REGIONAL CENTRE SUB-GEOGRAPHIES

Researching Indicators to Support Evidence-based Planning within the Regional Centre

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September 2015

Editing & Formating by Halifax Regional Municipality

December 2015

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BACKGROUND

HALIFAX REGIONAL CENTRE

The Regional Municipal Planning Strategy, adopted in 2006, defined the Halifax Regional Centre (RC) as Dartmouth, between the Circumferential Highway and Halifax Harbour, and peninsular Halifax (RMPS, 2014; Figure 1).

Connected by the Halifax Harbour via the ferries and two bridges, both sides have limited land-based 'entry points' for automobiles. Vehicular access is restricted by the land form and the entry points off the Circumferential Highway. There are ten such points on the Dartmouth side, and six on the Halifax side.

Described as the heart of the municipality and the economic hub of Atlantic Canada, the Halifax RC is a diverse place. Home to a dynamic waterfront, which includes a vibrant shipping industry, a naval base, and popular public spaces; government; seven post-secondary institutions; major health care facilities; numerous historic landmarks; several distinct residential and mixed-use neighbourhoods; and significant cultural and entertainment sectors. Due to the Regional Centre's diversity, city planners have been working toward sub-dividing the region into more workable sections to optimize planning decisions and policies. As part of the work that began the Regional Centre Urban Design Study (2006/2007), over 40 unique sub-areas were identified. In 2009, the Downtown Halifax Secondary Municipal Planning Strategy divided Downtown Halifax into nine precincts, each with distinct character, building forms and functions (DHSMPS, 2014).

Currently, a comprehensive plan for the Regional Centre (Centre Plan) is being drafted; it will replace the four community municipal planning strategies and four land use by-laws that currently regulate the RC (Halifax, 2015). One aspect of the Centre Plan that is being considered is the creation of sub-regional geographic planning districts within the Halifax RC (Halifax, 2015b). These sub-regional planning districts could lead to the creation of more finely-tuned and strategic planning policies with respect to residential and employment capacities, public space, transportation, economic development, and community services and health. These planning districts need to be small enough to capture the essence of diversity within the RC and large enough to ensure that planning for complete communities is able to be carried out.

HALIFAX REGIONAL CENTRE

Figure 1. The Halifax Regional Centre is defined as Dartmouth, between the Circumferential Highway and Halifax Harbour and Peninsular Halifax (RMPS, 2014).

GOAL & OBJECTIVES

GOAL

This report will delineate sub-geography boundaries at a size that may be practical for understanding of the different diverse areas within the Regional Centre. This work will inform direction on the Centre Plan but does not constitute policy or plan recommendations.

OBJECTIVES

1. Create sub-regional geographic area planning districts within the Halifax Regional Centre,
2. Explore and identify readily available datasets that are useful in the construction of indicators for Halifax Regional Centre planning,
3. Develop example indicators using identified data, and
4. Illustrate how the developed indicators are distributed within the Halifax Regional Centre.

PROCESS

CONSTRUCTION OF DISTRICTS

Iterative Approach

The first phase of this study was the creation of sub-regional geographic districts based upon prior studies completed by city planners. The previous work focused on urban form and neighbourhood characteristics and was the foundation for the initial phase of this study, which involved modifying these 'conceptual' boundaries via exploration of physical characteristics such as the built form, physical barriers, transportation infrastructure, walkability, land uses, and overall function. The delineation of districts was completed in consultation with knowledgeable city planners. Twelve Districts emerged at this stage (RC Districts 1, Figure 2a).

During this initial exploration, current functional boundaries within the Halifax Regional Centre (RC) were also examined for suitability with two appearing most relevant: those used by the HRM Regional Police Force, and the zones created by the Emergency Management Office. Using major roads as their dividing lines, the police force splits the Halifax Peninsula into five zones and the RC of Dartmouth into four. While these zones are appropriate in size, their dividing lines split some previously developed regions (e.g. the downtown planning zone of Halifax). The Emergency Management Office approach splits the entire province into four regional areas, but within urban areas there are smaller zones to facilitate evacuation and emergency response planning. For the Halifax RC there are a total of 30 zones, 18 in Halifax and 12 in Dartmouth; too many for our purposes.

The preliminary 'conceptual' district lines were then overlaid with two candidate 'building block' administrative area units, Census Tracts (CTs) and Dissemination Areas (DAs) (refer to Data & Area Unit Section below).The CT boundaries proved to be unsuitable as they crossed too many of the physical-based 'conceptual' boundary lines to be useful. The DA boundaries, however, being significantly smaller, allowed for greater flexibility.

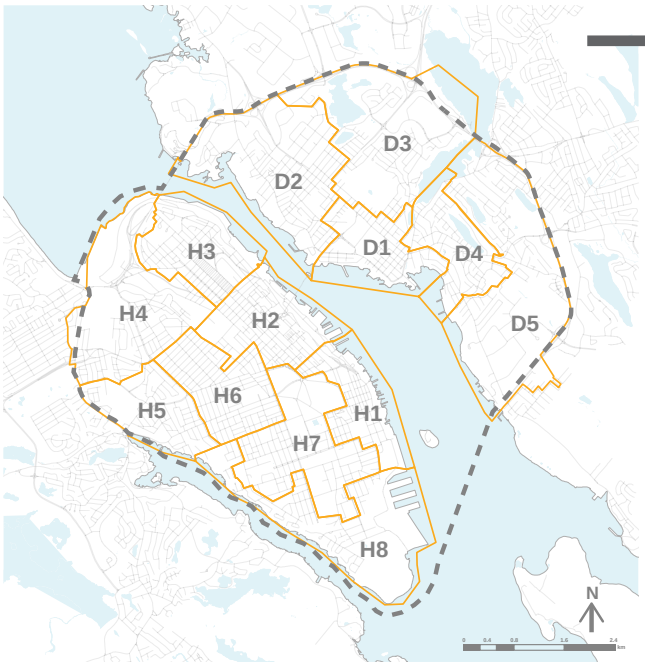
Through ground-truthing, further consultation, and evaluation of the physical characteristics, RC District 1 and the DA boundaries were merged into one, producing RC District 2, with 15 districts: eight in Halifax and seven in Dartmouth (Figure 2b). The DA boundaries were followed as closely as possible during this phase to facilitate the use of indicator data (refer to Methodological Notes #1).

After additional consultation with city planners and further refinement of RC District 2, a third set of boundaries, RC District 3, also containing 15 districts was created (Figure 2c). A small hitch between H2 and H6 was removed, and the boundary between H3 and H4 was moved to Massachusetts Avenue. There was some also minor smoothing of the H4 west boundary in order to follow Joseph Howe Drive and the RC boundary line. The north boundary of District H1 was extended to include the Cogswell Interchange, as it falls within the DH-1 zoning region. In Dartmouth, the main change involved moving the boundary between D4 and D5 to follow the east shoreline of Albro Lake, allowing for inclusion of the small number of homes south of the lake. The boundaries of Districts D6/D7 along Portland Street, and D4/D5 along Woodland Avenue were also smoothed.

The final boundary iteration (RC District 4, Figure 2d) involved some substantive changes. In District H1 the previous boundaries had generally followed the DH-1 zone, in RC District 4 this zoning is followed explicitly. The boundary between H4 and H5 moved slightly to the north, following Bayers Road the entire way to the end of the RC, culminating at Joseph Howe Drive. In Dartmouth, the boundary between D1 and D2 shifted north to Thistle Street, moving the Dartmouth Commons into D1.

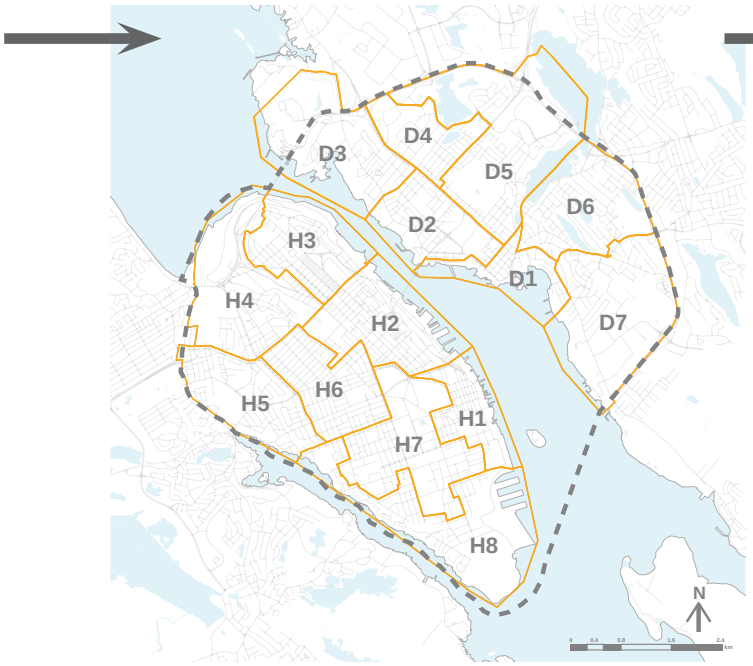
CONSTRUCTION OF DISTRICTS

District Boundary Evolution



a)

b)



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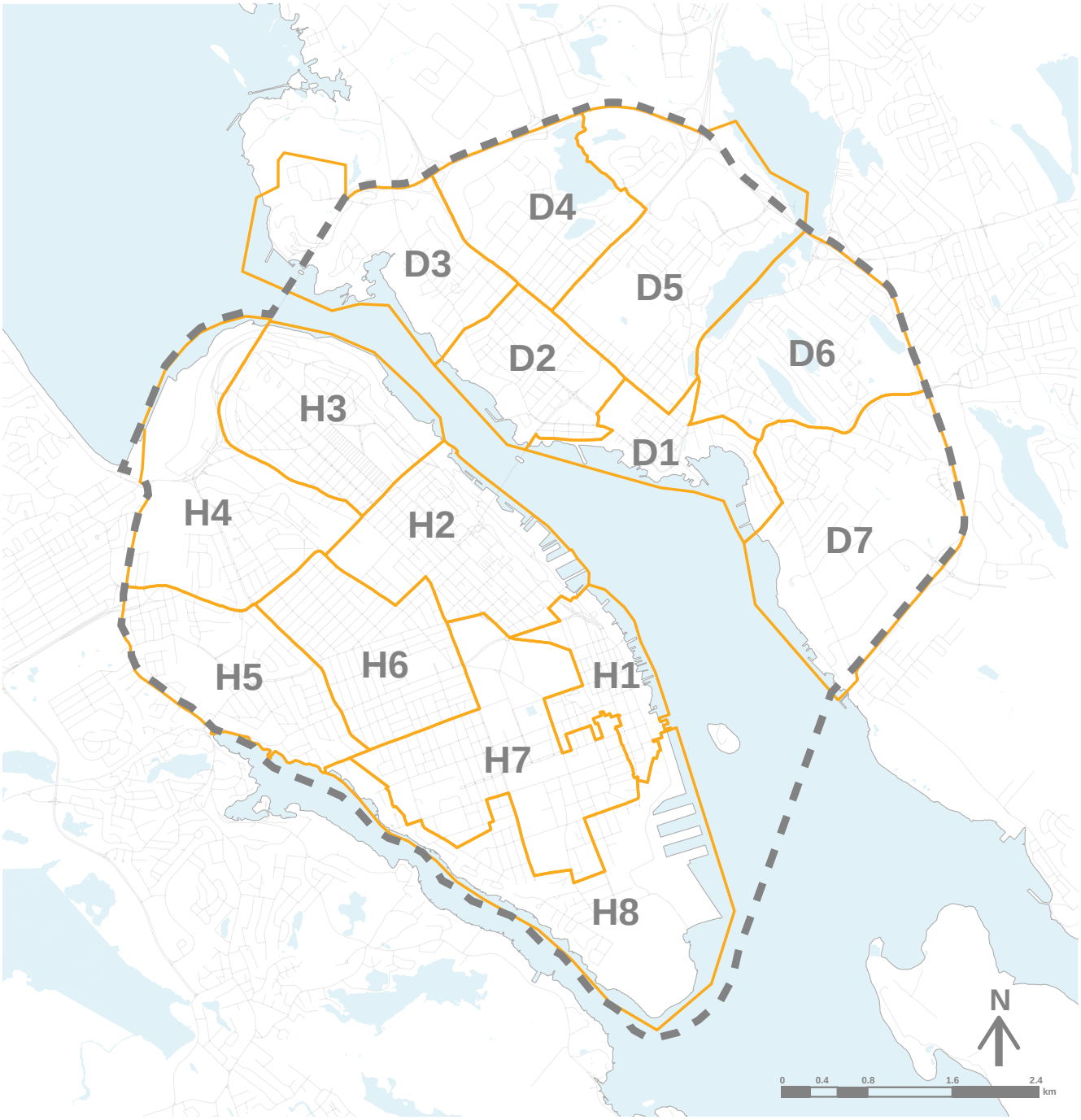
CONSTRUCTION OF DISTRICTS

District Boundary Evolution



d)

Figure 2. Evolution of the Regional Centre districts from RC Districs 1(a), 2(b), 3(c) and the final set of boundaries RC Districts 4(d).

DATA AND AREA UNITS

Data Sources

Sources of data used to develop indicators in the Halifax Regional Centre include:

1. HRM Geodatabase (Halifax, 2015c) and Halifax Open Data
2. Statistics Canada Census Data

Indicator Data

1. Data from the HRM Geodatabase and Halifax Open Data is used to determine the amount of land area (sq.m) of each zoning type in each district, this is used in conjunction with demographic data (census data, see below) to determine spatial indicators related to residential density, and the amount of park space per person (refer to Methodological Notes #1).
2. Census data is used to develop socio-spatial indicators for the Halifax Regional Centre (refer to Methodological Notes #2, 3). Data categories include:
    - population demographics
    - education levels
    - rate of government transfer
    - unemployment rate
    - median household income
    - rental rates
    - housing payment amounts
    - type of employment
    - dominant transportation mode

Area Units

Dissemination Area (DA) data is the finest grained administrative unit readily available from Statistics Canada that has associated socio-demographic data. Research has shown that using finer-grained DA data, as opposed to larger Census Tracts (CTs), can best approximate what's happening 'on the ground' in small to medium sized cities. Therefore, DAs became the building blocks for area unit analysis (Figure 3 shows CT and DA boundaries for the Halifax Regional Centre).

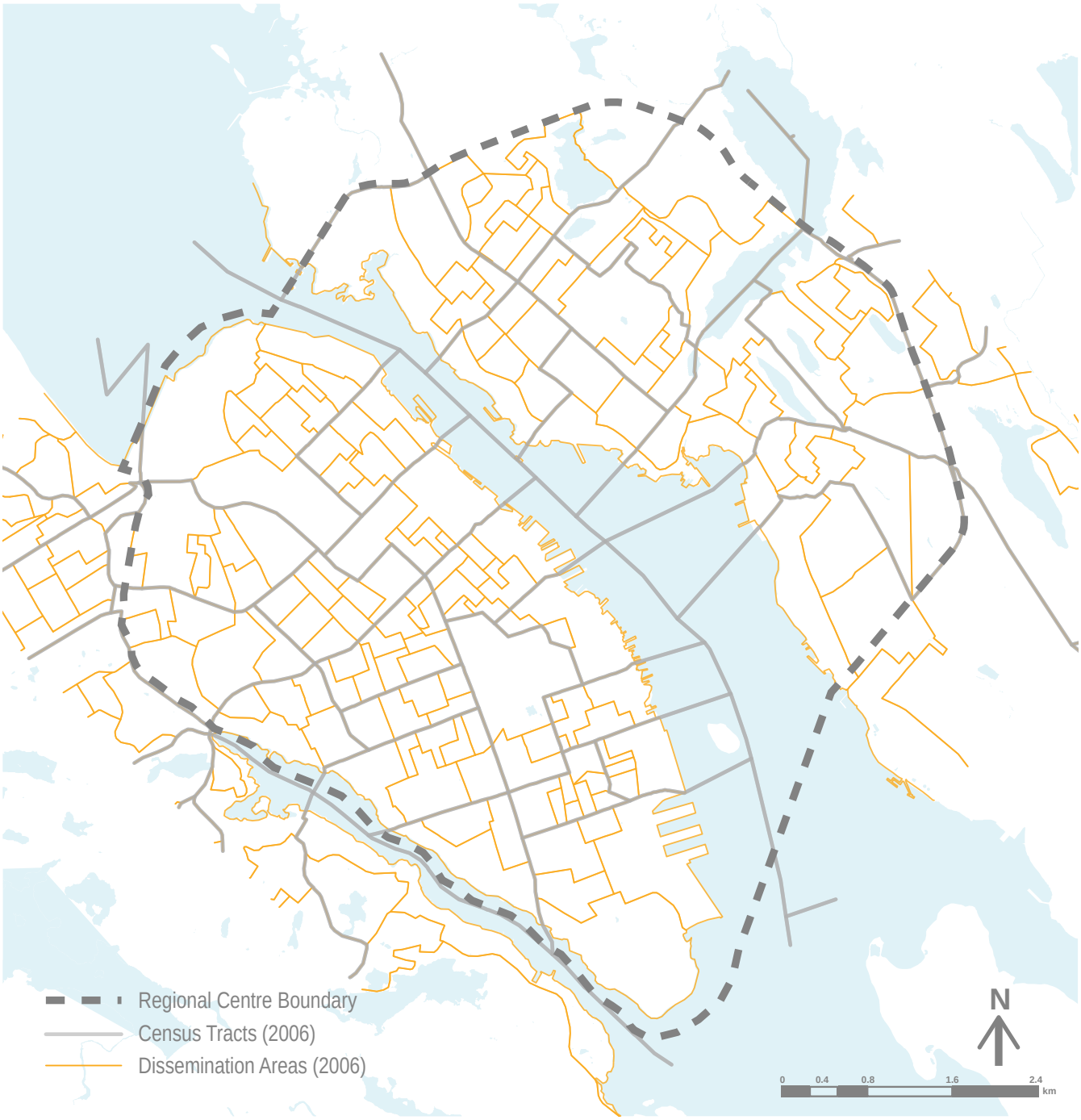


Figure 3. Dissemination Area and Census Tract boundaries within the Regional Centre.

