Hertie School

MAPPING RECLAMATION: FROM ERASURE TO HEALING

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GRAD-E1457: GEOSPATIAL ANALYSIS FOR DATA SCIENCE

ANALYZING THE SPATIAL RELATIONSHIP BETWEEN FORMER INDIAN RESIDENTIAL SCHOOL (IRS) LOCATIONS AND INDIGENOUS-LED INFRASTRUCTURE PROJECTS (IIP) TO IDENTIFY SIGNS OF RECLAMATION AND HEALING

INTRODUCTION

With ongoing national conversations around truth and reconciliation in Canada, we aim to meaningfully contribute to this dialogue by using data to visualize where transformation is taking place. Specifically, we are interested in exploring how Indigenous communities today are reclaiming spaces once associated with trauma (i.e., former Indian Residential School sites) and surrounding areas once part of colonial disruption.

Through geospatial analysis, we will illustrate how infrastructure projects have been employed in these areas as a form of reclamation and healing among Indigenous communities.

OBJECTIVE

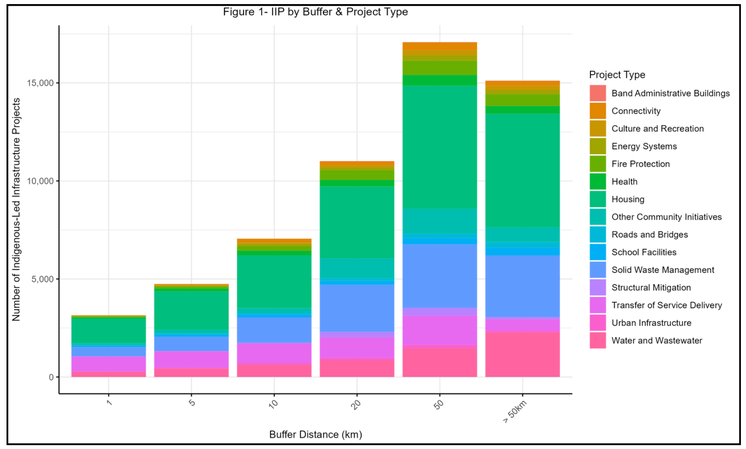
What is the **geospatial relationship between the former Indigenous residential schools (IRS) sites in Canada and the emergence of Indigenous-led infrastructure projects (IIPs)** in their surrounding areas?

METHODOLOGY

This analysis involves a point pattern comparison of all officially recognized former IRS locations overlaid onto IIP areas. The focus will be on identifying trends in spatial proximity— analyzing how the type and quantity (e.g., cultural, educational, health) of projects occur within defined buffer zones (i.e., 1, 5, 10, 20, 50 km) around former schools, and whether clustering exists. Cross-K functions are also used to identify if point patterns cluster at the same location.

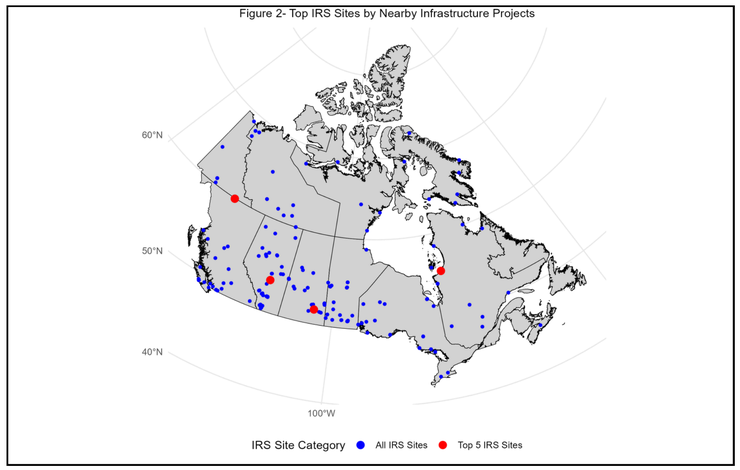
KEY FINDINGS

SPATIAL SUMMARY



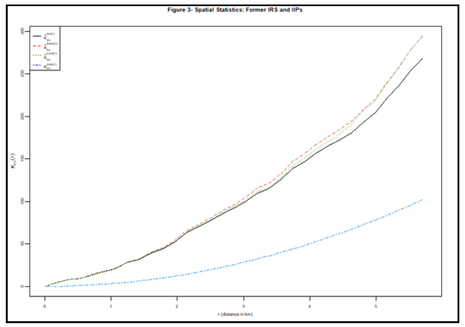
Although the number of IIPs increase as the buffer zone distance expands, the cumulative volume of IIPs is larger in closer proximity to former IRS locations than beyond 50km away. There is also a noteworthy amount of socially-centred project types.

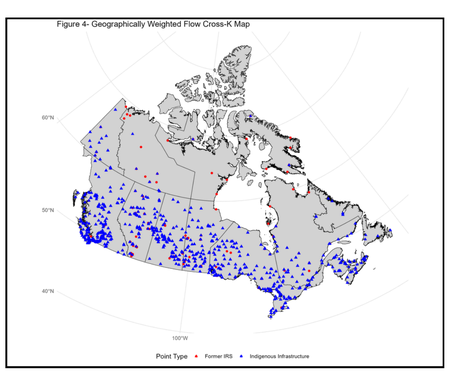
EMPHASIS MAPPING



This map displays former IRS sites in blue and highlights the top 5 most reclaimed sites in red.

CROSS-K ANALYSIS





The Cross-K functions illustrate that IRS sites and IIPs tend to be located closer to each other more often than you would expect if their locations were completely random and independent of each other.

CONCLUSION

In line with topic literature (McBain, 2021), this analysis finds that former IRS sites are experiencing notable investment in nearby IIPs, which reflects broader efforts at cultural, social, and spatial land reclamation. Though this analysis is limited since other socioeconomic factors may affect the spatial distribution of IIPs, the findings herein can support healing efforts by providing the basis for data-driven policymaking and program development.

For further analysis and full code, scan here

Data Sets: Former IRS site data from the Borealis Data Repository (DOI: 10.5683/SP2/FJC5TG)
Indigenous Services Canada's IIP Dataset (DOI: geo.sac-isc.gc.ca)
Canadian Map – Provinces & Territories Dataset (DOI: https://www12.statcan.gc.ca/census-recensement/alternative_alternatif.cfm)
References: McBain, C. (2021). De-Colonial Intersections of Conservation and Healing: The Indian Residential School System (Doctoral dissertation, Carleton University).