



Seaforth Main Street Revitalization Report - Final

2017

ACKNOWLEDGMENTS

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And a special warm thanks to everyone who attended the walking audit and the community meeting in Seaforth on that very cold day in February. Your comments and opinions were integral to the formation of this report. We could not have done it without you!

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INTRODUCTION TO SEAFORTH, ONTARIO

The Town of Seaforth is located in the Municipality of Huron East - a branch of Huron County - roughly 200 kilometres east of Toronto. With a population of approximately 2,680 people (2016) and a median age of 45, Seaforth is the largest urban centre for housing and employment within the Municipality of Huron East, and one of five major urban centres in Huron County.

Due to its proximity to the railway and to Provincial Highway 8, the town found success in the 1860's as a grain distribution centre, and saltworks hub. Most of the downtown core was constructed between 1868 and 1878, and reflects the town's prosperity during that period. By 1879, Seaforth's wheat firms handled a million-dollars worth of grain each season, greater than anywhere else in Ontario. While the town's prosperity was initially centred upon agricultural distribution, its success in that realm fuelled its construction and its economic diversification into a trades and service centre. Seaforth's preserved 19th century Victorian streetscape architecture continues to be the backbone of its character today. Comprising of 54 civic and community buildings, the downtown core was designated a Heritage Conservation Area in 1984, and remains one of the oldest Heritage Conservation Districts in Ontario.

At present, Seaforth is in an opportunistic position, the upcoming economically-boosting retirement living complex, along with existing retirement living communities, access to health care (Seaforth Community Hospital) and service amenities, makes Seaforth an alluring haven for retirees. Combined with unique local entrepreneurship ventures such as Maelstrom Winery and Half Hours on Earth Brewery, it will increase pedestrian commercial activity. There is a need to encourage Seaforth's downtown area into a welcoming, leisurely, age-friendly environment where walkability, accessibility and maintaining Seaforth's historical character are paramount.

References:

Parks Canada. (2010). Canada's Historical Places – Seaforth Heritage Conservation District. Retrieved from <http://www.historicplaces.ca>

Municipality of Huron East. (2016). Huron East Official Plan. Retrieved from http://www.huroneastreetcom/he_gov/documents

Statistics Canada. (2016). Census Profile, 2016 Census – Seaforth. Retrieved from <http://www12.statcan.gc.ca/census-recensement/201>

EXISTING TOWN CONDITIONS

The 19th century architecture, is very well preserved and serves as a key feature of the town. Aesthetically, there is a need for trees, general greenery, and decorative elements along the Main Street. Cracked sidewalks, uneven grades in some areas and varying footpath widths along the Main Street corridor deter from the overall pedestrian experience. Main Street is described by residents as a trucking corridor. While the four block Main Street core has ample street parking paralleling the buildings as well as nearby parking lots, there are no traffic calming measures present, nor any designated areas for pedestrians to cross the road aside from the Main and Goderich Street intersection. Main Street has a rich history that is not advertised through public art or informational plaques. There are many possibilities for Main Street that can be unlocked and enhanced for all street users, both residents and tourists.



PUBLIC CONSULTATION

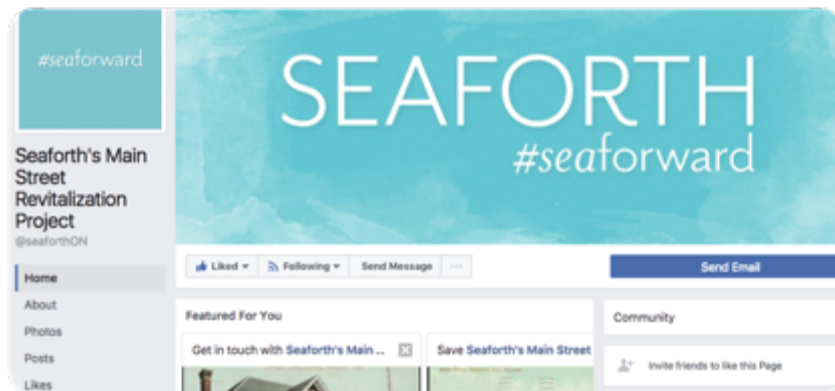
On February 10th, 2017, a student group from the University of Guelph's Master of Science in Rural Planning and Development program visited Seaforth for a walking audit and to facilitate a community engagement event to gather community feedback on recommendations and designate areas for improvement. Highlights of the community engagement feedback and walking audit included aesthetic improvements through improved lighting (fairy lights in trees, murals, and light post decals), increasing greenery through the addition of trees and potted plants, as well as the implementation of pedestrian-friendly measures including street furniture, historical themed bike racks, and curb bump-outs. The opinions and suggestions voiced by the public served as the central force for the development of the Main Street Revitalization Master Plan, which is intended to serve as a guide for the progressive improvement along not only Main Street but adjacent streets and the community as a whole.



