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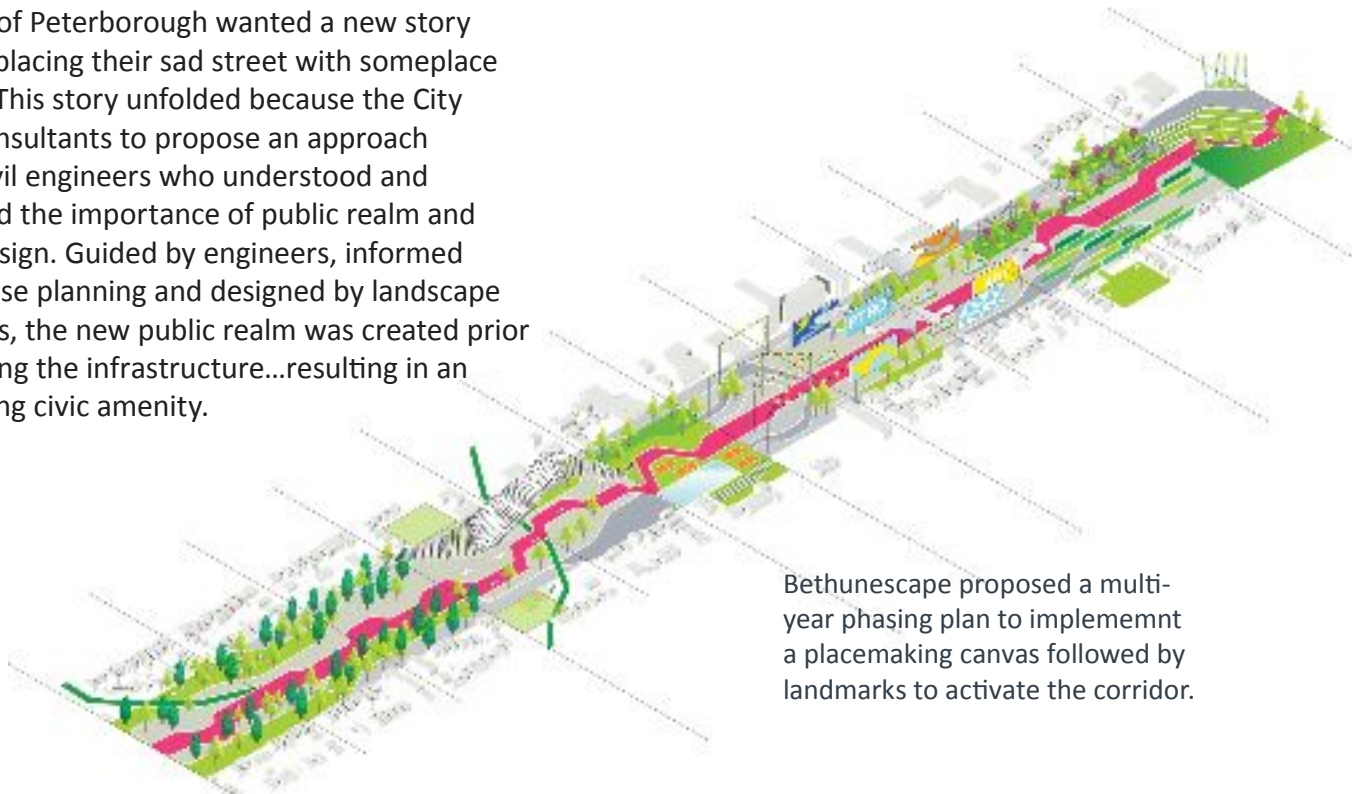
**BETHUNESCAPE:  
STREETSCAPE MASTER PLAN**

# Project Summary



Yesteryear, the Rail Road ran along Bethune Street to service industrial land uses

The City of Peterborough wanted a new story about replacing their sad street with someplace special. This story unfolded because the City asked consultants to propose an approach led by civil engineers who understood and embraced the importance of public realm and urban design. Guided by engineers, informed by land use planning and designed by landscape architects, the new public realm was created prior to detailing the infrastructure...resulting in an astounding civic amenity.