DATA AND AREA UNITS

Data Quality

There are several issues related to data quality: the deteriorating value of census data, changing Dissemination Area (DA) boundaries, and repressed data. The comprehensive mandatory long form census was replaced by the voluntary National Household Survey (NHS) in 2011; when compared, much of the data exhibited similar patterns between years, some however changed significantly. The median household incomes in District D7 are one example (Figure 4).

These inexplicable variations, and low NHS response rates, which approach 50% in some CT's in the Regional Centre (Cities Centre University of Toronto, 2013), are recognized by Statistics Canada (2013) who note the lack of comparability between the data sets and caution users from comparing the NHS with past surveys (see quote below). Because this lack of comparability is particularly troublesome for low-income residents in small geographic areas (Prouse et al., 2014), the 2006 Census data was used for detailed district analysis. A time series indicator analysis between census years was not possible (refer to Limitations & Recommendations Section, for further discussion of this issue).

The variability of DA boundaries and higher chance of repressed data are two features of DA-level data which unfortunately cannot be overcome. The majority of indicators contain a minimum of three repressed DAs, which appear white on maps. Repressed data also adds a level of uncertainty when aggregating data, though this is mitigated via ratios and rates. However, in districts such as D3, which contains a small number of DAs, this lack of data can make a major impact upon the indicator ratios.

"Given the sensitivity of most income indicators to such methodological differences, users should use caution when comparing income estimates from the NHS to other household income surveys, administrative data or 2006 Census data or earlier censuses." (Statistics Canada, 2013)

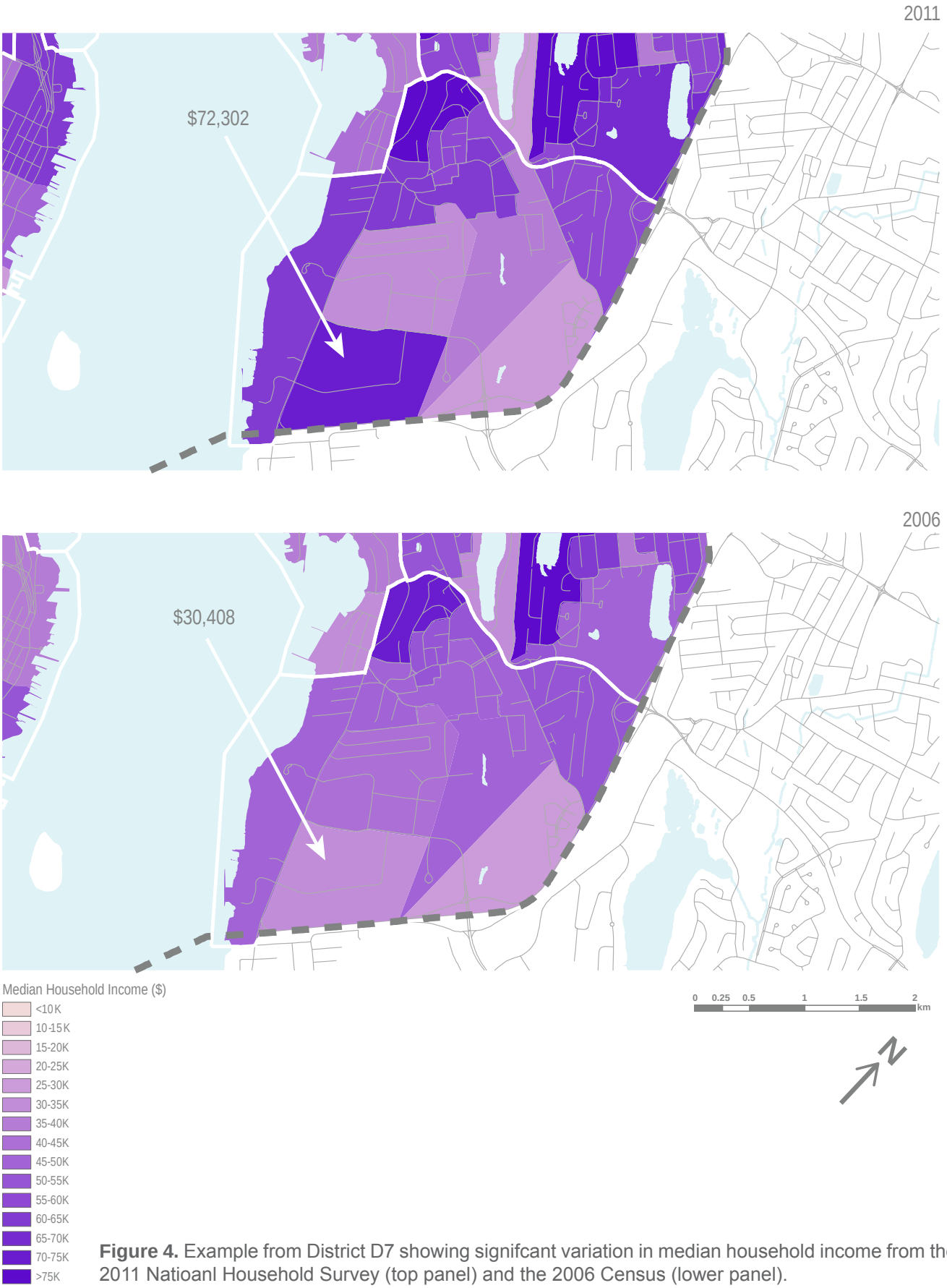


Figure 4. Example from District D7 showing signifcant variation in median household income from the 2011 Natioanl Household Survey (top panel) and the 2006 Census (lower panel).

DATA AND AREA UNITS

Data Aggregation

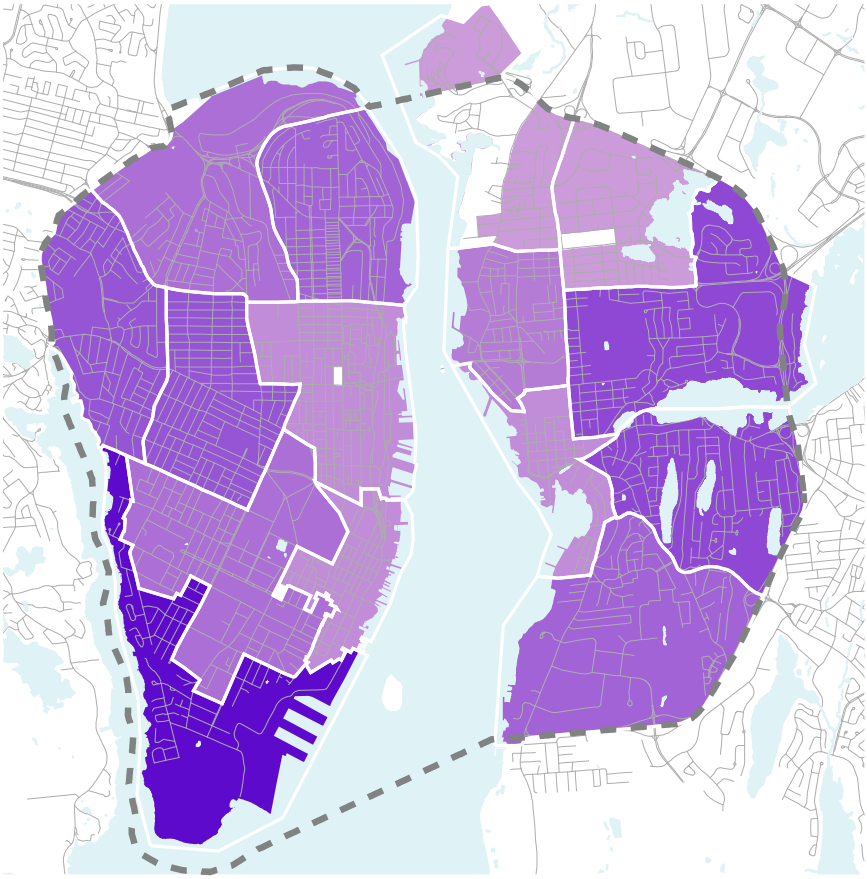
Using the district boundaries as edges, Dissemination Area (DA) data was then aggregated. Some DA boundaries did not fit 'neatly' within the District boundaries and had to be adjusted manually (see Boundary Adjustments sub-section).

Aggregation can mask heterogeneity. Smaller units will always better represent what is happening 'on-the-ground' than larger units. Depending on the data type, aggregation offers district-level representation ranging from poor to appropriate.

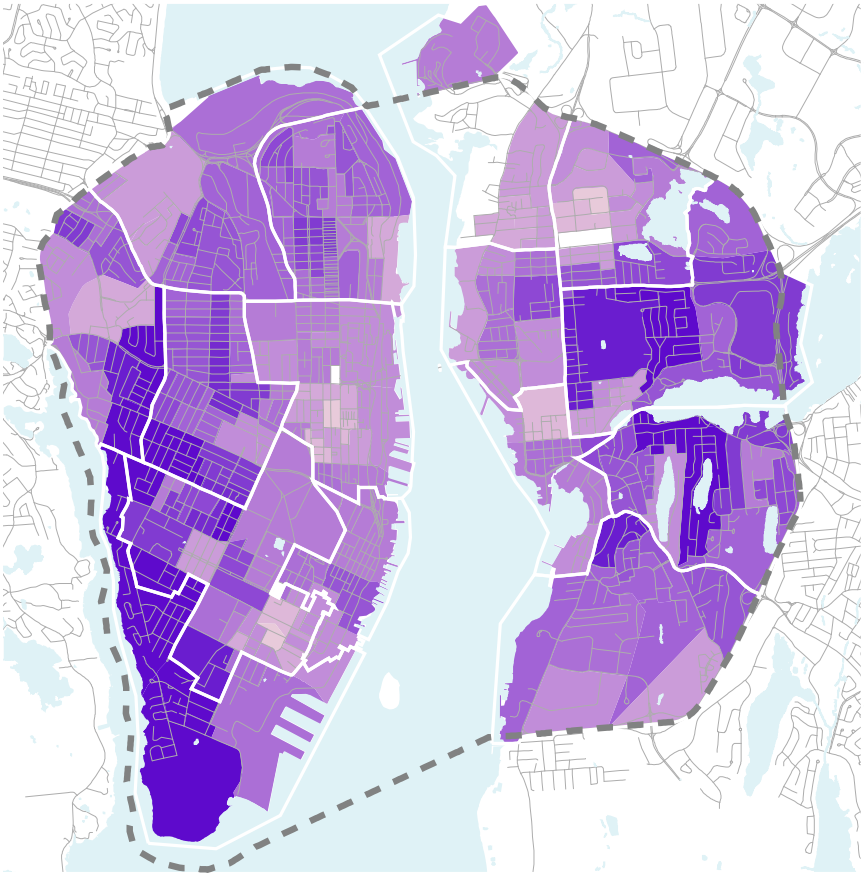
For example, when aggregated, the lowest category for median household income becomes ~$28k, whereas DA-level data has a number of DAs in the <$20k category (Figure 5). Examples of indicators for which aggregation to district level may be appropriate are government transfer and rental versus ownership. Refer to Recommendations & Limitations Section, for further discussion of this issue.

Figure 5 (Adjacent Page). Illustration of how aggregating Dissemination Area (DA) data can mask heterogeneity. The lowest median household income in the Regional Centre when aggregated is ~ 25-30k, this falls to ~ 15-20k when data is not aggregated.

Aggregated



Non-Aggregated



Median Household Income ($)

- <10K
- 10-15K
- 15-20K
- 20-25K
- 25-30K
- 30-35K
- 35-40K
- 40-45K
- 45-50K
- 50-55K
- 55-60K
- 60-65K
- 65-70K
- 70-75K
- >75K
- Repressed Data

0 0.5 1 2 3 km

DATA AND AREA UNITS

Boundary Adjustments

Not all Dissemination Areas (DAs) fit neatly within district boundaries: some transverse district boundaries; extend beyond the Halifax Regional Centre (RC); and some areas, while technically outside of the Halifax RC, are more 'connected' to it than elsewhere. These cases required extra levels of manipulation (refer to Methodological Notes #1).

For example, the small number of homes bordering Russell Lake are technically outside of the RC boundary of the Circumferential Highway, but they can only be accessed by moving through the RC. Upon speaking with planners, it was decided that they should be considered part of the RC for planning purposes. These types of regions require DAs to be split into block level population data. Each block is given a percentage value of its respective DA, which is then used to weight the socio-economic and demographic data (shown in Appendix A; refer to Methodological Notes #3). These weighted numbers were only used for district aggregation; DA maps use the unadjusted values (appearing in the Cross District Section). A particularly problematic example of this occurred in the north part of Dartmouth, in a DA which includes the Burnside Industrial Park, making it one of the largest DAs. Moreover, it is shaped awkwardly, containing two separated areas within the RC (Figure 6).

While this method worked well for the vast majority of districts, for H1 (RC District 4), this technique proved inappropriate because the zoning line for the DH-1 zoning type split the block-level data. In this case, a simple percentage of the total area was used to create weighting for the data, either at the block or DA level. When DA's or blocks were split, the presence of residential type buildings was evaluated to ensure proper inclusion of the demographic data. For example, following the DH-1 zoning in H1, DA 12090357 was split between H1 and H2. Similarly, rather than following the Dissemination Block Line, the DH-1 zoning boundary split block number 1209035744 in two. Ground-truthing revealed that the area included within H1 was made up of non-residential uses. Therefore, the population and associated socio-demographic data was included in H2 (Figure 7).

Two areas technically outside of the Halifax RC which are now included are the communities of Wallace Heights (D3) which is northwest of Shannon Park, and Lakeshore Park (D5) on the south shore of Lake Micmac and (Figure 8). These areas only have road access from within the RC.

A neighbourhood south of the Circumferential Highway at the bottom of D7 was excluded for the opposite reason; the area is not well connected to the Halifax RC even though most of the DA lies within the Halifax RC boundary.

Figure 6. Disseminatin block #1209035744 (orange) is split between H1 and H2. The H1 portion contains no residents, associated socio-demographic data is therefore included in H2.

Figure 7. An example of a large Dissemination Area which required splitting at the block level and weighting of associated socio-economic data.