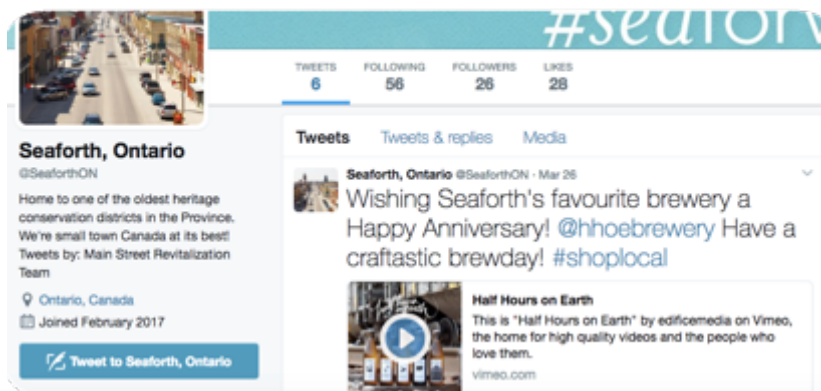
SOCIAL MEDIA CAMPAIGN

We firmly believe that community development is a field of work which should actively strive for community input and involvement when dealing with both the public and private sectors, in order to foster healthy and inclusive communities. The aim of the Facebook and Twitter social media campaigns during this project was to facilitate community engagement and to promote the work of the streetscape revitalization process. Following the end of the project, the social media accounts can be used by the town to continue to better connect its residents with information on announcements and events happening throughout Seaforth, the Municipality of Huron East and the County of Huron; and to promote awareness of Seaforth's unique heritage.

FACEBOOK(SEAFORTH'S MAIN STREET REVITALIZATION PROJECT):



TWITTER (@SEAFORTHON):




PRE-EXISTING STREETSCAPE



There are very little place markers to visually centre the town hall as an established institution in the area. There is also little to no pedestrian easement features around this high-traffic intersection.

This area features two high-traffic commercial institutions and a public art installation near a busy civic park. The intersection should be slated for pedestrianization to accommodate the consistent flow of people.



