of tree (10'-15' in diameter) should be utilized
- Street trees should be located in areas that still provide an adequate sight stopping distance for drivers of approaching vehicles to observe stop signs or traffic signals
- A tree should be located at a minimum of three (3') feet from the curb
- Street trees should be trimmed to eight (8') feet in height to allow appropriate sight lines and safe passage of people under the trees.



As part of the ITP and the Downtown Streetscape Plan, a recommended plant list (including many native trees, shrubs and perennial plants) is provided below. While not all recommended plants are native to northeastern Illinois, most of the trees, shrubs and perennials have been chosen

because they offer the following advantages and benefits:

- Adapt to our soils and climate
- Less water usage
- Attract birds and butterflies
- Require less care and watering, once established and thrive with no fertilizers
- Aesthetic and ecological value
- Salt resistance

<u>Botanical Name</u>	<u>Common Name</u>	<u>Key</u>
Shade Trees		
<i>Acer miyabei</i> 'Morton'	State Street Miyabe Maple	
<i>Acer platanoides</i> 'Emerald Lustre'	Emerald Lustre Norway Maple	S, U
<i>Celtis occidentalis</i> 'Chicagoland'	Chicagoland Hackberry	P
<i>Ginkgo biloba</i> 'Autumn Gold' (male only)	Ginkgo	S, U
<i>Gleditsia triacanthos</i> var. <i>inermis</i> 'Skycole'	Skyline Thornless Honeylocust	S, P, U
<i>Gymnocladus dioica</i>	Kentucky Coffeetree	S, P, U **
<i>Pyrus calleryana</i> 'Aristocrat'	Callery Pear	U
<i>Quercus rubra</i>	Red Oak	S ***
<i>Quercus macrocarpa</i>	Bur Oak	S, P ***
<i>Tilia americana</i>	Redmond American Linden	U ***
<i>Tilia cordata</i> , spp.	Littleleaf Linden	U
<i>Ulmus</i> x 'Homestead'	Homestead Elm	P
Ornamental Trees		
<i>Amelanchier</i> x <i>grandiflora</i> 'Autumn Brilliance'	Apple Serviceberry	S
<i>Malus</i> spp. (light fruiting varieties)	Crabapple	
<i>Syringa reticulata</i> 'Ivory Silk'	Japanese Tree Lilac	P
Shrubs		
<i>Cornus racemosa</i>	Gray Dogwood	P ***
<i>Cornus sericea</i> 'Baileyi'	Redtwig Dogwood	U
<i>Cotoneaster acutifolius</i>	Peking Cotoneaster	P, U
<i>Euonymus alatus</i> 'Compactus'	Dwarf Burning Bush	U
<i>Forsythia viridissima</i> 'Bronxensis'	Forsythia	U
<i>Juniperus</i> (all)	Juniper	P, U
<i>Rhus aromatica</i> 'Gro-Low'	Fragrant Sumac	S, P ***
<i>Ribes alpinum</i> 'Green Mound'	Alpine Currant	S, P, U
<i>Rosa</i> (shrub varieties)	Rose	S
<i>Spiraea japonica</i> (all)	Spirea	P
<i>Syringa meyeri</i> 'Palibin'	Dwarf Korean Lilac	P
<i>Viburnum dentatum</i> 'Synnестvedt'	Arrowwood Viburnum	S, P, U
Perennials		
<i>Aster novae-angliae</i>	New England Aster	**
<i>Calamagrostis acutiflora</i> 'Overdam'	White Feather Reed Grass	
<i>Echinacea pallida</i>	Pale Purple Coneflower	**
<i>Echinacea purpurea</i> 'Magnus'	Purple Coneflower	
<i>Hemerocallis</i> spp.	Daylily	
<i>Liatris spicata</i>	Spike Blazingstar	**
<i>Monarda fistulosa</i>	Wild Bergamot	**
<i>Panicum virgatum</i>	Switch Grass	**
<i>Pennisetum alopecuroides</i> 'Hameln'	Dwarf Fountain Grass	
<i>Perovskia atriplicifolia</i> 'Little Spire'	Dwarf Russian Sage	
<i>Sedum spectabile</i> 'Autumn Joy'	Sedum	
<i>Sporobolus heterolepis</i>	Prairie Dropseed	**

Key

S:	Tolerate Salt	P:	Tolerate Poor Dry Soil	U:	Tolerate Urban Conditions
	* USA Native		**Illinois Native		***Northern Illinois Native

Planter Boxes and Hanging Baskets

Currently some of the properties in downtown Yorkville have planter boxes or window treatments with landscape plants or various annuals and perennials. Hanging baskets exist, as well, along IL Route 47. These types of elements add color to the streetscape, storefronts or rear entrances. This is highly encouraged, to provide interest and aesthetic improvements, as well as creating a cohesive look throughout the downtown. Planters and hanging baskets should not infringe upon pedestrian and bicycle access to sidewalks or trails.

Foundation Plantings and Wall Expanses

Adding landscaping (low growing shrubs, perennials, annuals and groundcover) along the foundation of the building is encouraged. Large wall expanses can (and should be) interrupted with foundation plantings, such as shrubs and trees. Trellises and arbors are also recommended, as they soften expansive walls that are, typically, visually obtrusive.

Decorative Elements



Decorative elements such as signage, benches, trash receptacles, bollards, street lighting, banners, bike racks, tree grates, fencing, crosswalk paving, and hardscape treatments can enhance an area's pedestrian environment and commercial viability. These streetscape elements will help to identify downtown Yorkville as a special and distinct place for visitors, residents, and shoppers. As mentioned in the data collection section of this report some elements exist of mixed colors, textures and forms. Some of the street furniture is deteriorated or in poor condition. Lastly, certain elements are not at an appropriate scale for the space.

Downtown Streetscape Plan

An Illustrative Plan has been created as part of the ITP in order to conceptually demonstrate streetscape improvements and general land uses that could occur in the downtown. This graphic is for illustrative purposes only to demonstrate the implementation of

concepts presented in this report. Variables such as utilities, access points, building setbacks and existing field conditions will all impact a final design (see *Exhibit 'T' – Illustrative Downtown Streetscape Plan*).