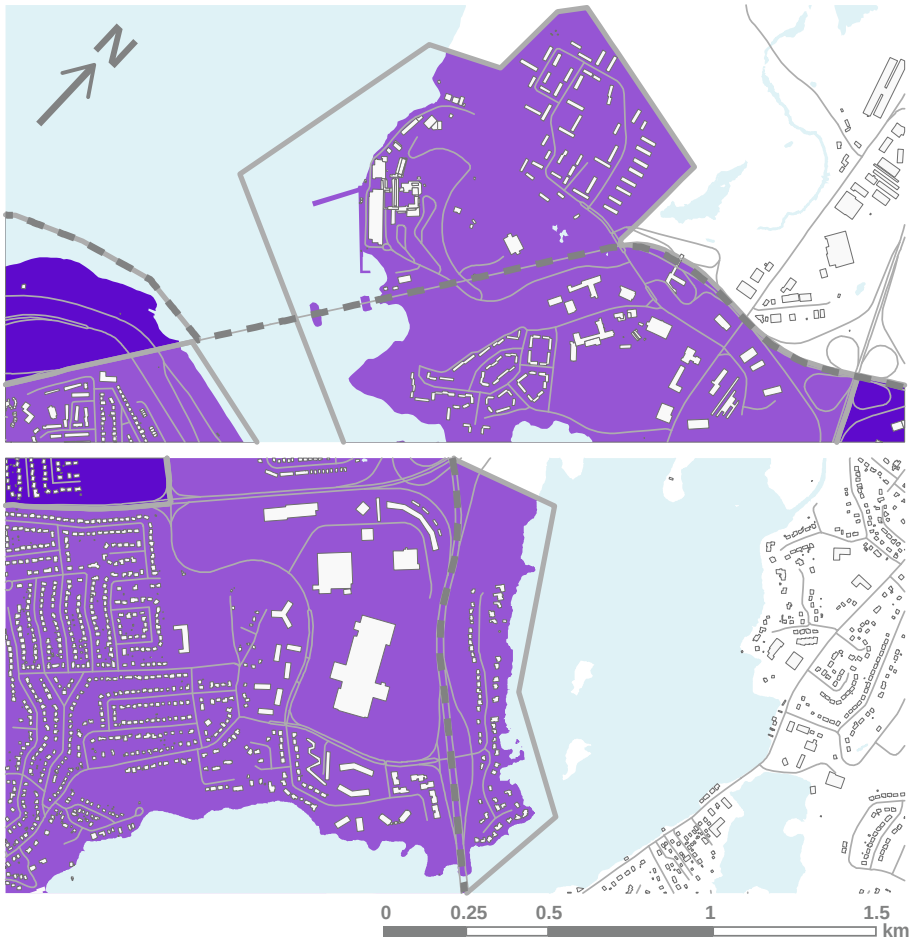


Figure 8. Areas of Wallace Heights (D3- top panel), and Lakeshore Park (D5 - lower panel) which have been included in the Regional Centre (RC) as they only have roach access via the RC.

RECLASSIFICATION OF DATA

Generalized Zoning Types

To determine the various proportions of zoning types and residential population and park space densities a general zoning map was created (Figure 9). Using the existing zoning for the peninsula and Dartmouth, all existing zoning was agglomerated into seven general zones:

- Residential
- Industrial
- Park
- Mixed Commercial
- Institution and Open Space
- Military* *see Methodological Notes #4
- Holding

Using these general zoning categories and ArcMap's (ESRI, 2012) measure tool, the area of each zoning type was calculated for each district (refer to *Methodological Notes* #1). This method overestimates the amount of residential area as the road network is included in the residential component of the zoning. Within the available geo-data, the road network is not separately zoned, nor is there a road network that is polygon-based (only line data is available).

Residential population density for each District is calculated according to,

Residential population density (km^2) =

District population / Residential zoned space (km^2)

where, Residential zoned space is residential plus mixed commercial. Within the HRM, commercial zoning allows for a residential component in almost every commercially-zoned area (refer to *Methodological Notes* #5, for more detail). Using publicly available data, however, there is no way to discern how a particular lot of land is actually being used beyond its zoning type. Therefore, the mixed commercial zoning type needs to be included within the population density calculation even though some areas may be used exclusively for commercial operations.

Other specific zoning designations are treated so differently between Dartmouth and Halifax, that they were categorized differently (see *District park density* for example). Zoning designations were therefore based on a "best fit" for generalization, and these differed between Halifax and Dartmouth.

District park density (amount of park space per person),

Park density (m^2) =

Park space (m^2) / Population,

is calculated using the Halifax OpenData HRM_Parks.shp layer (Halifax, 2015b), with some minor adjustments. Halifax zones its parks under RPK (Regional Parks), and P (Park and Institutional Zone), which includes non-park space such as cemeteries, hospitals, schools, universities, churches, libraries, museums, and court houses. Dartmouth separates out institutional uses from its parks, through the P or PK (Park), OS (Open Space), and S (Institutional) Zones. As such, in Halifax, only areas that are actual parks are considered in the park density calculation. In Dartmouth, all areas zoned P and PK are included (although some of the areas zoned P were not included in the HRM_Park.shp file).

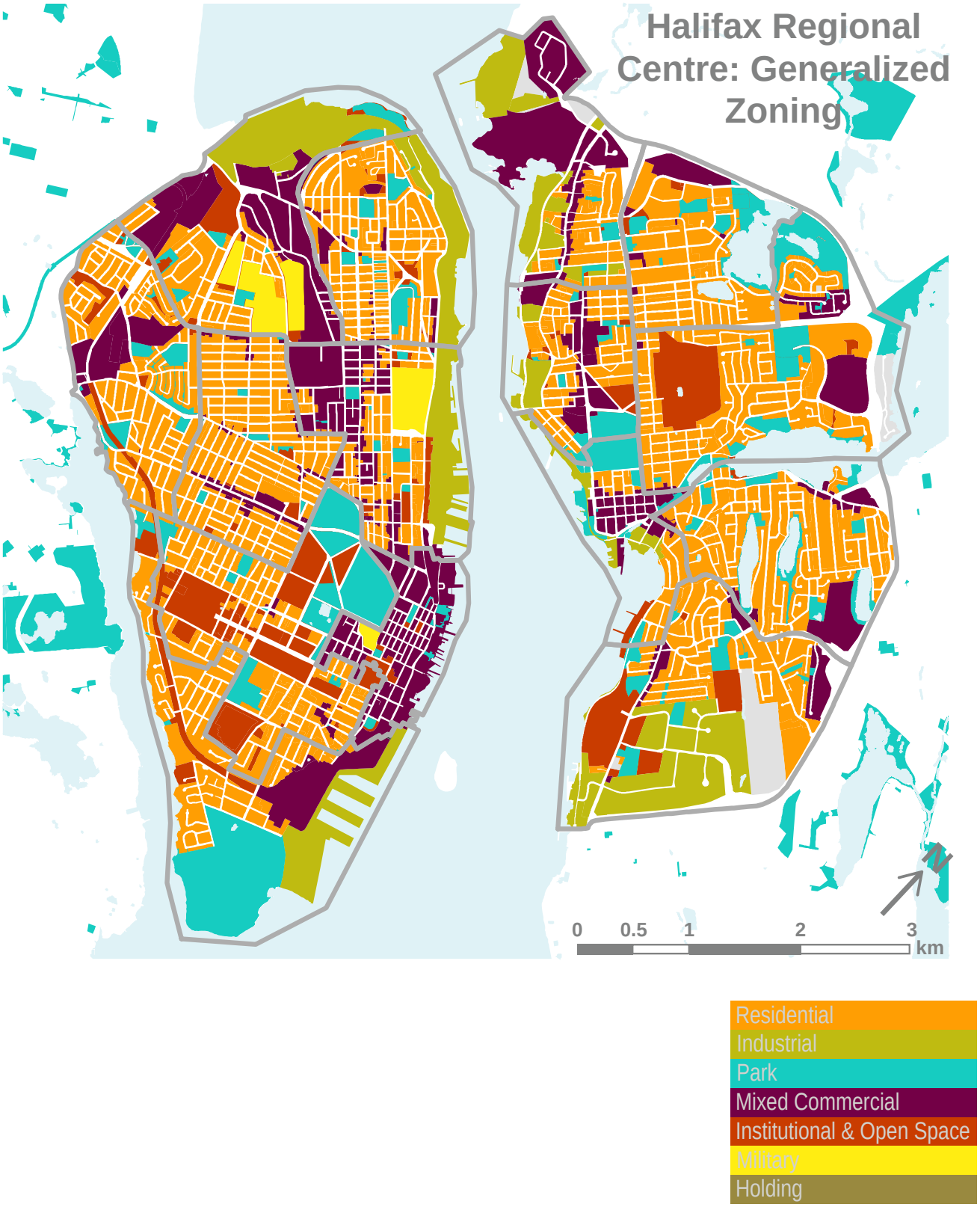


Figure 9. Types of zoning in the Halifax Regional Centre. Areas are used to determine residential population density and amount of park space per person.

RECLASSIFICATION OF DATA

Generalized Industry Groups

To simplify analysis of the types of employment of residents within the Halifax Regional Centre districts, the NAICS (North America Industry Classification System) data was consolidated into 10 groups.

Consolidated Industry	NAICS Category	NAICS Code
Natural Resource & Energy	Agriculture,forestry, fishing & hunting	11
	Mining & oil & gas extraction	21
	Utilities	22
Manufacturing Industries	Construction	23
	Manufacturing	31-33
Retail & Trade	Wholesale trade	41
	Retail trade	44-45
	Transportation and warehousing	48-49
Finance & Communication Services	Information & cultural industries	51
	Finance & insurance	52
	Real estate & rental & leasing	53
Professional & Management Services	Professional, scientific & technical services	54
	Management of companies & enterprises	55
Education	Educational services	61
Healthcare & Social Assistance	Healthcare and social assistance	62
Entertainment & Food Services	Arts, entertainment & recreation	71
	Accomodation & food services	72
Public Administration	Public Administration	91
Other	Other services (except public admin)	81
	Administrative & support, waste management & remediation services	56

DISTRICT PROFILING

District Profiles

For each of the 15 districts, detailed profiles (located in the *District Profile* Section) describe the following:

- key functions
- defining features
- predominant zoning types
- key demographic indicators
- population structure
- characteristic photographs
- description of patterns across districts

Cross District Comparison

In order to compare districts to one another, indicator data is compiled and displayed graphically and/or spatially. The full complements of indicators are analyzed in the Cross District Section (refer to Methodological Notes #6):

- population demographics
- education levels
- rate of government transfer
- unemployment rate
- median household income
- rental rates
- housing payment amounts
- type of employment
- dominant transportation mode
- residential density
- park space density

METHODOLOGICAL NOTES

1. Digitizing errors by the authors may have occurred during district boundary delineation; there may also be similar errors inherent to the HRM geodatabase.
2. Census Canada rounds its data to the nearest 0 or 5 to maintain privacy, only population data is not rounded.
3. Rounding of indicator data takes place at the end of calculations. In situations where weighting to numbers occurs, the decimal carries through the equation and the final number is rounded.
4. Military Space was removed from the livable area calculation, although Willow Park has a residential component for military personnel.
5. The C3 zone in Dartmouth does not allow for residential uses, and was therefore excluded from the residential zoning type calculation.
6. The data analysis here within contains no forecasting or trend analysis.

DISTRICT PROFILES

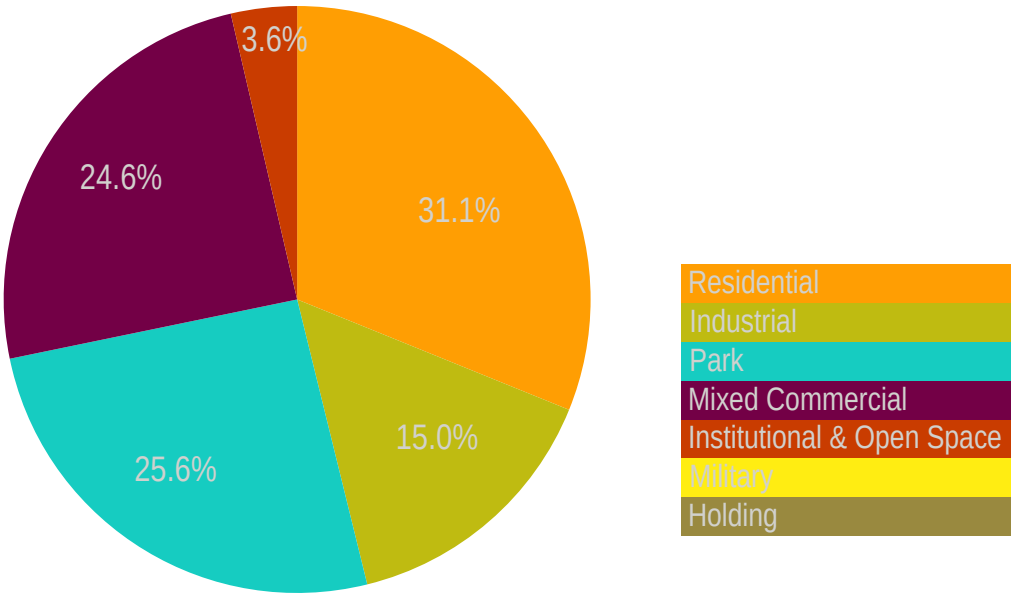
D1

DEFINING FEATURES

The heart of Dartmouth resides within District D1. Anchored by Alderney Landing on the waterfront, the complex houses a library, theatre, offices, art gallery, restaurants, shops, a weekly market and the Ferry Terminal. Flanking Alderney Landing is Ferry Terminal Park, which has the head of the Dartmouth Harbourfront Trail - running 3 km and terminating at the Woodside Ferry Terminal. The Dartmouth Common offers walking trails, sports fields, a tennis court, a beach volleyball court, a skateboard park currently under construction, a community garden, and a community pizza oven. The main retail, business and financial district of D1, is located along Portland Street and consists predominantly of 2-story mixed-use buildings. An area currently undergoing intense development along the waterfront, King's Wharf, has three completed condominium towers with ground-level retail and commercial space, and with 9 more buildings proposed.

ZONING TYPES

The predominant zoning types in D1 are residential, mixed commercial and park. There is section of industrial use along the waterfront.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D1 (Rank)	Regional Centre (RC)	HRM	NS
Population	2,760	94,809	-	-
Residential Population Density (ppl/sq.km)	5,434	3,922	-	-
Government Transfer (% of income)	13.1 (7th)	11.6	8.8	13.6
Unemployment Rate (%)	3.8 (14th)	7.2	6.3	9.1
No Post-Secondary (%)	35.6 (6th)	28.8	32.5	39.5
Median Household Income ($)	33,173 (11th)	44,692	54,108	46,605
Percentage of Renters (%)	74.8 (6th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

District D1 covers the downtown of Dartmouth, and has the second smallest population of all districts, next to District D3. Residential population density in D1 is the 4th highest in the Regional Centre (RC). A relatively rapid population increase is expected due to proposed and ongoing development of a few large condominiums. The socioeconomic status (e.g., income and educational levels) is lower than many of the districts on the Halifax side, and sits in the middle among the districts on the Dartmouth side. The unemployment rate is one of the lowest in all of the districts in the RC, and a higher percentage of employed persons are engaged in professional jobs than those in the rest of Dartmouth. While there is no concrete reason to believe otherwise, the sample size of respondents in the census for the employment question is low and this unemployment rate needs to be viewed with caution.

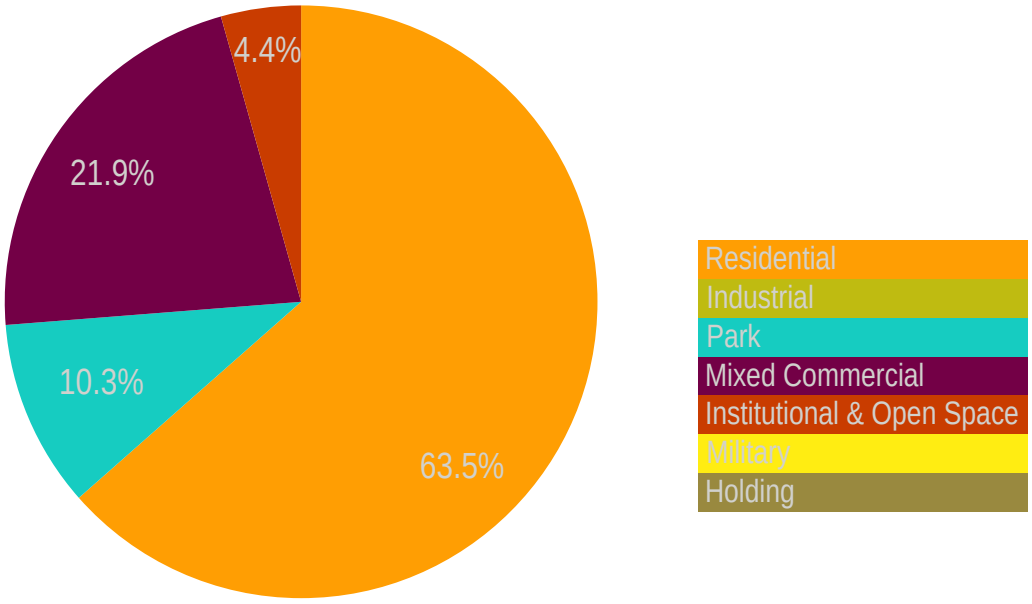
D2

DEFINING FEATURES

Located within District D2 is the McDonald Bridge, a key connection between central Dartmouth and Halifax; adjacent to the bridge is the relatively new Bridge Terminal, a major transit hub. Located in the same vicinity as the Bridge Terminal, is the Dartmouth Commons and the Dartmouth High School, which serves the Dartmouth side of the RC and beyond. The main residential area, Harbourview, has a mix of single-family dwellings and mid-rise apartments. Wyse Road, an important artery through D2, is a key retail area with numerous businesses, including two major grocery stores, pharmacies, the Dartmouth Sportsplex, and restaurants.