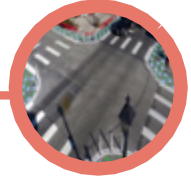
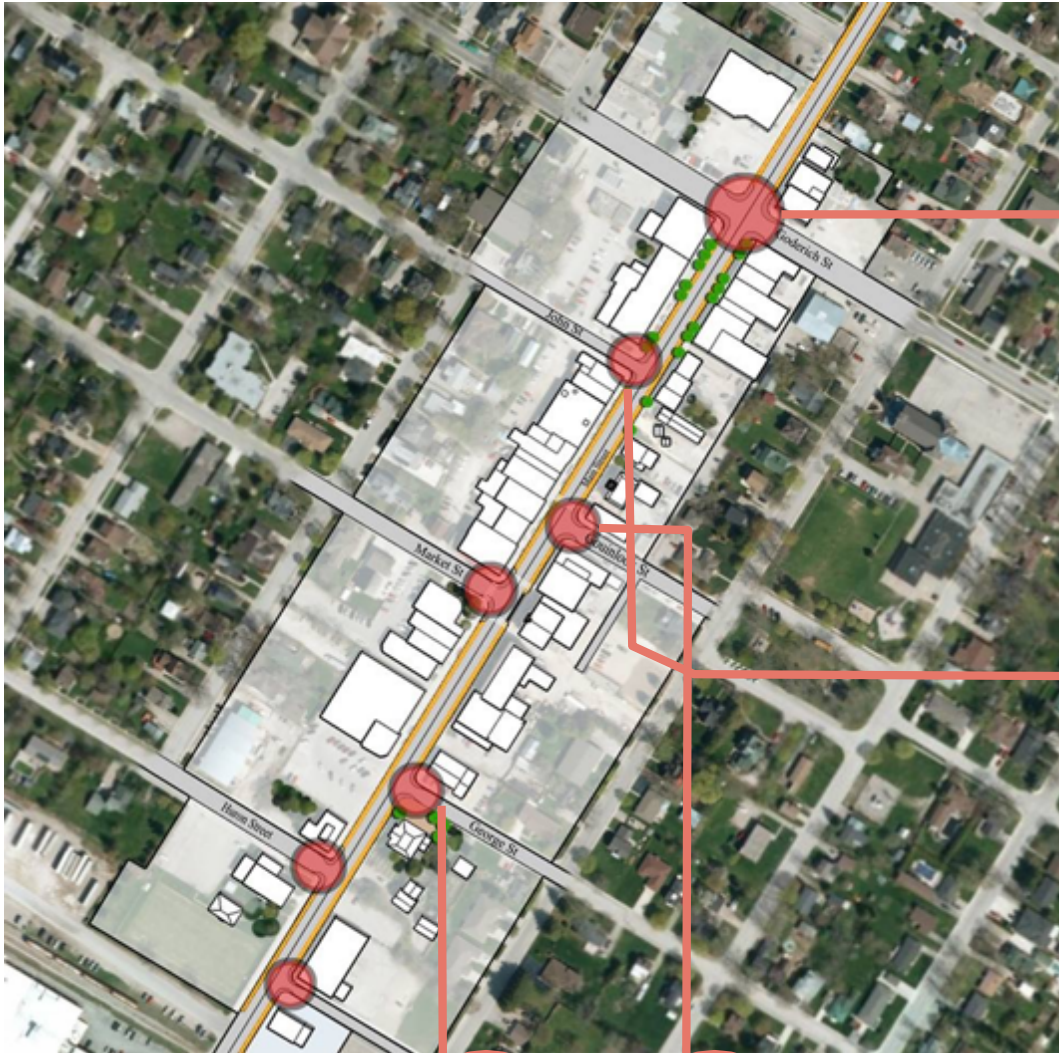
Lack of a visual cues for the onlooker to be aware that they are entering the heritage and central business district of the town.



The width of the sidewalk on the East side of Main Street at the Goderich intersection shortens and becomes misaligned with the rest of the frontage. This divot can lead to poor sight lines and a claustrophobic walking experience.

The existing four block stretch of Main Street from the Goderich intersection southbound to the C.N. rail line, hosts numerous historical buildings which act as a solid foundation for cultural and economic growth. However, the lack of public art, signage, greenery, and pedestrian site furnishings makes this area unpleasant to foot travellers and unnoticeable to passing vehicles.

MASTER STREETSCAPE PLAN

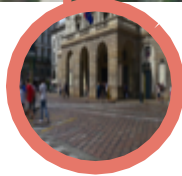
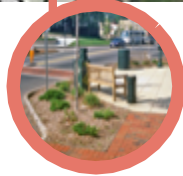


Bump-outs, whether painted or made in low-curb concrete, at the four way intersection slows traffic, provides space for public art/plantings, and creates a more human connection with the environment.



Widening the sidewalk at the existing bend may provide enough space to add trees and other street furnishings which buffer traffic, reduce noise, provide shade, and create a boulevard atmosphere for on-coming traffic.

Placing bump-outs next to existing public buildings can increase civic space, expand programming and add safety features for pedestrians accessing the high-traffic buildings.



Pavement stamped crosswalks around civic buildings can calm traffic and add visual legitimacy to local institutions.

By adding bump-outs at each intersection heavy truck traffic is slowed and the pedestrian environment becomes safer to cross as well as more distinctive to vehicles. Civic buildings also have the ability to increase their visual attractiveness, expand their public space, and add space for additional plantings which reduce noise, add shade, and create wider spaces for foot traffic and summer pop-up patios/festival stands.

