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CITIES

A Study of Urban Walking Trail Use in the Cradle of the US Industrial Revolution

“The city of Lowell, Massachusetts established itself in the 1820s as the first large-scale factory town in the United States. Today it is known as the Cradle of the American Industrial Revolution and for its proximity to the prized city of Boston. Lowell’s ongoing rebirth as a post-industrial city includes redevelopment along canals that once powered its industrial mills. This article focuses on a revitalized section known as the Hamilton Canal District and, in particular, use of a central walking trail that follows this winding canal.”

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At first glance, Lowell, Massachusetts looks like many other former industrial cities in the United States. Its downtown is full of older buildings and little obvious green space. You have to walk to experience the city’s biophilic linchpin – the canalways that once powered its textile mills.¹

As the designated cradle of the American industrial revolution, Lowell’s legacy canal system is preserved as a historic park that anchors trails and greenways. Along the winding paths, one is privy to water views, green space, naturalized vegetation, animals, birds, historic buildings, monuments and sculptures.

Urban trails like Lowell’s infuse city life with nature. In turn, data shows a range of beneficial effects when people are exposed to urban green space, including healthier heart rates, reduced crime, and improved attention, mood and physical activity.² Urban walkability also plays a significant role in people’s feelings of belongingness towards their city.³

However, urban trails fail to reach this potential if underused. A successful city trail is one that engages people. The following is an instructive case drawn from Lowell. It identifies how cities might leverage their own urban landscape to cultivate trail use.



Research Process

Throughout fall 2022, my research assistant and I systematically recorded trail use along the Hamilton Canal segment of the Lowell trails. This is part of a one-mile loop connecting downtown areas. Our observation point sat across from the new Lowell Justice Center, a LEED Platinum courthouse with biophilic elements that include views of the trail’s natural features.

Observations took place over a ten-week span of attractive foliage and moderate temperatures. We collected data on number of trail users, their activities, demographics, and attire as a proxy to distinguish local workers. Observations totaled 83.6 hours over 36 periods. We sampled the weekday windows of 12:00-2:00 PM, 8:00-11:00 AM and 3:00-6:00 PM, and Sundays between 9:00-12:00 or 1:00-4:00. Counts were converted to hourly increments for analysis.

Key

-  POINTS OF INTEREST
-  CONCORD RIVER GREENWAY
-  FUTURE PATHS
-  WATER FLOW

-  **Riverwalk Ramble**
1.6 Miles
-  **Waterpower Walk**
1.2 Miles
-  **Heritage Hike**
1 Mile
-  **Redevelopment Rove**
1 Mile



For detailed descriptions of these routes and points of interest, visit <http://go.usa.gov/YDc9>





Key Findings and Recommendations

Functional versus Recreational Emphasis

Synergy of surrounding uses matter more than we imagined. Based on our findings, activity relied heavily on the trail's utility as an accessway. Use was significantly higher during the week versus weekend, and highest overall during the weekday lunch timeframe.

Throughout weekdays, people accessed services such as the health clinic and primary school from areas connected by the trail. Strollers and shopping carts passed through. High school students emerged in the afternoon, ostensibly heading home. Nearby workers traversed the trail en route to lunch options in both directions. Leisure-attired users also frequented at lunchtime, a likely indicator of work-from-home locals.

This functional emphasis differs from the recreational focus of non-central trails. It aligns though with a study of trails within three other US cities, which found that the more successful urban trails in terms of usage are positioned as corridors between significant destinations.⁴

Going to the Dogs

We also found that dogs matter a lot. Dog walking was significantly more prevalent than other activities such as biking. Dog ownership ballooned during the pandemic and urban dwellers in particular look to their neighborhood for dog friendly green space.

We observed more dog walking during weekdays than weekend and particularly during lunchtime. This bolsters the notion of work-from-home trail users. Indeed, a newer 125-unit apartment building along

the trail has common areas ripe for remote work and welcomes dogs. Proximal housing is clearly part of the symbiotic recipe for effective urban trails.