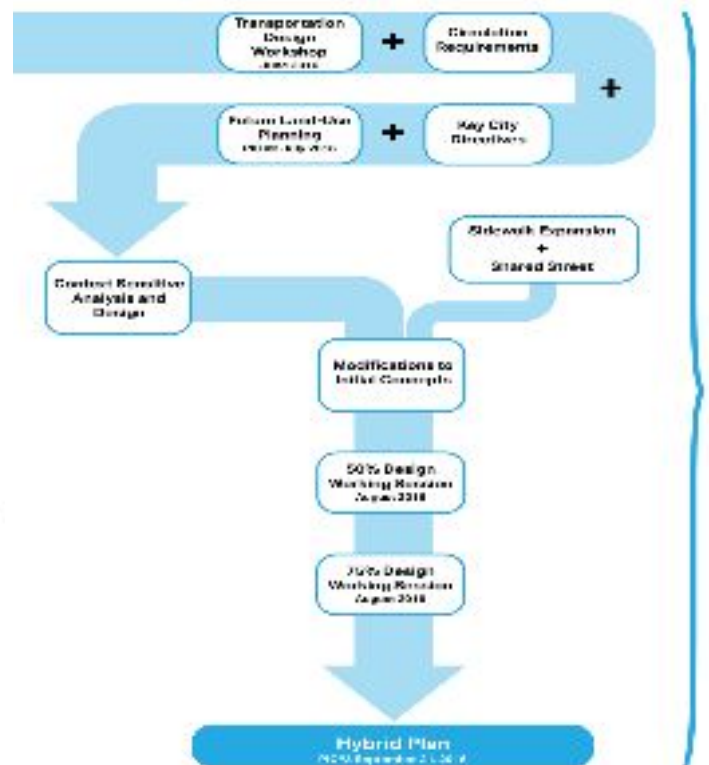
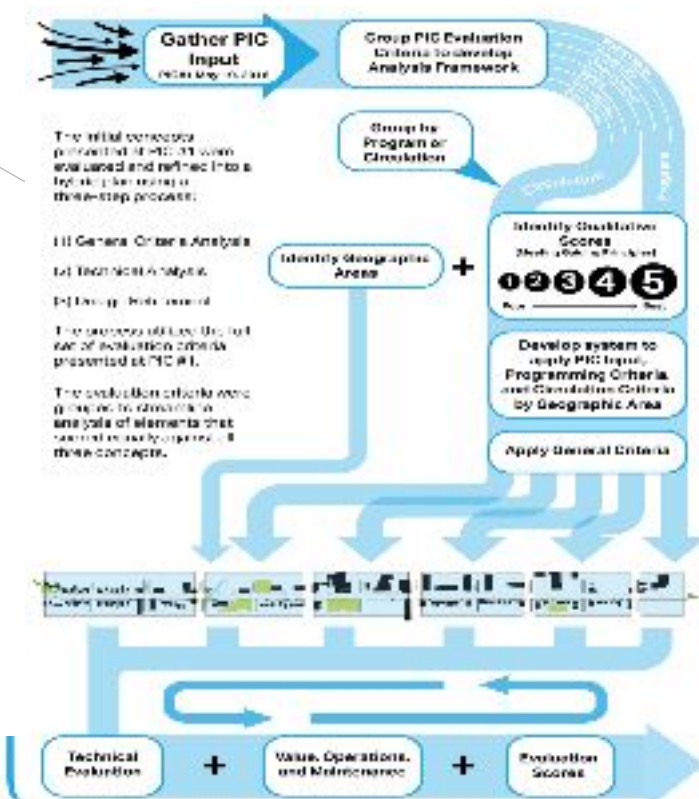
Bethunescape proposed a multi-year phasing plan to implement a placemaking canvas followed by landmarks to activate the corridor.

# Innovation

The need for a flood protection solution for Peterborough's downtown core resulted in the selection of Bethune Street, a former rail corridor and transitional neighbourhood adjacent to downtown Peterborough, as the infrastructure corridor for a new flood diversion culvert. The implementation of the flood protection project provided the opportunity and framework in which to integrate the City goal of transitioning Bethune Street to a friendlier destination, a place to spend time in or choose to pass through. Bethune Street is a key peripheral Commercial Core multi-mode transportation corridor and establishing a vision and plan to implement this function and create a transition zone to the predominantly residential areas with lighter commercial uses along the corridor is a desired outcome of the project. The City of Peterborough's approach to the reconstruction is one led by public realm design. A multi-disciplinary project team combined with extensive consultation and collaboration achieved the Bethune Streetscape masterplan designed to maximize greening, public spaces, pedestrian