MASTER PLANTING PLAN



A mix of native species trees will be used to avoid disease and invasive pests. Town directories could also be added to increase pedestrian way-finding.



A living green wall (or another public art installation) could be added to the side of TD Bank wall with benches to place-mark the nearby park and add a photo-perfect eclectic touch to the Main Street.



Some of the lawn space surrounding the public library could be upgraded into a small park that features concrete paving, and additional seating. Not only will the park reduce the austerity of the building, but it will enhance the space.



Either permanent concrete planters or transportable metal/plastic pots should be added around civic, residential and commercial buildings (pending agreements with property holders) to quickly add pops of colour to the built environment.

Plantings and parks possess the ability to buffer traffic, reduce vehicular noise, shelter pedestrians, and enhance surrounding buildings. The town should invest in a long-term strategy that sees the transition of lawns and blank walls into parkette spaces. However, for quicker returns on investment the town could invest in planters which easily add life and colour to austere or blighted buildings. A mix of native species trees for the first block boulevard entrance-way is advisable as it reduces the chances of large-scale disease outbreaks from pests.

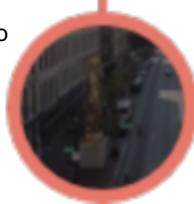
DETAILS OF THE MASTER STREETSCAPE PLAN



Currently there exists no east-west crosswalk on Main Street, forcing pedestrians to run across the street into oncoming traffic to access businesses on either side. While bump outs on every street corner is the primary emphasis for the allocation of the road re-building funds, we recommend the town further study crosswalks near Gouinlock Street are for an Intersection Pedestrian Signal.



The town's long-term vision should also include the funding of a parkette on some or all of the public library's lawn frontage in phases according to the budget.



While the trees on the first block of the Main Street stretch provide a separated entrance feel, the town should also invest in a phasing plan of public art which can be used in place of signage designating the heritage commercial district.

Financial constraints are a major hindrance to the full-implementation of a design plan for small towns. However, by focusing on critical infrastructure first and gradually implementing smaller civic space projects, the community has the ability to democratically create their own development timeline and give importance to initiatives that they feel fits their needs.

DETAILS OF THE MASTER PLANTING PLAN



Slightly raised flower beds (in the proposed traffic bump-outs) as well as raised potted planters, protect the plants from road salt, minor snow pile-ups and below-grade infrastructure. They also put the gardens at a perfect eye-level for passing vehicles and pedestrians in the area. While the gardens are designed in areas intended to buffer vehicle traffic, the plants are equally as spectacular up close and provide the opportunity to reduce heat island effects and provide nutrients for local insects and birds. The shrub and perennial beds are intended to be filled with plants selected based upon colour, texture, and bloom schemes designed to enhance the mood of the historical area. Foliage plants will also be added to provide beautiful blossoms from Spring to the Fall with eclectic punches of colour that liven up the built environment's neutral brown and taupe tones.

Borrowed from Toronto's University Avenue Planting Plan, featured plants could include:

- Cardoon
- Arundo Donax Ornamental Grass
- Orange Butterfly Weed
- Eucalyptus
- Sweet Potato Vine (Ipomoea)
- Begonia Santa Cruz Sunset
- Canna "Wyoming" Lily
- Giant Elephant Ears

Smaller stand-alone planters can also incorporate unusual South American bromeliads and other tropical plants.



Armstrong Maple



London Plane

Trees do not grow poorly in built areas unless the soil beneath and adjacent to the roots is not deep enough to support its growth. The minimum soil volume required to support a tree is 1000 cubic feet for a 16 inch tree trunk diameter. Therefore smaller trees are preferred as they are best suited to grow in confined conditions. Furthermore it is also crucial that a mix of native species are used. Not only does a mixture of native species ensures the thriving of local fauna but it is better equipped to handle widespread pestilence outbreaks from invasive insect species. Also, while large trees can provide a nice shade canopy they also impede sight lines on roads, so native columnar trees such as, Armstrong Maple and London Plane Trees are the best option.