ZONING TYPES

The majority (~64%) of D2 is zoned for residential use, with mixed commercial use taking second place for largest zoning type.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D2 (Rank)	Regional Centre (RC)	HRM	NS
Population	4,516	94,809	-	-
Residential Population Density (ppl/sq.km)	3,717	3,922	-	-
Government Transfer (% of income)	17.4 (4th)	11.6	8.8	13.6
Unemployment Rate (%)	6.8 (9th)	7.2	6.3	9.1
No Post-Secondary (%)	40.7 (3rd)	28.8	32.5	39.5
Median Household Income ($)	37,769 (10th)	44,692	54,108	46,605
Percentage of Renters (%)	64.3 (7th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

Much of the socio-demographic indicators for D2 fall in either the mid-range or the low end of district rates. Unemployment and rental percentage are in the mid-range for district rates, and both are directly comparable to Regional Centre (RC) averages. Median household income is in the lower third for districts, at just under $38,000. This however is unsurprising based on the high levels of government transfer (nearly double the HRM rate), low education levels, and industry employment ratios (nearly 20% of D2 is employed within the retail and trade Sector). Residential density numbers are just below the RC average, at ~3,700 people/km2. D2 also has the second highest rates of transit use in the RC, a combination of necessity due to lower income levels, and convenience, with the Bridge Terminal Transit Hub located within the district.

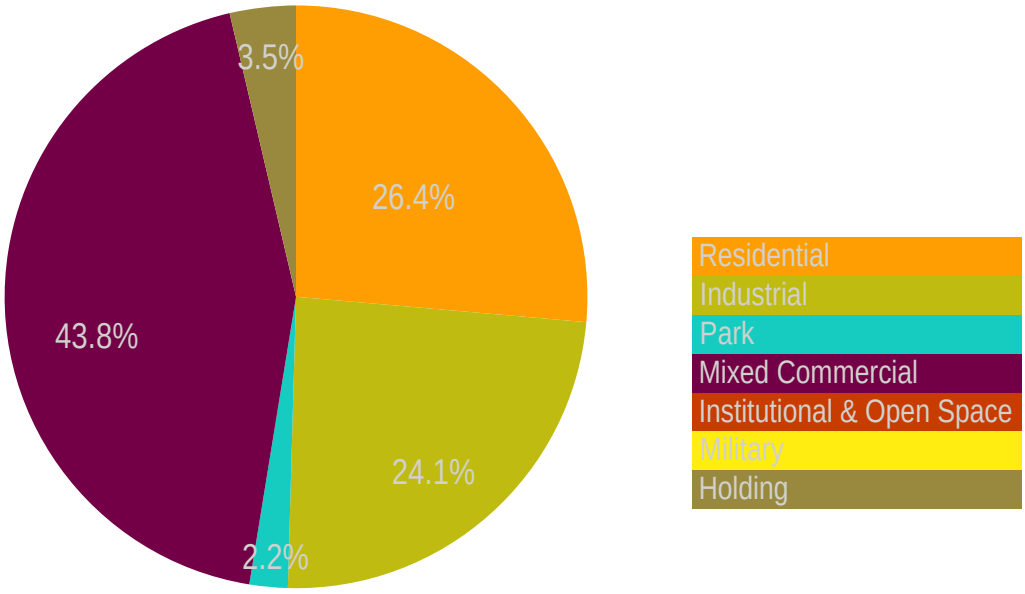
D3

DEFINING FEATURES

D3 is home to two large government institutions, the federally run Bedford Institute of Oceanography, and the provincially-owned generating station at Tufts Cove. The abandoned military housing complex, Shannon Park, owned by Canada Lands, is slated for redevelopment. The McKay Bridge connects Dartmouth and communities east of Dartmouth to Halifax. Lined with a mix of commercial outlets, Windmill Road runs through D3; it connects D2 and Downtown Dartmouth (D1) to Burnside Industrial Park and the Circumferential Highway (through D6). There are two main residential areas in D3, Wallace Heights which is predominantly mid-rise apartments, and the Tufts Cove area which has a mix of single-family dwellings and multi-dwelling units. Shannon Park French Immersion and Harbour View elementary schools are in this district.

ZONING TYPES

Almost half of the zoning in District D3 is mixed commercial. Most of the remaining two quarters are residential and industrial.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D3 (Rank)	Regional Centre (RC)	HRM	NS
Population	2,665	94,809	-	-
Residential Population Density (ppl/sq.km)	1,567	3,922	-	-
Government Transfer (% of income)	22.7 (1st)	11.6	8.8	13.6
Unemployment Rate (%)	11.1 (1st)	7.2	6.3	9.1
No Post-Secondary (%)	47.7 (2nd)	28.8	32.5	39.5
Median Household Income ($)	28,635 (15th)	44,692	54,108	46,605
Percentage of Renters (%)	75.3 (4th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

District D3 contains a large portion of area under transition (Shannon Park), and associated Dissemination Areas often do not contain data. D3 is also the most socioeconomically disadvantaged district in the Regional Centre (RC). Median household income is the lowest ($28,600), and unemployment rates (11%) are the highest of all 15 districts. There is the smallest proportion of people engaged in employment requiring advanced education—e.g., professional, managerial, public service, and health care—which reflects on the district having one of the highest rates of residents with no high school diploma. There is also the highest rate of residents receiving government transfer payment in the RC. While it has one of the highest public transportation ridership rates, which exceed the Regional Centre, Municipal and Nova Scotia averages, it also has a high rate of automobile commuters (69.4%) and the lowest rate of active transportation use (5.0%). This suggests that D3 is one of the best candidate districts to target for public transportation development.

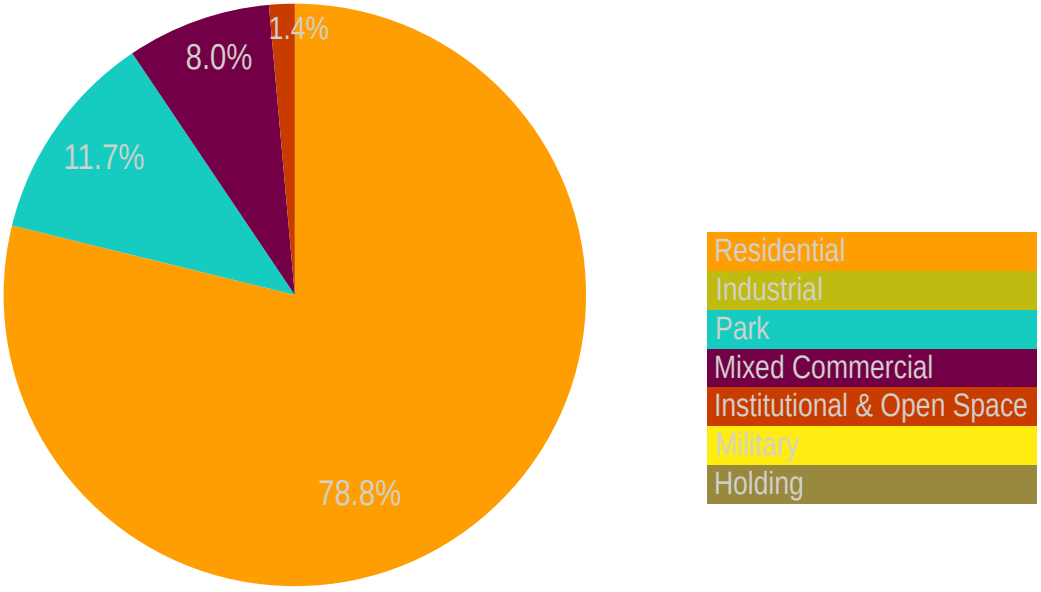
D4

DEFINING FEATURES

District D4 offers affordable housing and contains a mixture of mid-rise apartments and single/multi-family dwellings. D4 is home to John MacNeil Elementary School, John Martin Junior High School, Gray Memorial Arena, Jason MacCullogh Park and the Dartmouth North Community Centre, which also contains the Dartmouth North library. Albro Lake offers recreational fishing and swimming opportunities. Retail and commercial space line the northern border of the district; this includes some mixed-use low-rise buildings and a new retail/ commercial complex. Victoria Road and the Circumferential Highway act as physical barriers along the northern and western edges of the district.

ZONING TYPES

Over three fourths of District D4 is used for residential purposes. Park and mixed commercial zoning make up most of the remaining zoning.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D4 (Rank)	Regional Centre (RC)	HRM	NS
Population	7,118	94,809	-	-
Residential Population Density (ppl/sq.km)	4,377	3,922	-	-
Government Transfer (% of income)	19.1 (3rd)	11.6	8.8	13.6
Unemployment Rate (%)	7.3 (7th)	7.2	6.3	9.1
No Post-Secondary (%)	51.1 (1st)	28.8	32.5	39.5
Median Household Income ($)	29,601 (14th)	44,692	54,108	46,605
Percentage of Renters (%)	81.8 (1st)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

District D4 has ~6% higher rates of government transfer than the Regional Centre (RC), 19.1% vs 11.6% respectively, and its median household income of ~$29,600, is more than $15K less than the HRM average. This likely reflects the concentration of younger, low-income households, as the 20-34 year old cohort represents the largest percentage of the population. The average rate of low education (those with no post-secondary education) for D4 is about 51%, this represents a rate 20% higher than the RC average. Rental rates (81.8%) in the district are 32% higher than in the RC (62%) and more than double the rate of HRM (36%).

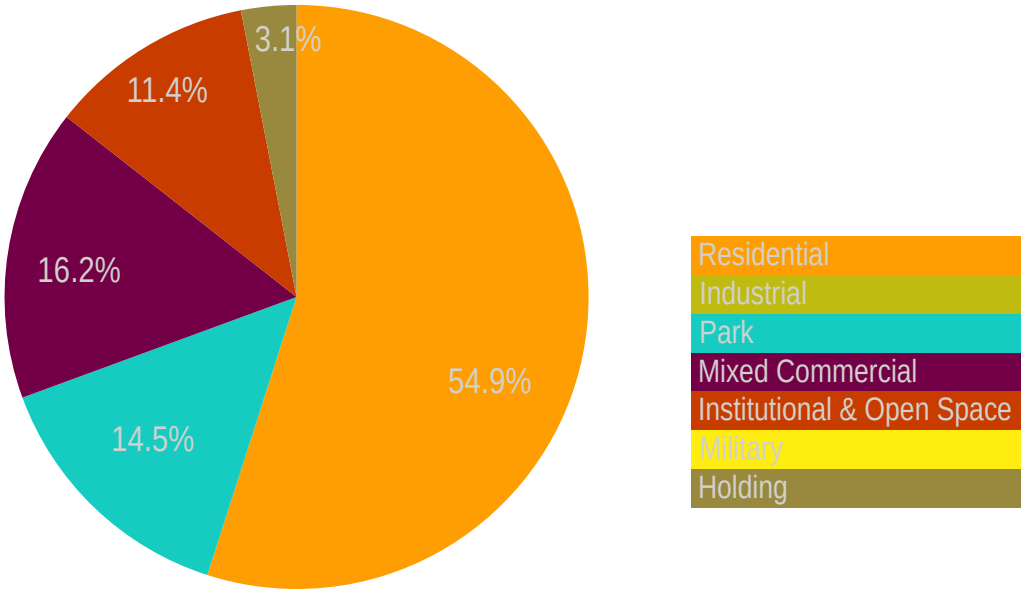
D5

DEFINING FEATURES

District D5 contains five residential areas: Crichton Park, Lakeshore Park Terrace, Lancaster Ridge, the Flower Streets and Brightwood. While predominantly single-family dwellings, there are some townhouses, apartments and condominiums in the vicinity of Mic Mac shopping mall. Sullivan's Pond is a popular public space, which has a multi-use trail, gardens, and a gazebo. Lake Banook offers world-class canoe, kayak and rowing facilities and a Blue Flag beach at Birch Cove Park. Additional recreation amenities include the Brightwood Golf and Country Club, North Star Rowing Club, and walking trails. Victoria Road, which borders D2, is an important transportation connector: funneling traffic from two directions onto the McDonald Bridge.

ZONING TYPES

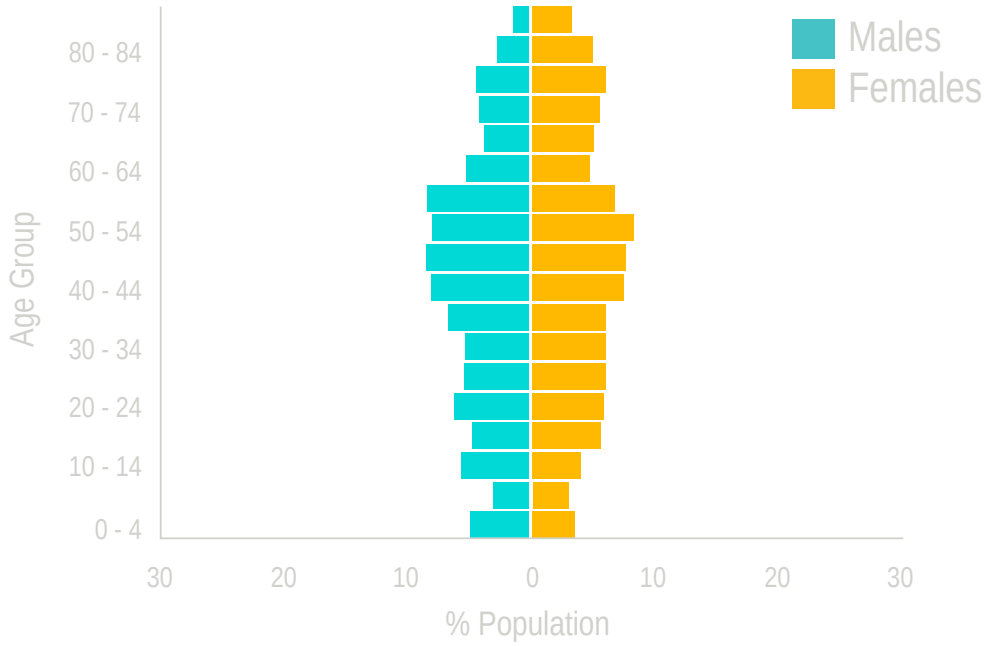
Approximately 55% of District D5 is composed of residential zoning. Mixed commercial and park zoning are the next two largest zoning types.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D5 (Rank)	Regional Centre (RC)	HRM	NS
Population	6,838	94,809	-	-
Residential Population Density (ppl/sq.km)	2,590	3,922	-	-
Government Transfer (% of income)	9.5 (10th)	11.6	8.8	13.6
Unemployment Rate (%)	3.5 (15th)	7.2	6.3	9.1
No Post-Secondary (%)	23.4 (10th)	28.8	32.5	39.5
Median Household Income ($)	55,380 (3rd)	44,692	54,108	46,605
Percentage of Renters (%)	46.8 (11th)	62.0	36.0	27.6

POPULATION STRUCTURE



INDICATOR SUMMARY

District D5 has fairly even distribution of all age groups, likely owing to a wide range of housing types and amenities. It has a smaller proportion of renters than most districts, and its median household income is one of the highest in the Regional Centre. The district attracts professionals and has the lowest unemployment of the RC at 3.5%, which is about half of the RC average. The use of active transportation is relatively poor, with the highest rates of automobile commuters (75%), which is less than the provincial average (84%)