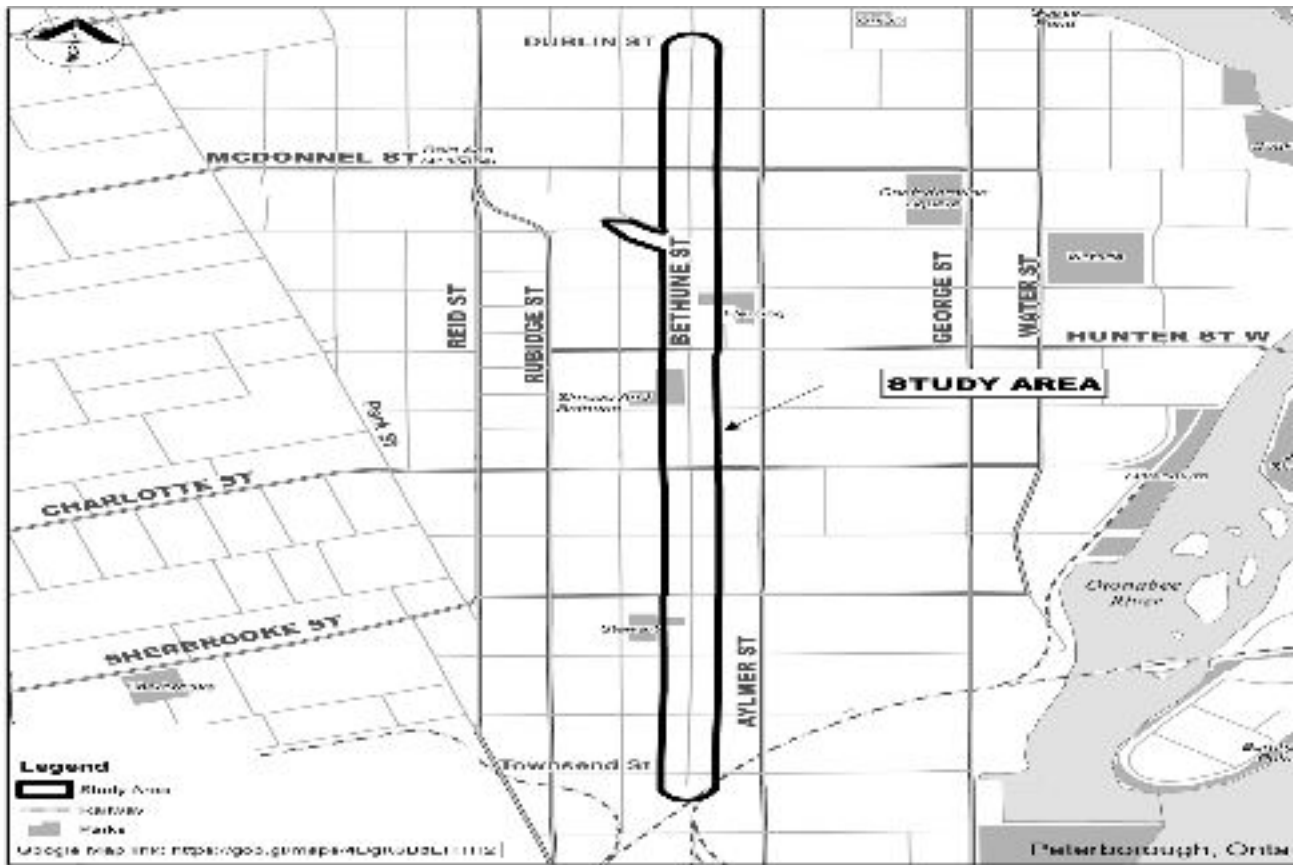
realm, programming, and parks and trails connectivity.

The Bethunescape Masterplan describes the vision, process and final design of the Bethune Street Streetscape project. The intent of the masterplan is to provide a guide for implementation over the long-term. The planning and design process involved coordination and collaboration between the AECOM engineering and landscape team and City staff. Urban design and public realm optimization formed the nucleus of the design approach. The participatory process included a comprehensive consultation program to provide opportunities for information sharing between the City and the community at key points during the study. One Stakeholder Design Workshop and three Public Information Centres (PICs) were held to develop design ideas, communicate project information and solicit feedback on potential streetscape strategies, land use planning and urban design studies, and the final streetscape masterplan.



Bethunescape Communications and Consultation Flow Diagram, Steps 1-2 (left) and 3 (right).





## Complexity

The construction of large diversion sewer pipework along Bethune and Townsend Streets triggered the need for the relocation of utilities. Design effort mitigated the need for relocations and by means of consultation with the utility owners plans were established to relocate / replace utilities both in advance of construction and during as deemed necessary through the consultation process.

Verification of the predicted hydraulic performance of both the inlet and outlet was a design objective. The physical modeling of the inlet structure allowed focused iterations to be implemented to achieve a balance between inlet capture under high flow conditions and maintaining base flow conditions under lower flow conditions. The challenge in designing the outlet was how the range in the tailwater condition can impact the operation of the outlet. The modeling allowed, by means of iteration, an outlet configuration and bottom profile that mitigated scour risks for the range in tailwater conditions.