DETAILS OF RECOMMENDED STREET FURNITURE

Seaforth is a significant place since it stands as a symbol of Canada's rich natural resource history, and industrial prowess during the Victorian era. The location of Seaforth in the heart of Huron County, on prime flat agricultural land however, has provided constraints, which have fortunately allowed the town to flourish as a municipal service centre and distinct business district. Seaforth as a result, also has compact urban form characteristics of heritage areas in larger cities, yet it also provides efficient access to open space and nature; a quality only associated with smaller communities. Seaforth truly has the best of both worlds.

Seaforth's image is strongly derived from its role as a historically critical area to the nation's rich cultural heritage. The image of the city is also shaped by its agricultural roots which are embedded in the presence of nature close-by, and in the iconic architecture itself. The town would strongly benefit by practicing the art of "placemaking" in the principles of its design development. The placemaking design policies of this plan should address the following:

- Urban design features are responsive to the area's geographic context and existing pattern of development
- Existing landmarks are maintained and enhanced through improved way finding around the town and visual markers of distinct locations
- New site features contribute to a sense of place in the heritage conservation area through sensitive responses to the existing character

All of the objectives can be culminated in the use of Victorian/Art Nouveau style site furnishings which are sensitive to the existing form of the Main Street stretch.



LONG-TERM VISION RENDERINGS



While the primary use of bump-outs is to improve the visibility of pedestrians and reduce their exposure to motor vehicles, they also provide the ability to shield parking spaces from oncoming traffic by the extended sidewalk element. They can also slow and calm traffic, whether truck traffic or vehicles turning on or off streets. And finally, they provide additional space to allow for the retrofitting of existing sidewalks where there would otherwise be conflicting widths.



In this case, the addition of bump-outs have allowed for an increase in horizontal sidewalk space which will be used to add historically sensitive site furnishings, greenery, and bike racks. Even without an extensive public art funding plan, the implementation of a bump-out, particularly at the Goderich Street intersection will create a distinctive boulevard feel that will entrance mark the stretch of Main Street as visually significant, while also highlighting existing historical institutions.

The long-term vision for the four block heritage stretch of Main Street includes plans to transform it into a visually distinctive pedestrianized, green, traffic-calmed, business conducive corridor that shields institutions in public space. Part of this vision also foresees policy development that would attract mixed-use residential construction, especially in vacant parcels in key areas surrounding the main stretch.

COST SUMMARY

The following cost summary invoice chart is a rough representation of the fluid costs for site furnishings, infrastructural upgrades, pedestrian enhancements, and lighting services. The numbers provided in the quantity column represent the maximum amount of the furnishings required, and is based upon our walking tour and site measurements taken during the February 10th, 2017 visit. All unit prices provided are representative of the median range, calculated during our research of potential suppliers. All prices and final costs presented are not fixed in nature, and are likely to change due to numerous factors including and not limited to inflation, or municipality contract deals. Labour costs and planting prices are excluded from the invoice due to the grossly inconsistent price ranges of flora and municipal salaries or contracting services.

Description	Quantity	Unit Price	Cost
Victorian Park Benches	20	\$ 1,133	\$ 22,660
Classic Style Two-Space Bike Rack Loop	48	\$ 364	\$ 17,448
Semi-Permanent Concrete Avenue Planters	10	\$ 653	\$ 6,530
Removable Flower Planters	16	\$ 1,374	\$ 21,976
Victorian Style Aluminium Light-Pole Finishes	22	\$ 1,310	\$ 28,820
Two-Way Post-Banner Bracket Set with Scroll Artwork	22	\$ 299	\$ 6,578
Bump-Out (Bulb-Out)	16	\$ 12,000	\$ 192,000
Intersection Pedestrian Signal	2	\$ 200,000	\$ 400,000
Outdoor Flood Lights	4	\$ 326	\$ 1,304
Total			\$ 697,316

References:

<https://www.cityofkingston.ca/documents/10180/15058/PedestrianCrossingGuidelines.pdf/497f690f-482d-4615-9537-47b1ea39fba1>

<http://www.gelighting.com>

http://www.canadalightingexperts.com/lighting/4-11-123-0-538613/Minka-Great-Outdoors_Accessory---96--Outdoor-Post-With-Base-7907-66.htm

FUTURE RECOMMENDATIONS

The following recommendations were compiled based upon the feedback provided to us by the community members and stakeholders. While they do not fit within the scope of the project, they could be used to direct the future community developments in the Town of Seaforth. The recommendations are mainly larger in cost and complexity, or simply beyond the geographical boundaries assigned to this project. However, it is strongly recommended that council explore these suggestions after the implementation of the more feasible changes mentioned earlier in the report.

