An “Emerald Necklace” for the UMBC campus

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Introduction

- The “Emerald Necklace” is a famous greenway network in Boston, MA
- Greenways key to environmental health, and promote human physical and mental well-being

Methods

- Field visits and NEST Scoring to assess quality of green spaces
- Network Analysis based on three models

Area	Full Name	Typology	Overall Score
H1	CERA	Woodland	51.6
H2	Pigpen Pond	Pond	43.3
H3	SW Woods	Woodland	48.3
H4	Knoll	Woodland	55.2
H5	Woods South of Poplar	Stream	37.9
H6S	South Herbert Run	Woodland	46.3
H6N	North Herbert Run	Woodland	56.2
H7	Woods near Walker	Woodland	51.7
H9	Woods near Hillside	Woodland	44.7
HA	Woods West of AOK	Woodland	39.0
C1	Pigpen-CERA Stream	Stream	37.4

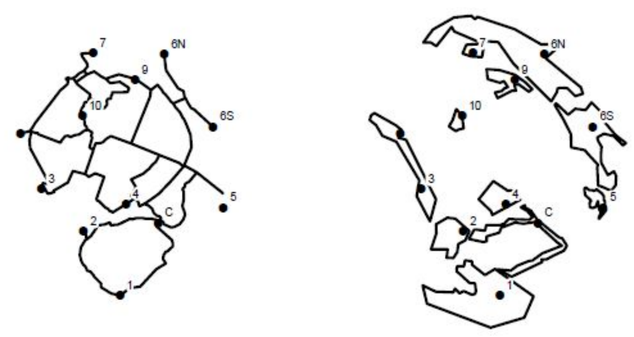
Herbert Run Greenway

- Originally made in 2016
- Not well maintained

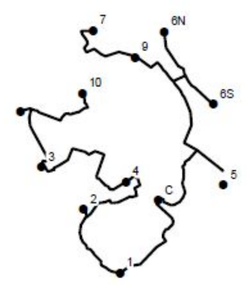
Reference:
https://herbertrungreenway.wordpress.com

Networks

A.



B.



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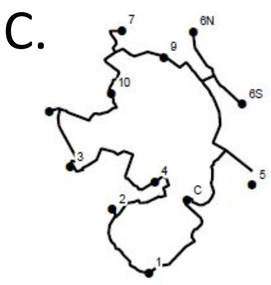
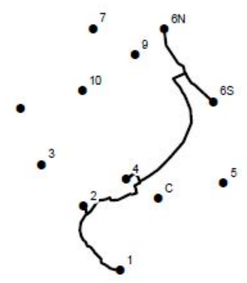
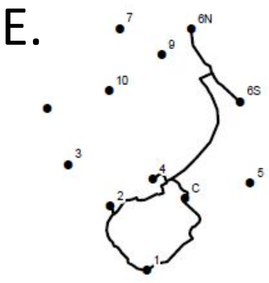


D.



E.



Network	Nodes	Links	Total Distance (m)	Beta	Gamma	Cost Ratio
A. Project Max	11	23	14,802.03	2.09	1.00	0.998
B. Paul Revere	11	13	7,681.58	1.18	0.57	0.998
C. Single Loop	11	15	7,834.13	1.36	0.65	0.998
D. Major Nodes (Paul Revere)	11	5	2,935.64	0.45	0.22	0.998
E. Major Nodes (Single Loop)	11	6	4,893.48	0.55	0.26	0.999

Discussion and Conclusions

- Single Loop is Best Model
- Unclear if NEST scores can be used to assess greenways