The transformation of Bethune Street to a friendlier destination, a place to spend time in or choose to pass through, is a longer-term objective. The Bethunescape Masterplan captures the vision and elements of the plan to be implemented over time. The City is managing the implementation by allocating annual capital budget to its programming and implementation. Capital spending early in the plan will be allocated to streetscape elements that will be a catalyst to ensure community pride and continued support of the Bethunescape vision through its implementation. A detailed costing of the Bethunescape implementation was needed and prepared.

***Verification of the predicted hydraulic performance of both the inlet and outlet was a design objective.***



## Social and/or Economic Benefits

Traditional municipal infrastructure projects tend to downplay enhancements for landscape, environment, people, culture, history, safety and security, universal accessibility, active transportation, residential and commercial uses, adjacent built form, urban agriculture, public art, resilience and social equity. Bethunescape, the unanimously supported master plan for Bethune’s Street revival by contrast, considered these as the starting point. The design will transform a previously run-down, treeless, cracked, broken and dusty street that divides neighbourhoods on both sides into a vibrant park-like ribbon, with trees, pollinators, food and rain gardens, cycle tracks and walkways, cafes, outdoor rooms for social gathering.

Working closely with the City of Peterborough, residents and stakeholders, the project team developed a social gathering place based on the needs and aspirations of the local community including full public accessibility.

The masterplan is meant to be revisited as phases of the project unfold and landuse redevelopment occurs. The team also collaborated on a land use and urban design plan to guide the evolution of Bethune Street into a vibrant, economic engine for the downtown. Bethunescape will be a catalyst for downtown housing and commercial economic growth.

Bethunescape links existing trails and green spaces, creating a green corridor that reaches beyond the boundaries of Bethune Street to connect Peterborough’s network of parks and trails, integrating buildings, private and public spaces, and streets to create a safe, attractive, and accessible urban place which serves as an exceptional environment for pedestrians and cyclists and successfully transitions between the different activities and intensities present in the Central Area.



## Environmental Benefits

Bethunescape is inherently based on sustainable and environmentally driven principles. The streetscape taps into existing trails and green spaces, creating a green corridor that reaches beyond the boundaries of Bethune Street to connect to the Central Area and Peterborough's network of parks and trails. The masterplan design integrates LID features, LED lighting, AODA compliance, multi-modal accessibility and green infrastructure into the street right-of-way and its program elements, contributing to urban forest, greening the street, and improving environmental performance of the public right-of-way. The dominant pattern of traffic circulation through the site is a bicycle priority street; a two-way 6-meter street with mixed bicycle and vehicular traffic and easier pedestrian crossing of the street.

As a curated botanical experience, walking, biking or driving along Bethunescape will provide a shifting palette of native canopies,

habitats, groundcovers, grasses, shades of green and seasonal blooms. Forest Walk provides the most dense and varied planting; this ground level density clears out in Heritage Walk, leaving only high canopies to interface with Green Cloud; Simcoe Squared features open lawns and smaller shade trees to take full advantage of sunny days; Charlotte Plaza is dotted with groves of urban-tolerant shade trees; the palette becomes tall and arching again along Art Walk to mediate the scale of City Centre, with interspersed flowering trees to reflect the colorful artwork; this flowering palette reaches full potential in Garden Walk, where exploratory gardens feature specimen plantings of all colors, shapes and sizes; Bethunescape culminates in a shaded lawn.

***The masterplan design integrates LID features, LED lighting, AODA compliance, multi-modal accessibility and green infrastructure...***



***The City needed to leverage the flood reduction project into an inspirational and transformative new public realm amenity.***



## Meeting Client's Needs

Picture a downtown street, the former industrial spine and rail road, which is run-down, treeless, cracked, broken and dusty, that divides neighbourhoods on both sides and where the local residents feel uneasy walking alone. This forgotten street is called Bethune Street and was selected through the Environmental Assessment process to host a multi-million-dollar flood diversion sewer to protect the downtown from the devastation of flooding. The City needed to leverage the flood reduction project into an inspirational and transformative new public realm amenity. No small task. Working closely with the City of Peterborough, residents and stakeholders (our cast), the project team facilitated gatherings to share stories and aspirations about Bethune Street.

Blending written word, video, computer rendering and hand sketching the team crafted an ever-evolving story script.

Kicking off the project, a consultant led three-day design charette created a safe space for all 25 participants to delve, suggest and debate everything from the vision, urban agriculture, roadway diet, traffic planning to even a pop-up curling sheet. Supported by imaginative leadership, the public gatherings and presentations shared the compelling story and encouraged the cast of local folks, neighbourhood association, regulators and an NGO to join in. Now imagine the same street transformed into a vibrant park-like ribbon, with trees, pollinators, food and rain gardens, cycle tracks and walkways, cafes, outdoor rooms for gathering and playing, full blocks for public art and a vibrant magnet for people to have outdoor fun year-round.





### About AECOM

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