Street Patios: It is recommended that council explore the possibility of an on-street patio program for the summer months. Street patios allow for businesses to extend into the street (taking up the equivalent space of a few on-street parking spots) creating an alluring downtown, and are a common addition in many urban and rural centres during the summer months. This type of street furniture is often installed and maintained by a third party (i.e. store or restaurant owner) under municipal standards. There is often an administrative fee associated, however it is recommended that this cost be waived in the first few years to entice businesses to install the pedestrian oriented infrastructure. In addition, serving alcohol on the street patio requires a license extension from the Alcohol and Gaming Commission of Ontario.

Public Art: The addition of a public art feature can help define the downtown core of Seaforth. If placed at the entrance of the downtown at the intersection of Goderich Street and Main Street it can help define the downtown core, and act as an indicator to drivers that they are entering a distinctive zone. There are potentially existing grants to offset the costs associated with large pieces of public art. It is suggested that the public art be symbolic of Seaforth and produced by a local artist to build community pride and share Seaforth's local history with visitors.

Plaza: The area behind town hall presently serves as parking. It is suggested that it be reallocated to the public and retrofitted into a plaza. The additional pedestrian-friendly area would be a great addition to downtown Seaforth which currently only boasts a few small civic strips. Retrofitting the existing parking lot into a plaza, would allow for a location for events to take place and bring an extended and increased livelihood to the Main Street area.

Alternative Pedestrian Crossing: A location for an alternative pedestrian crossing across Main Street is in front of Town Hall. The existing bulb-out and curb cuts will reduce the costs when retrofitting a crosswalk. To ensure the highest level of safety, it is recommended that the crossing be an Intersection Pedestrian Signal.

Moving the Visitors Centre into Town Hall: Moving the Visitors Centre into Town Hall would promote foot traffic further into the town, and allow for the space to be used as a community space.

Accessible Parking Space on Gouinlock Street: It is recommended that a barrier free, accessible parking space be created on Gouinlock street, parallel to the existing TD bank.

Build and Design a Seaforth Gateway Sign: A gateway (welcome) sign would provide a sense of welcoming and place, and would be informational to visitors.

Encouraging Additional Signage: By encouraging projected wall-mounted signage for businesses through policy development, the ability to brighten the downtown area and to aid in navigation of the area.

Gouinlock Street: Many participants expressed their wish for Gouinlock Street to be closed for special events and turned into a pedestrian mall. A few of the respondents also expressed a desire for Gouinlock Street to be permanently turned into a one-way street traveling east-bound. However, this is not recommended. In contrast, it is recommended that Gouinlock Street be transformed into a *woonerf*. Dutch word for “living street”, woonerfs are a shared and paved space achieved through pedestrian and cycling designs that completely change the street appearance. While vehicles are still allowed on the road they do not take precedence over other modes of transportation. By creating Gouinlock Street into a woonerf, or a pedestrian-first environment, it will create a safe space that is easily transformed into a pedestrian-only area for events and activities.

Removal of On-Street Parking: A recommendation to council regarding Main Street is the removal of street parking on one side. While we recognize how this recommendation might seem extreme, the space that would be unlocked could be allocated to pedestrians or cyclists by either significantly widening the sidewalk or creating a raised cycle track. This controversial recommendation is proposed to further define Main Street as the downtown core of Seaforth and create a safe and inviting pedestrian space which could boost business by shrouding it from burdensome vehicular traffic and increasing the safety of walkers.

Business Suggestions: A pub, restaurants with outdoor patio space and an ice cream parlour were often mentioned by participants as the most wished for business developments in Seaforth’s downtown core. The BIA can perhaps note this in their next strategic plan, or create incentives to foster these types of businesses.