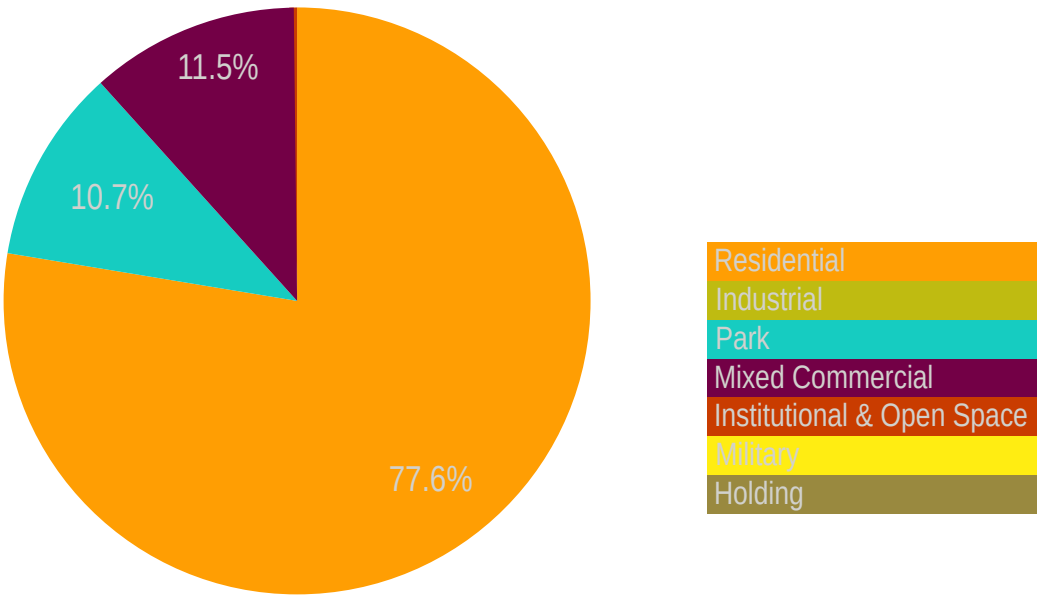
D6

DEFINING FEATURES

With the exception of a large supermarket, Penhorn Plaza, and some mixed-use along Portland Street, D6 is predominantly residential. Much of the housing is single-family dwellings and mid-rise apartments. The district has numerous recreation outlets: the Findlay Community Centre; St. George's Tennis Club; and Maynard, Oat Hill and Penhorn Lakes. The southern shore of Lake Banook, which is home to the Senobe and Mic Mac Amateur Aquatics Clubs, a multi-use trail, and Silver Hills and Grahams Grove Parks are also in D6. Hawthorn and Alderney Elementary Schools are located in this district.

ZONING TYPES

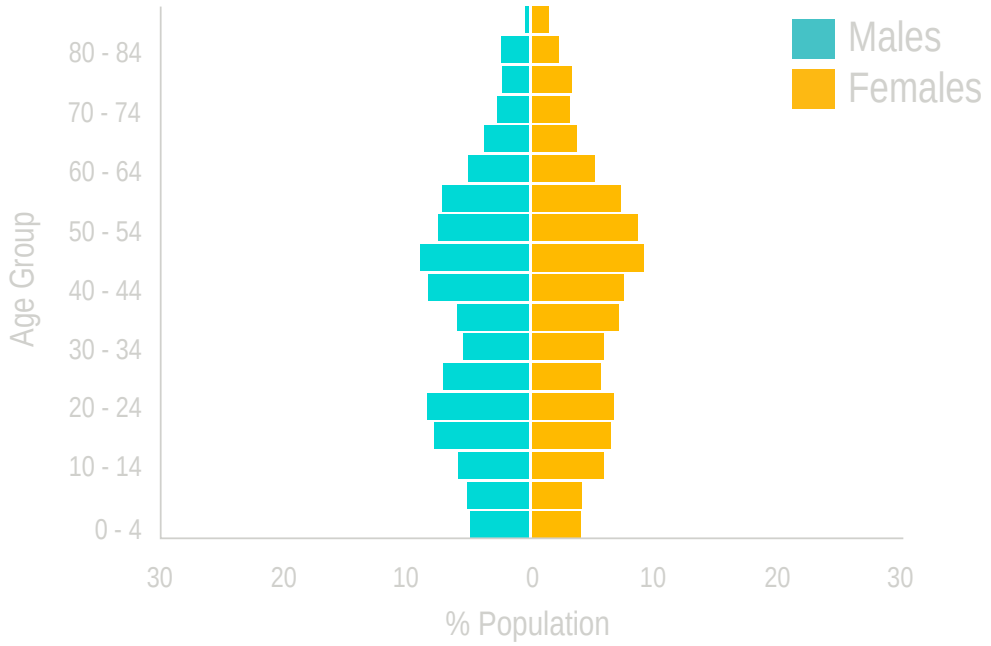
Over three fourths of the zoning type in District D6 is residential. Mixed commercial and park are the next two largest.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D6 (Rank)	Regional Centre (RC)	HRM	NS
Population	6,302	94,809	-	-
Residential Population Density (ppl/sq.km)	3,024	3,922	-	-
Government Transfer (% of income)	9.8 (9th)	11.6	8.8	13.6
Unemployment Rate (%)	6.0 (12th)	7.2	6.3	9.1
No Post-Secondary (%)	29.1 (9th)	28.8	32.5	39.5
Median Household Income ($)	56,721 (2nd)	44,692	54,108	46,605
Percentage of Renters (%)	42.4 (14th)	62.0	36.0	27.6

POPULATION STRUCTURE



INDICATOR SUMMARY

The population structure of District D6 suggests that there are two resident groups—an older population in established neighbourhoods and younger families with young children in relatively affordable housing areas. The median household income is the second highest ($56,700) after District H8, the wealthy South End of Halifax. It also has one of the highest home-ownership rates, although the ownership rate is still substantially lower compared with the rest of HRM or the province. As in other relatively wealthy districts on the Dartmouth side, the rates of active transportation and public transit use are poor (13% and 16.4% respectively), with a relatively high rate of automobile use for commuting (67%).

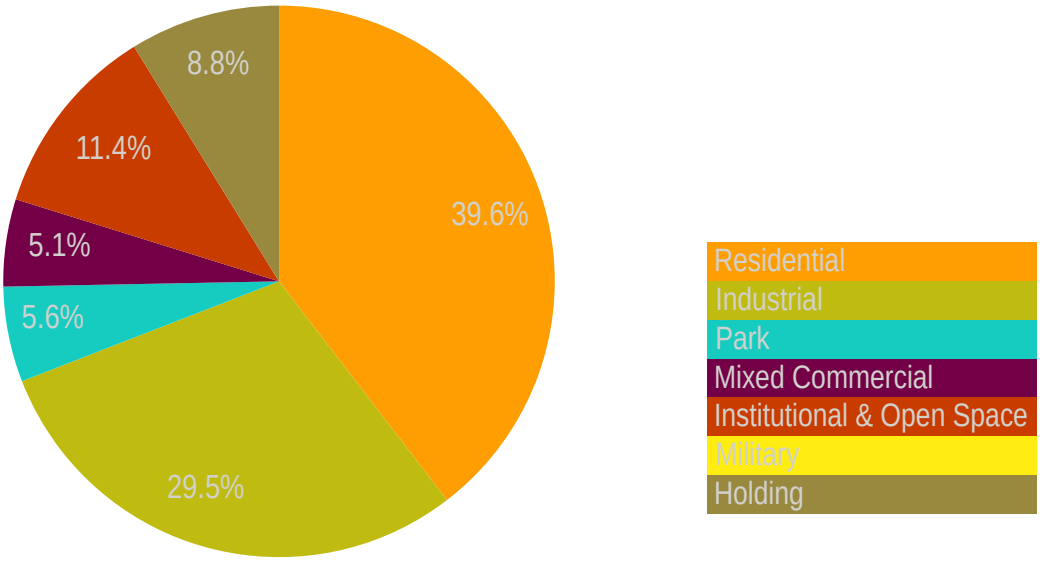
D7

DEFINING FEATURES

District D7 is home to some major employers of the Regional Centre: the Nova Scotia Community College's (NSCC) Waterfront Campus, and the Dartmouth General and Mount Hope Hospitals which service the province. There is also a large business section, industrial park and wharf in the south of the district. The Trans Canada Multi-Use Trail runs along the waterfront connecting the North Woodside Community Centre, NSCC, and the Woodside Ferry Terminal. Residential areas are located in the north and west of the district: Woodside and Southdale. The predominant housing type in D7 is single-family dwellings; there is also a section in the west that includes mini-homes and mid-rise apartments. Southdale-North Woodside Elementary School and Prince Arthur Junior High are within the Southdale area.

ZONING TYPES

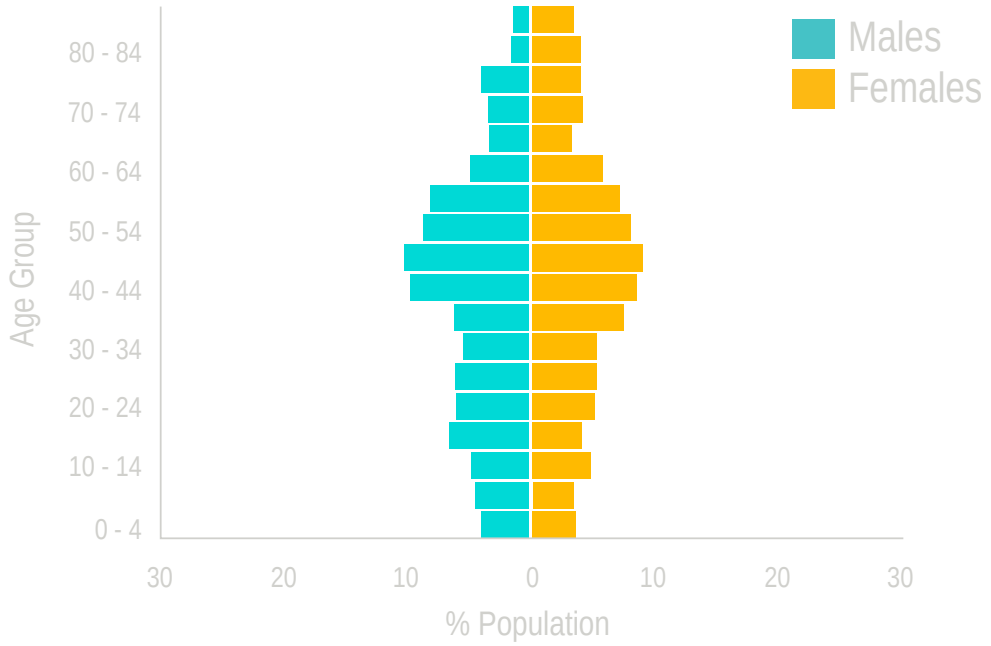
Together, residential and industrial zoning make up ~70% of the zoning in District D7. Institutional and open space is the next largest zoning type.



KEY DEMOGRAPHIC INDICATORS

Indicator	District D7 (Rank)	Regional Centre (RC)	HRM	NS
Population	4,991	94,809	-	-
Residential Population Density (ppl/sq.km)	3,214	3,922	-	-
Government Transfer (% of income)	14.3 (6th)	11.6	8.8	13.6
Unemployment Rate (%)	6.0 (11th)	7.2	6.3	9.1
No Post-Secondary (%)	39.3 (4th)	28.8	32.5	39.5
Median Household Income ($)	46,723 (6th)	44,692	54,108	46,605
Percentage of Renters (%)	44.8 (12th)	62.0	36.0	27.6

POPULATION STRUCTURE



INDICATOR SUMMARY

District D7 is within the median range for most indicators. Government transfer payment (14%) is higher than the HRM (8.8%) and NS averages (13.6%), though it is by no means one of the highest within the districts. The unemployment rates are lower than both Halifax and Dartmouth side averages, while the levels of education appear to be low in general. This might be reflective of the local employment opportunities for diverse educational levels. Median household income is around the provincial average, and somewhat higher than the Regional Centre average. This district demonstrates particularly poor performance for active transportation use and automobile use. D7 has the second highest rate of automobile commutes, and the third lowest rate of people engaging in active transportation.

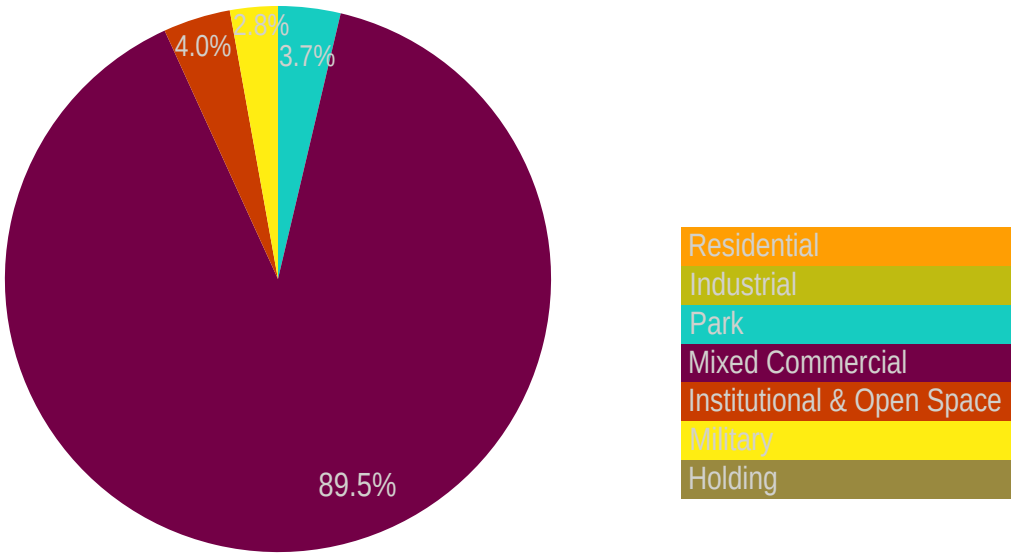
H1

DEFINING FEATURES

The H1 District is home to the business centre of the Maritimes. There are a large number of office buildings, along with the many commercial functions that help to support these businesses. The H1 District has a wide array of civic functions, including city hall and the court house. As the traditional centre of both Halifax and the Maritimes, many buildings have heritage value associated with them. This district also includes the Barrington Street Heritage Conservation District. A pedestrian focused waterfront hosts public art, large-scale events, and includes many popular tourist destinations. The majority of the district is typified by mid and high-rise apartment forms. Much of this development is mixed with commercial development, where businesses occupy the ground floor.

ZONING TYPES

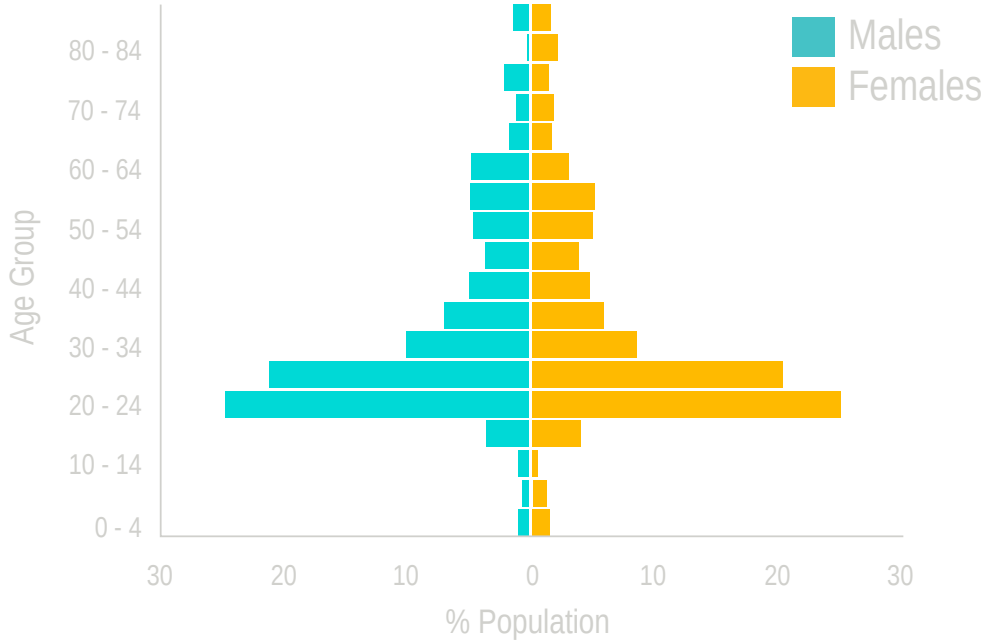
With the DH-1 zone allowing for a multitude of uses based on a development agreement model, the vast majority of the area has mixed-commercial Zoning.