Nature-Safety Tradeoff

Counterintuitively, nature is positive only to a point. It adds to the aesthetic quality of space, but also diminishes perceived safety.⁵ The study segment earns high marks on balancing nature and visibility with the exception of a curved inner section that is shielded by dense vegetation.

No coincidence that this shielded section is also, anecdotally, a spot for dubious activity. In keeping with the keen observations of urbanist Jane Jacobs, a city public area shielded from view does not thrive. The evident best practice for urban trails is to intersperse nature strategically with urban views to maintain open sightlines.

Engaging Users via Micro Parks

Qualities that make a trail desirable for functional use do not necessarily offer recreational appeal, and vice versa. This was evident in the study trail's significantly lower weekend use. Lowell's trails host intermittent weekend tours and events, but urban trails require consistent activity to provide the predictable safety and vitality sought by would-be users.

The study trail's primary recreational amenity is an interactive sculpture housed on underused green space. It is a micro park in need of more attractions. Compatible ideas from other cities include installations geared to selfies, a dog watering station, a bird watching micro-habitat, a fitness station, or fixed tables for dominoes, chess and checkers.

Micro parks by design layer onto underused spaces to enhance rather than replace the existing purpose. Their small scale lends itself to trial testing and reinvention. Essentially any urban corridor can host a micro park.



Final Thought

Thoughtfully designed biophilic trails provide cities with ecological, social and economic benefits. Cities are full of public corridors with unfulfilled potential, just waiting for a strategic reimagining. Contact me at kkm@kkmerriman.com to learn more about this research and how to apply it in your own community.

1 Photos courtesy of UMass Lowell. Map by US National Park Service.

2 Kondo, M. C., Fluehr, J. M., McKeon, T., & Branas, C. C. (2018). Urban green space and its impact on human health. *International Journal of Environmental Research and Public Health*, 15(3), 445.

3 Oishi, S., Koo, M., & Buttrick, N. R. (2019). The socioecological psychology of upward social mobility. *American Psychologist*, 74(7), 751.

4 Reynolds, K. D., Wolch, J., Byrne, J., Chou, C. P., Feng, G., Weaver, S., & Jerrett, M. (2007). Trail characteristics as correlates of urban trail use. *American Journal of Health Promotion*, 21(4_suppl), 335-345.

5 Ibid.

DESIGNING ATTRACTIVE CITIES

“What are the criteria you would use when designing cities?”

Dr Nigel Oseland

Part of my day-job is speaking at conferences, so I get to visit a lot of wonderful cities around the world. The people and culture are fundamental prerequisites of a good city, but design and planning also play an important role in creating an attractive city. Back in 2018, I wrote a blog listing the dozen design features that I found are indicators of the cities that I most prefer – they also form my view of place-making criteria. This approach is quite unusual for me, as I usually develop my views (particularly in published papers) using research and evidence, but the criteria below are based on introspective personal views only.

1. Water – easy access to either a river, the sea or a canal system (with obligatory boat tour).
2. Landmark historic features – an old town, a castle or a cathedral etc.
3. Public squares and piazzas – with outdoor eating and drinking (and the occasional statue or fountain) or at minimum streets with wide pavements facilitating al fresco dining (also a sign of good weather).
4. Well-connected tram system or alternatively a funicular or cable car.

5. Pedestrianised areas – not just for shopping but for exploring, preferably with narrow streets, cobbles, alley ways, winding steps, nooks and crannies.
6. The right size – small enough to walk (or cycle) around in one day but large enough to have plenty of places of interest.
7. Green spaces – a park or ample green refuges for chilling and contemplation, and preferably tree-lined avenues.
8. Nearby hill or mountain – for exercise, exploration, fresh air and views out.
9. Markets – for food or bric-à-brac, with independent stalls and shops.
10. Culture – including interesting museums on local history along with free art galleries.
11. Cuisine – tasty local cuisine, speciality national dishes and heart-warming comfort food preferably served outdoors or in historic buildings.
12. Beer – preferably craft beer and dedicated craft beer bars, or regional speciality beers – I appreciate this is quite a personal view, but it is important to me.