Victorian-Inspired Winter Decorations: To encourage a cohesive aesthetic, Victorian-inspired winter decorations to match with Seaforth’s downtown architecture were mentioned on many occasions by participants.






CONCLUSION

Despite the relatively small population of Seaforth, and the rural isolation surrounding it, the intact cultural heritage of the town in tandem with its role as a municipal service centre, provides it with a vibrantly rich built-environment and social life unabashedly afraid of embracing its agrarian and industrial past. However, the town like most other rural areas, has struggled to retain and grow businesses, and its main historical stretch favours the heavy vehicular traffic that it experiences rather than support an active pedestrian life. After extensive community focus-group meetings, social media outreach, research, and a site visit we were able to locate key features that residents and stakeholders alike desired in their town, and collectivize our resources to create a plan of action that benefits all. Through the implementation of bump-outs, flower beds, trees, crosswalks, and public art, traffic in the area can be slowly calmed and buffer zones between parking spaces, moving traffic, and the sidewalk can enhance local businesses by sheltering them from harsh traffic conditions. The addition of trees on the first block south of Goderich Street, will also reduce heat island effects in the summer, shade pedestrians, and create a peaceful boulevard feel for the historic core. Although the cost of infrastructural upgrades can pose a hindrance to smaller communities with the phasing of certain projects according the guidelines recommended in the report the town will be better suited to create a solid framework that democratizes the residents interest in the work in the near future. While all cities and towns start off just about the same, where they go depends on how much they can see forward, and with a little enhancement it appears that Seaforth will certainly be able to go far.





Appendix A
Plant Recommendations and Cost Breakdown





Name	Summer/Fall/Winter	Mature Height	Species Attributes	Species Limitations	Hardiness Zone	Cost per plant ¹
TREES						
Autumn Blaze Maple		16m	Native. Cross between red and silver maple. Fast growing. Fall Colour.	Shallow root system. Thin bark. Moderate salt tolerance.	4	\$235.00 (50mm w.b.)
Hackberry		20m	Native. Very hardy. Interesting bark.	Dense shade. Surface and girdling roots. Pruning for witches' broom. Spring planting.	3	\$230.00 (50mm w.b.)
Maple – Armstrong Columnar		50m	Native. Fast growth. All attributes of a maple but fits within restricted spaces.	Limited shade provided.	4	\$235.00 (50mm w.b.)






Name	Summer/Fall/Winter	Mature Height	Species Attributes	Species Limitations	Hardiness Zone	Cost per plant
SHRUBERY						
Bearberry		15cm	Native. Broadleaf evergreen. Salt and drought tolerant.	Difficult to establish. Winter burnt. Not heat tolerant.	5	\$15.00 2 gallon
Kalm St.		60cm	Native. Bright yellow flowers July to August. Tolerates hot sun and poor soil.	May require pruning.	4	\$89 (USA pricing)
Goldmound Spirea		60cm	Flowers in July.	May require pruning.	3	\$15.00 2 gallon





1. Cost and description: Ontario Plant Source. (2017). Plants and trees. Retrieved from <http://www.ontarioplantsource.com>

Appendix B
Street Furniture Recommendations and Cost Breakdown

Product		Length and Weight	Product Specifications	Cost per unit
BENCHES₁				
Bateman Park Bench "BM-5"		5 ft 82 lb (37kg)	.065 ¾ x 1 ½ Mild steel frame. Stainless steel fasteners. Semi gloss black thermoplastic coating. Eco friendly containing no VOC's, TGIC's, halogens or heavy metals. Will not crack or chip. Salt spray resistant. Graffiti can be removed easily.	\$986
Classic Park Bench with Arms "CB-5"		5 ft 170 lb (77kg)	Product will not rot, splinter, or warp reducing maintenance costs over the life of the product. Colours available: black, green, harbor grey, light grey, redwood, sand, walnut. 10-year limited warranty.	\$1,723
Victorian Park Bench		5-6 ft 101 lb (46 kg) – 156 lb (71 kg)	Product will not rot, splinter, or warp reducing maintenance costs over the life of the product. Colours available: black, green, harbor grey, light grey, redwood, sand, walnut. 10-year limited warranty. Cast steel structure.	\$919-\$1,347
Notre Dame Park Bench 295106		6 ft 148 lb (67 kg) – 172 (78 kg)	10-year limited warranty. This product will not rot, splinter, or warp reducing maintenance costs over the life of the product. Cast aluminum structure. Coated with InfiniGuard Professional Anti-Corrosion System. Standard colours are textured black and grey.	\$1,277 - \$1,507