KEY DEMOGRAPHIC INDICATORS

Indicator	District H1 (Rank)	Regional Centre (RC)	HRM	NS
Population	3,364	94,809	-	-
Residential Population Density (ppl/sq.km)	3,467	3,922	-	-
Government Transfer (% of income)	7.5 (12th)	11.6	8.8	13.6
Unemployment Rate (%)	7.1 (8th)	7.2	6.3	9.1
No Post-Secondary (%)	19.5 (13th)	28.8	32.5	39.5
Median Household Income ($)	32,761 (12th)	44,692	54,108	46,605
Percentage of Renters (%)	81.5 (2nd)	62.0	36.0	27.6

POPULATION STRUCTURE



INDICATOR SUMMARY

As the boundaries of this district are defined by the DH-1 zoning (Downtown Halifax), H1 has the smallest total area on the Halifax side. This smaller land mass combined with zoning which allows for residential use in the entire district, but little actual housing areas, skews the density calculation down to ~500 people/km^2, significantly less than the Regional Centre (RC) average of 3,922 people/km^2. H1 has high rates of residential rental, nearly 3x the NS rate (27.6%). This is likely the result of developers wishing to maintain ownership of the land. The median household income, at $32,761, is quite low, ~$10k less than the RC average. This is mostly likely a result of the large cohort of 20-29 year olds, bringing down the district average. Unemployment wise, D1 is right in the middle of district rankings at 7.1%.

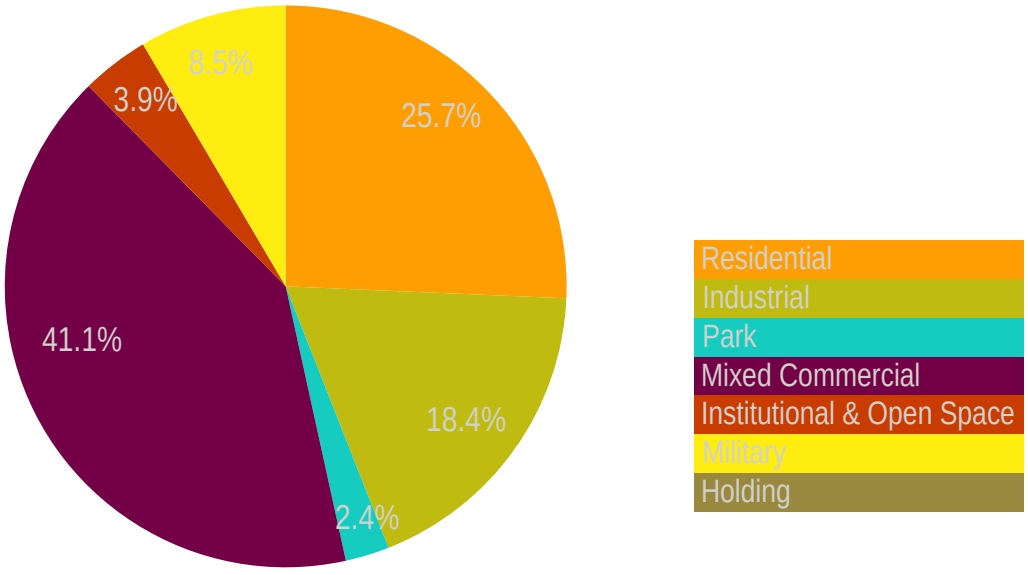
H2

DEFINING FEATURES

Halifax's working waterfront begins in this district and extends towards the Bedford Basin. The waterfront also contains a Canadian Forces Base. The rest of District H2 has a more prominent residential focus, containing a wide array of housing types. The Halifax Forum, in the northwest corner of the district, is a draw for both its recreational component and the community aspects it provides. Movement wise, Barrington Street is the main north/south connector, and North Street connects to the MacDonald Bridge and Dartmouth. The two most commercial focused streets are Gottingen Street and Agricola Street; the former providing a number of social services and the later providing restaurant and niche commercial services.

ZONING TYPES

There is a wide mix of zoning types included in this district - these fall under the special planning area of Brunswick Comprehensive Development District.



KEY DEMOGRAPHIC INDICATORS

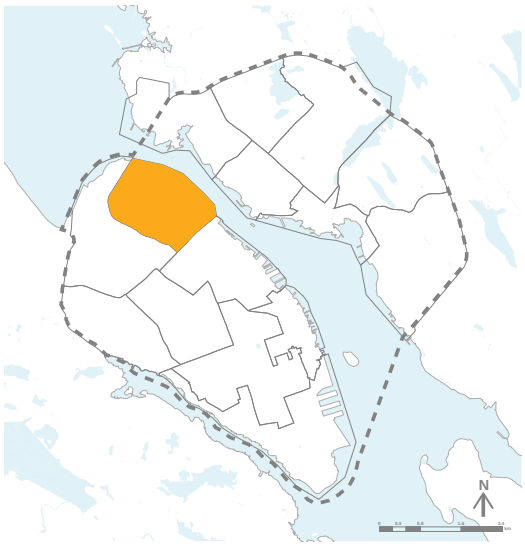
Indicator	District H2 (Rank)	Regional Centre (RC)	HRM	NS
Population	8,900	94,809	-	-
Residential Population Density (ppl/sq.km)	6,047	3,922	-	-
Government Transfer (% of income)	15.2 (5th)	11.6	8.8	13.6
Unemployment Rate (%)	9.2 (2nd)	7.2	6.3	9.1
No Post-Secondary (%)	31.9 (7th)	28.8	32.5	39.5
Median Household Income ($)	30,048 (13th)	44,692	54,108	46,605
Percentage of Renters (%)	79.2 (3rd)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

With a residential population density of ~6,000 people/km2, District H2 is one of the more dense areas on the peninsula. All other indicators for the district are on the low end of the spectrum. Unemployment rates are 9.2%, the second highest in the Regional Centre, and the highest on the Halifax side. Median household income is ~$30,000, the lowest on the Halifax side. This household income puts homeownership out of reach for most, explaining the high rental rates. Many of these indicator numbers can be related to the quantity of subsidized housing areas and elder-care homes in the area, which is also linked to the 15.2% of income through government transfer. We see this elder-care-facility population manifested with a relatively large 65+ cohort, especially in the 85+ category on the female side.

H3

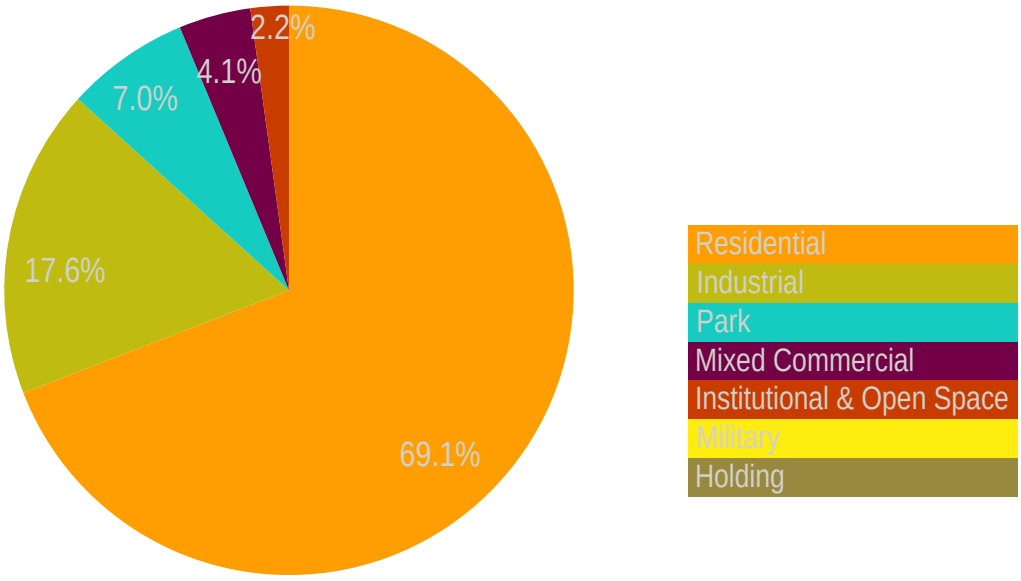


DEFINING FEATURES

District H3 is home to the Hydrostone Market, a designated Parks Canada Federal Heritage site. While the vast majority of the district is dedicated to single-family homes, Halifax's working waterfront continues moving through this district to the adjoining districts, H2 and H4. Barrington Street is the major north-south thoroughfare for this district, as well as the main connection to the MacKay Bridge. Moving east-west, the combination of Devonshire Avenue and Lady Hammond Road eventually connects to Highway #2 and #111.

ZONING TYPES

About ~75% of the H3 District is zoned to allow for residential uses, with some industrial use on the waterfront.



KEY DEMOGRAPHIC INDICATORS

Indicator	District H3 (Rank)	Regional Centre (RC)	HRM	NS
Population	8,378	94,809	-	-
Residential Population Density (ppl/sq.km)	5,520	3,922	-	-
Government Transfer (% of income)	12.7 (8th)	11.6	8.8	13.6
Unemployment Rate (%)	8.0 (5th)	7.2	6.3	9.1
No Post-Secondary (%)	31.6 (8th)	28.8	32.5	39.5
Median Household Income ($)	45,057 (7th)	44,692	54,108	46,605
Percentage of Renters (%)	44.6 (13th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

With the exception of residential population density, District H3 has fairly average indicator numbers. Government transfer, low education levels, and median household income all fall in the mid-range of other districts. The low percentage of renters can be attributed to the number of established neighbourhoods, and the residential form favouring single-family homes. The residential population density is less than half the Regional Centre average (1,500 people more per km^2), which again can be linked to the prominent single-family residential form (~75%). Unemployment rates at 8% are slightly above average due to unusually high unemployment rates (>25%) occurring in the Dissemination Areas north of Young Street, sending the overall district rate higher.

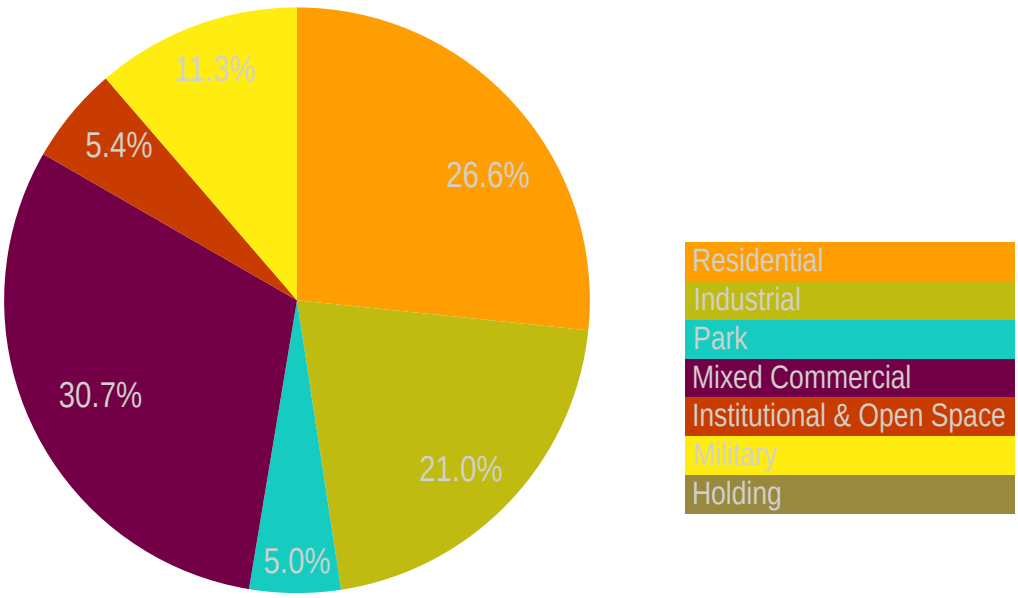
H4

DEFINING FEATURES

The H4 District has a few key areas that define its use, with a strong industrial and commercial presence. To the north of the district is the Fairview Cove Container Terminal which has water access to the Bedford Basin and provides the entire region with a working port. Kempt Road, the location of one of two remaining industrial areas in Halifax, is home to a large percentage of the region's car dealerships. Additionally, the Department of Defense has a strong presence in the area, with CFB Halifax - Willow Park, and Windsor Park, the DND housing area. Along the western edge, Bayers Road Shopping Centre provides a local commercial hub, supplemented by the commercial/retail strip mall north of Young Street. The housing form for the district is typified by single-family homes in the south-west portion of the district, and small 3-4 story mid-rise apartments, many of which are within the Windsor Park area.

ZONING TYPES

H4 has the most equitable zoning mix, with residential, industrial, and mixed-commercial each representing over 20% of the land area.



KEY DEMOGRAPHIC INDICATORS

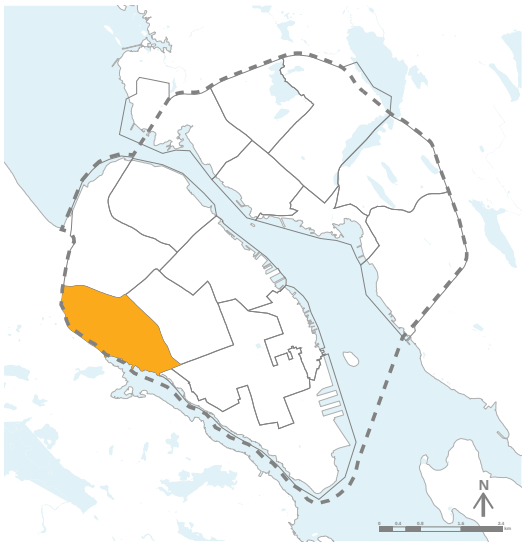
Indicator	District H4 (Rank)	Regional Centre (RC)	HRM	NS
Population	4,576	94,809	-	-
Residential Population Density (ppl/sq.km)	2,763	3,922	-	-
Government Transfer (% of income)	21.3 (2nd)	11.6	8.8	13.6
Unemployment Rate (%)	8.4 (3rd)	7.2	6.3	9.1
No Post-Secondary (%)	38.0 (5th)	28.8	32.5	39.5
Median Household Income ($)	41,437 (9th)	44,692	54,108	46,605
Percentage of Renters (%)	63.7 (8th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

With government transfer representing over 20% of District H4's income, one would expect the remaining indicators to be equally concerning. Both unemployment and education rates fall in the bottom third for district rankings, yet the median household income (~$41,500), is higher than might be expected, landing near the middle of all districts. However, this number is about $5,000 less than the NS average, which could possibly be due to a combination of high rates of government transfer, lower levels of education, and industry employment being concentrated in lower-paying industries (retail and trade makes up over 20% of district employment). Residential population density is on the lower end, which can be seen as a reflection of the zoning in the area, which permits residential uses in commercially-zoned areas.

H5

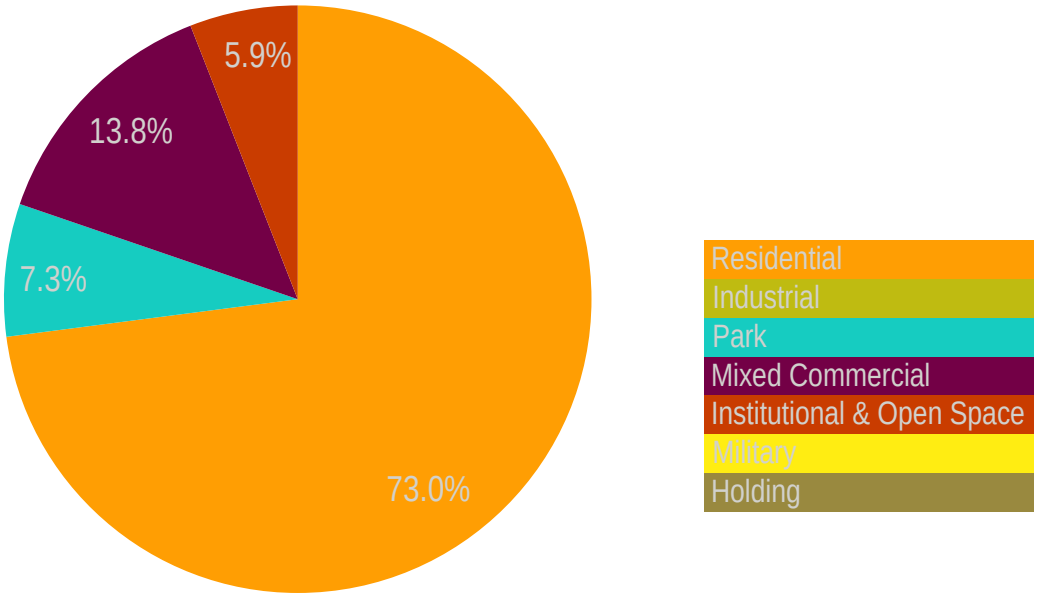


DEFINING FEATURES

While the main focus of District H5 is the single-family residential component that dominates the district, a prominent draw to the area is the Halifax Shopping Centre. H5 contains a number of schools: St. Agnes School, Westmount Elementary, and Eastern College. The district also contains a small amount of waterfront along the Northwest Arm, which includes Flynn Park. The main north-south connector within H5 is Mumford Road and MacDonald Street. The main east-west connection is Chebucto Road. Much of the housing in the area consists of single-family homes interspersed with small, mid-rise apartment buildings.

ZONING TYPES

The majority of the district is zoned exclusively for residential use.



KEY DEMOGRAPHIC INDICATORS

Indicator	District H5 (Rank)	Regional Centre (RC)	HRM	NS
Population	5,701	94,809	-	-
Residential Population Density (ppl/sq.km)	3,026	3,922	-	-
Government Transfer (% of income)	7.8 (11th)	11.6	8.8	13.6
Unemployment Rate (%)	5.4 (13th)	7.2	6.3	9.1
No Post-Secondary (%)	20.2 (12th)	28.8	32.5	39.5
Median Household Income ($)	50,476 (5th)	44,692	54,108	46,605
Percentage of Renters (%)	51.8 (10th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

The indicator numbers for District H5 show a stable residential base. All data is in the lower third for districts, and median household income is about $5,000 greater than the Regional Centre (RC) average. In particular, the unemployment rate of 5.4% is the second lowest in Halifax, and below the HRM average. District employment shows an interesting spread of industry employment, as the two highest categories are retail and trade, and healthcare and social assistance (19.5 and 15.6% respectively). One area for concern is the relatively large 65+ cohort, a trend and concern echoed in many NS communities. Residential population density is below the RC average by about 900 people per km^2, which is likely the result of a predominantly low-height housing typology.

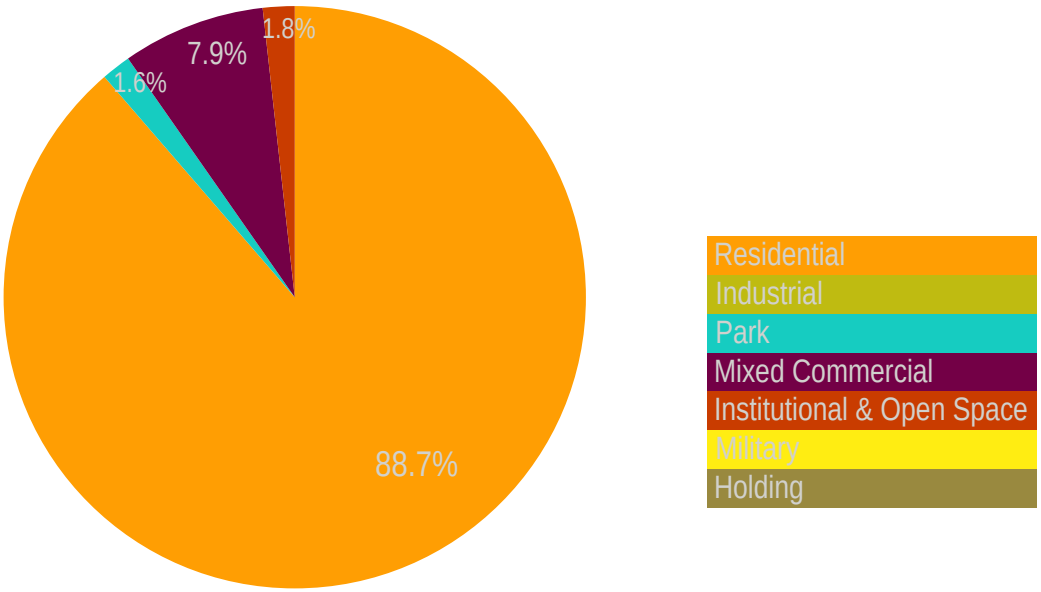
H6

DEFINING FEATURES

In District H6, the main draw is the Quinpool Road commercial district. This street predominantly has small businesses operating out of the ground floor, with either apartments or offices above. Near the east end of Quinpool there are both larger sized commercial operations, and a number of apartment buildings and hotels. The majority of the district space is designated for residential-uses, which has manifested as smaller family homes, on small tree-lined streets.

ZONING TYPES

While the vast majority of the district is designated for residential uses, there is a small concentration of commercial use along Quinpool Road.



KEY DEMOGRAPHIC INDICATORS

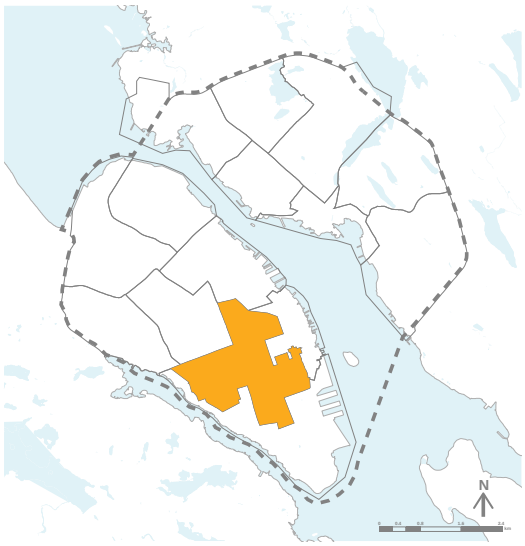
Indicator	District H6 (Rank)	Regional Centre (RC)	HRM	NS
Population	12,318	94,809	-	-
Residential Population Density (ppl/sq.km)	6,198	3,922	-	-
Government Transfer (% of income)	6.7 (13th)	11.6	8.8	13.6
Unemployment Rate (%)	7.7 (6th)	7.2	6.3	9.1
No Post-Secondary (%)	20.6 (11th)	28.8	32.5	39.5
Median Household Income ($)	52,775 (4th)	44,692	54,108	46,605
Percentage of Renters (%)	55.3 (9th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

Indicator data in District H6 is quite varied. The population structure indicates a strong presence of students and young professionals, which is somewhat reflected in the above average unemployment rate. However, the rest of the indicators suggest a significantly more stable population, with low rates of government transfer (6.7%), higher education levels, and a rental rate below that of the Regional Centre (RC) average. Employment category participation is relatively even, with no category accounting for more than 15% of total employment. The district's relatively large median household income is likely the result of employment structure, with ~32% of residents employed in fields requiring advanced education (e.g. finance, professional service, healthcare). Mid-range rental rates would imply lower-levels of residential density, yet H6's density of 6,198 people per km^2 is the second highest in the RC.

H7

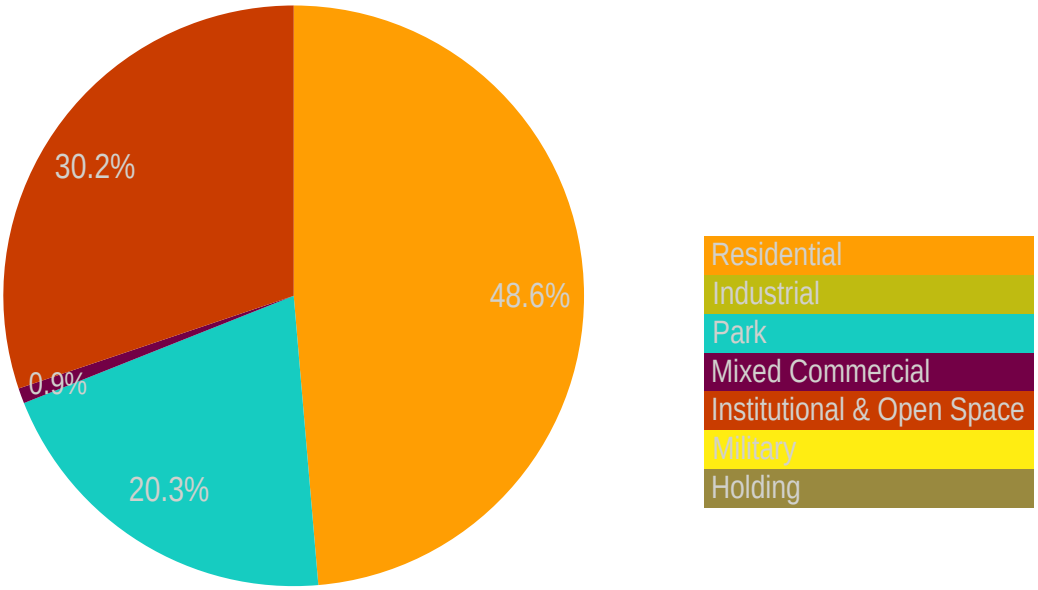


DEFINING FEATURES

District H7 is one of the most unique in the Regional Centre due its concentration of a number of important functions for the area. Within this district there are three Dalhousie University campuses, the University of King's College, and St. Mary's University; which cause a major influx of young people to the area during the academic year. The IWK Health Centre and Victoria General Hospital on University Avenue are substantial employers of health professionals. Also in H7 are two major park spaces with distinct heritage value: Citadel Hill is a National Historic Site, while the Public Gardens offer a large Victorian Garden in the centre of the city.

ZONING TYPES

Non-residential space takes up over 50% of the district; this is split between institutional uses, open space and park space.



KEY DEMOGRAPHIC INDICATORS

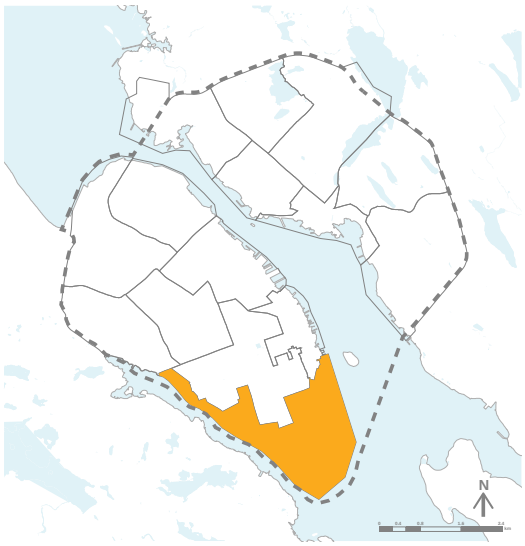
Indicator	District H7 (Rank)	Regional Centre (RC)	HRM	NS
Population	13,401	94,809	-	-
Residential Population Density (ppl/sq.km)	8,526	3,922	-	-
Government Transfer (% of income)	6.7 (14th)	11.6	8.8	13.6
Unemployment Rate (%)	8.2 (4th)	7.2	6.3	9.1
No Post-Secondary (%)	15.5 (14th)	28.8	32.5	39.5
Median Household Income ($)	41,657 (8th)	44,692	54,108	46,605
Percentage of Renters (%)	75.3 (5th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

Much of the indicator data in District H7 can be explained by the large percentage of residents in the 20-29 cohort (largely composed of university students). For instance, high rates (84.5%) of post-secondary education are to be expected. Rental rates (75.3%) above the Regional Centre (RC) average (62%) is also unsurprising, a result of both taller residential buildings in the south-east portion of the district, and the tendency of students to keep rental payments low by sharing space in homes. This aligns with the residential population density; at 8,526 persons per km^2, H7 is the densest district in the RC. This density number is also driven up by the fact that over 50% of the district is zoned for non-residential use (park and institution/open space). Interestingly, while the unemployment rate in H7 (8.3%) is greater than the RC average, government transfer rates (6.7%), are far below the RC average (11.6%). The district has a mid-range median household income ($41,657).

H8

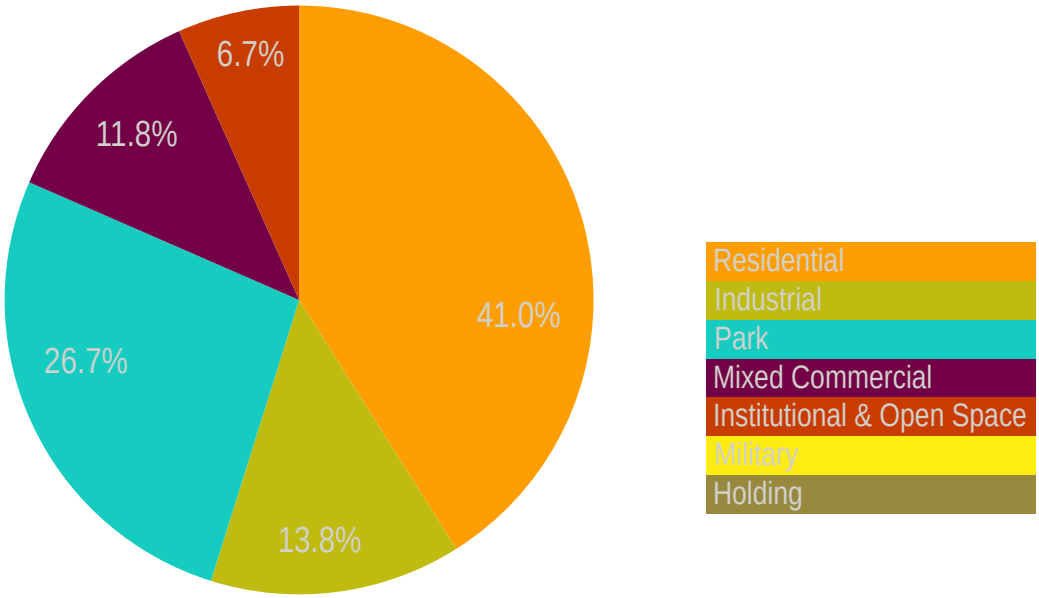


DEFINING FEATURES

District H8 includes a number of very diverse features. The east side of this district is home to a working port, and the focal point of the peninsula rail network. The port area also contains the Seaport Market and the Canadian Museum of Immigration at Pier 21. On the Northwest Arm, there is the Waeogwotic Club, St. Mary's Boat Club, and further south, the Atlantic School of Theology. Point Pleasant Park, a 185 acre regional park, is located at the southern tip of the peninsula. The park takes up a large portion (~26%) of the district, with the remainder occupied mainly by single-family estate homes.

ZONING TYPES

Point Pleasant Park accounts for over 25% of the land area in the district.



KEY DEMOGRAPHIC INDICATORS

Indicator	District H8 (Rank)	Regional Centre (RC)	HRM	NS
Population	3,242	94,809	-	-
Residential Population Density (ppl/sq.km)	2,074	3,922	-	-
Government Transfer (% of income)	4.0 (15th)	11.6	8.8	13.6
Unemployment Rate (%)	6.4 (10th)	7.2	6.3	9.1
No Post-Secondary (%)	7.3 (15th)	28.8	32.5	39.5
Median Household Income ($)	120,979 (1st)	44,692	54,108	46,605
Percentage of Renters (%)	24.0 (15th)	62.0	36.0	27.6

POPULATION STRUCTURE

INDICATOR SUMMARY

Much of the indicator data in District H8 is related to the high level of median household income, which at ~$121,000, is more than double the median income of the HRM (~$54,000). There are low levels of government transfer (4%), and numbers of renters (24%), and high levels of post-secondary education (92%). Only the unemployment rate falls within the mid-range of district rates, and at 6.4%, it is directly comparable to the HRM average (6.3%). Even though Point Pleasant Park takes 26.7% of the land area, and the port takes 13.8%, the residential population density is 2,074 persons per km^2, just over half of the RC average (3,922 people per km^2). This low density can be attributed to the high percentage of large single-family dwellings situated on large lots.