Product		Length and Weight	Product Specifications	Cost per unit
BIKE RACKS₁				
Classic 2 Space Bike Rack CBR-44AP CBR-44GP		44" 55 lb (25 kg) – 100 lb (45 kg)	Durable powder coated aluminum frame.	\$781 - \$815
LOOP 2 Space Bike Rack LBRG-1 LBRGP-1		40" 16 lb (7kg)	Hot dipped galvanized steel tubing and surface mount pads. Super durable powder coated galvanized steel frame.	\$333 - \$394
Spiral Bike Rack SBRGP-4	 <small>4 - Space</small>	46" 50 lb (23 kg)	Hot Dipped Galvanized Steel Frame. Super Durable Powder Coating.	\$ 889
PLANTERS₁				
Kingsey Flower Planter		19 in/28 in 100 lb (45 kg)	Cast aluminum and steel structure. 10 Year limited warranty. This product will not rot, splinter, or warp reducing maintenance costs over the life of the product.	\$1,341 - \$1,406

Product		Length and Weight	Product Specifications	Cost per unit
Avenue Planter 114417		22 in / 21 ¾ in	This product will not rot, splinter, or warp reducing maintenance costs over the life of the product. 10-year limited warranty.	\$653
Urban Form Self Watering Planter UFSW-38S		210 lb (95kg) 37.5 in/37.5 in	This product will not rot, splinter, or warp reducing maintenance costs over the life of the product. Durable powder coated aluminum frame. Self-watering features.	\$1,521 - \$1,667
LIGHTING₂				
Flood/spot lights Outdoor Sign Floodlight		23" – 94" 24 W - 80 W	Aluminum	\$326.85 - \$1,598.85
Energy efficient sign floodlight		13W – 26W	Non-metallic	\$54.85 - \$99.85
LIGHT POLES₃				
ARTA		20 – 45 ft	Aluminum round tapered pole	\$1,000 +

Product		Length and Weight	Product Specifications	Cost per unit
Z-Lite 512POST-BK		Height 121.50" (10.1 ft) Width 16.75" (1.4 ft)	Outdoor post. Black finish. Aluminum.	\$1,310.50
BANNER FIXTURE ₃				
Two-Way Banner Bracket Set with Scroll Artwork 304-2WSET		20 in arm length (for 3in poll)	Two-way Signage with balls finial (not in picture).	\$299.85 - \$236.85
INFRASTRUCTURE ₄₋₅				
Intersection Pedestrian Signal (IPS)		-	Also known as a "half signal", these crossing provide a safe a legal means for pedestrian to cross major roadways.	\$200,000 - \$350,000
Bulb-out		-	Bulb-outs (Bump-outs) narrow the streets where pedestrian cross, allow them a shorter distance to cross. When roadways width is larger, they increase motorists to speed and take turns quickly, bulb-outs can act as a speed calming and create safer spaces.	\$2,000 - \$20,000 Average \$12,000 *American costs

1. Cost and description: Wishbone Site Furnishings. (2017). Site furnishings. Retrieved from Wishboneltd.com
2. Cost and description: Hooks & Lattice. (2017). Home lighting, indoor and outdoor lighting. Retrieved from www.hooksandlattice.com
3. Cost and description: Canada Lighting. (2017). Landscape Lighting. Retrieved from <http://www.canadalightingexperts.com>
4. Cost and description: Kingston. (2016). Pedestrian crossing guidelines. Retrieved from <https://www.cityofkingston.ca>
5. Cost and description: Ped Safe. (nd). Curb extensions. Retrieved from <http://www.pedbikesafe.org/>