CROSS DISTRICT COMPARISON

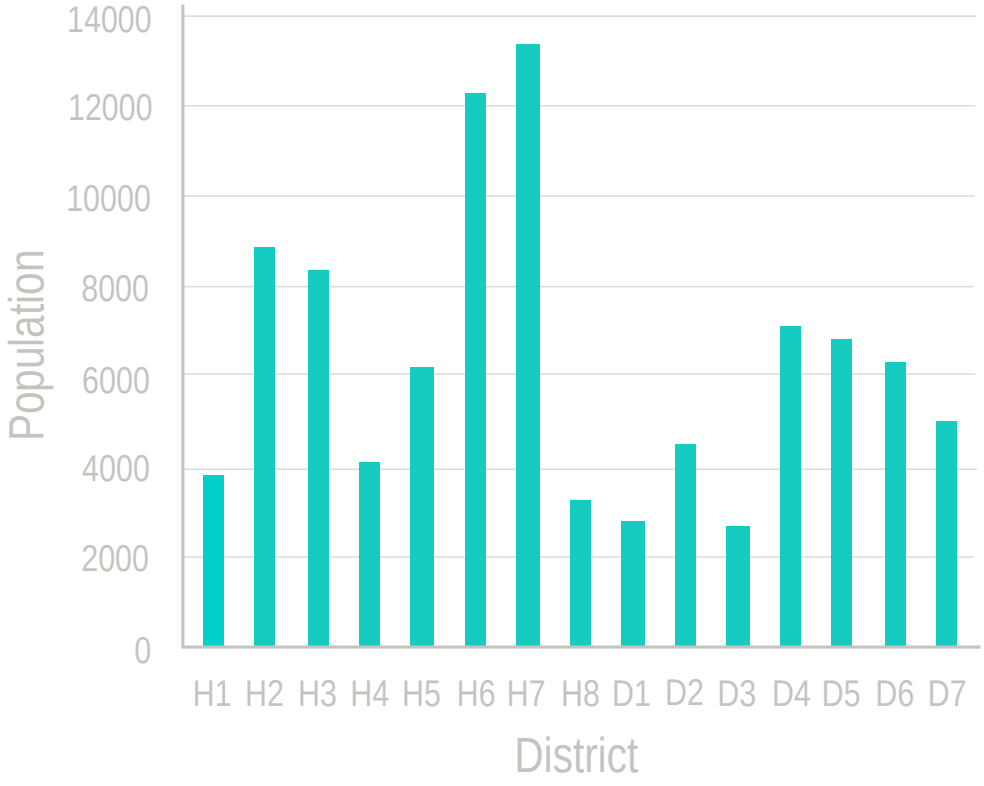
POPULATION DENSITY & PARK SPACE

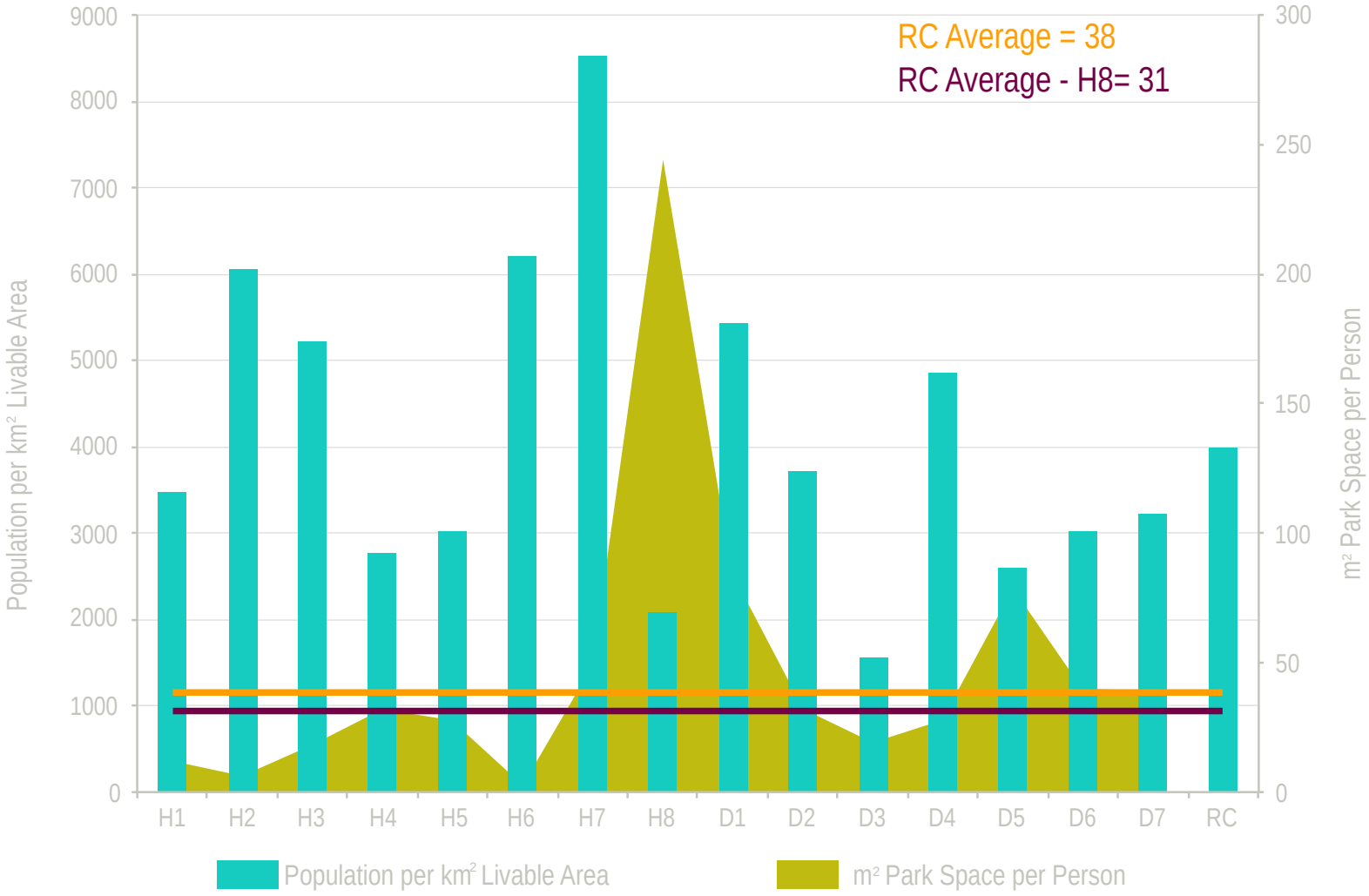
There is approximately 3,628,000 m^2 of park space found in the Regional Centre, about 38 m^2 per resident.

The Regional Centre has a population of approximately 95,000 people. Population varies among the districts, from just under 3,000 in D3 to over 13,000 in H7. RC zoning types allows for residential uses in ~23 km^2, resulting in an overall average density of ~4000 people per km^2. The residence- allowable space in both Dartmouth and Halifax are comparable (11 vs 12.7 km^2). H7, the district with the highest density (~8,500 people per km^2) has a relatively large population (13,401), and livable area equivalent to the RC average (1.57 km^2). The lowest density district, D3 (~1,570 people per km^2), has a population of 2,404. D3 contains Shannon Park: a large area of land which is zoned as mixed commercial but currently sits empty. District D3's density will likely increase with the planned redevelopment of Shannon Park.

On average, park density per resident in the RC is 38.3 m^2, and it varies across districts from 2.7 m^2 per person in H6, to 84.5 m^2 in D1. District H8, which includes Point Pleasant Park, is an extreme outlier as its 762,339 m^2 of park space gives a district park density ~243 m^2 of park space per person. Halifax in general has more park space overall, but less per person than Dartmouth.

Removal of District H8 from the RC calculation drops the average to ~ 31 m^2 per, a decrease of ~7 m^2 per person. Of the 15 districts, 11 have less park space per person than the RC average. Districts H1, H2 and H6 have the lowest amount of park space per person; all are less than 10 m^2 per person. However, all 3 previously mentioned regions are directly adjacent to the Citadel Regional Park (210,292 m^2) and the Public Gardens (183,315 m^2) located in District H7. While the service areas of the larger parks will extend beyond the boundaries of the RC districts, the true effect of regional scale parks on district calculations needs further examination (refer to Planning Services for Spatial Equity - Example #2).




RC Average = 38
RC Average - H8= 31
Population per km² Livable Area
m² Park Space per Person
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
300
250
200
150
100
50
0
H1
H2
H3
H4
H5
H6
H7
H8
D1
D2
D3
D4
D5
D6
D7
RC
Population per km² Livable Area
m² Park Space per Person

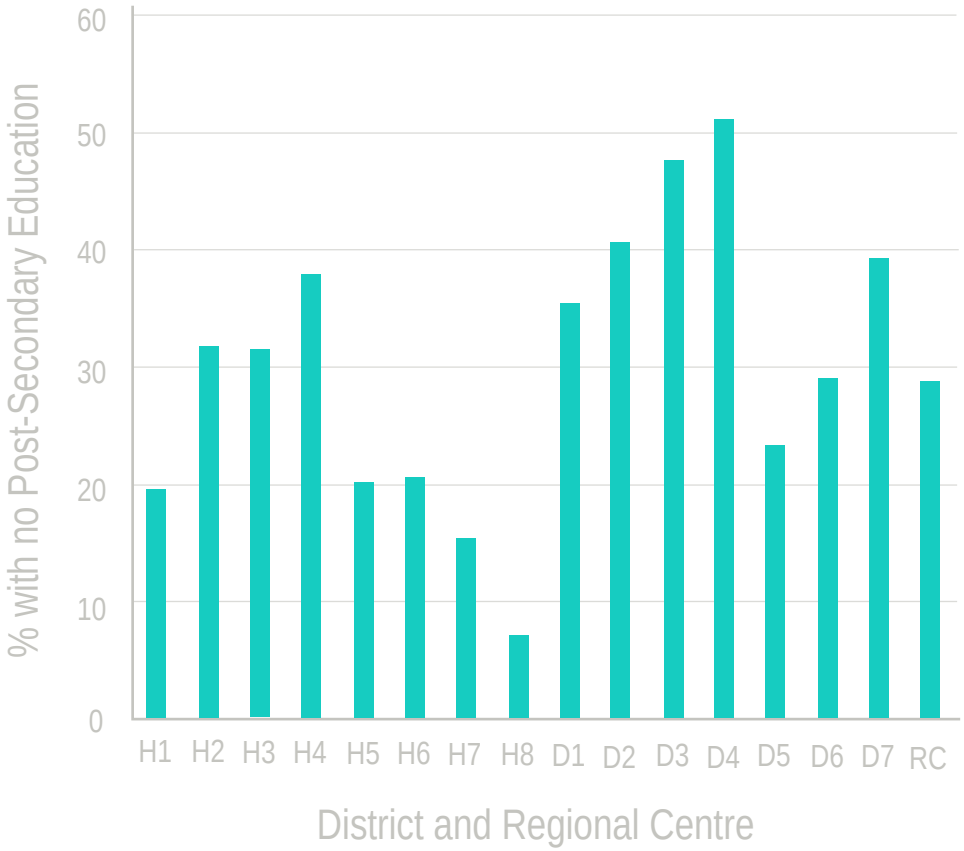
EDUCATION

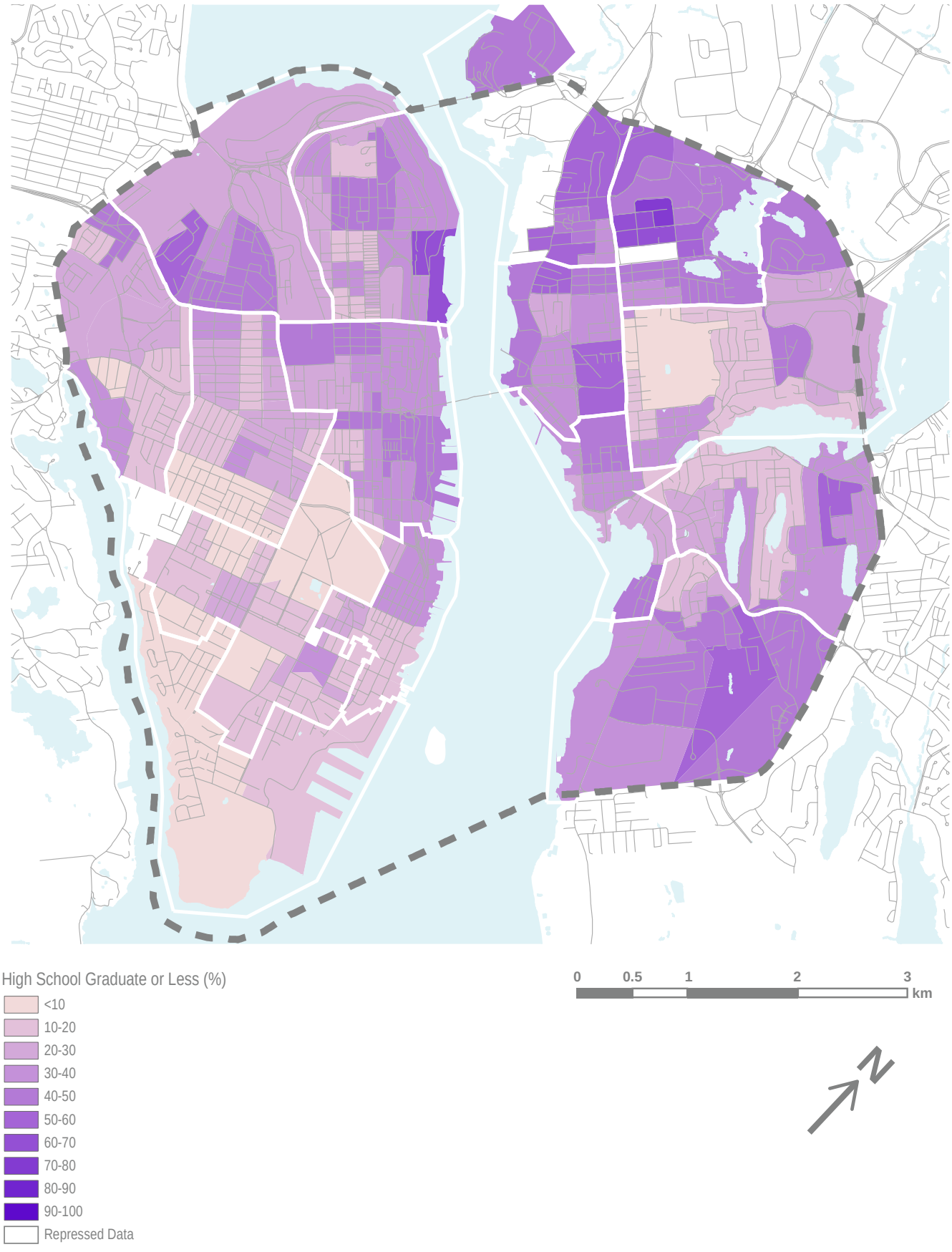
Compared to all of Nova Scotia, residents of the Regional Centre are considerably more likely to have post-secondary education.

Residents of the Halifax Regional Centre (RC) are relatively more educated than the rest of Nova Scotia. The low education rate—measured as the proportion of people without a high school diploma—is 28.8%. This is 10% lower than the Nova Scotia average (39.5%), and 4% lower than the HRM average (32.5%). Of the RC districts, H8 has the lowest rate (7.3%) of low education (thus most educated); 92.7% of the residents in this district have some post –secondary training. This is five times as high as the Nova Scotia average. On the other end of the spectrum is District D4, with just over half of its residents having ended their education at high school graduation (or less).

Residents on the Halifax side of the RC show a 14% greater likelihood of moving past high school than residents in the Dartmouth side. Only District H4 in Halifax has an education rate lower than the HRM average. On the Dartmouth side, only Districts D5 and D6 have higher education rates than the HRM average; many districts in the Dartmouth side have low education levels which are comparable to the rest of the province (NS average = 39.5%).

The higher education rates on the Halifax side are likely due to the high number of university students living in the districts. For example, District H7 has close to 37% of its residents in the 20-29 year-old cohort, and at 84.5%, has the 2nd highest rate of post-secondary education in the RC.




High School Graduate or Less (%)
<10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Repressed Data
0
0.5
1
2
3
km
N

GOVERNMENT TRANSFER

Government transfer rates in the districts never exceed 25%, with a Regional Centre average of 11.6%.

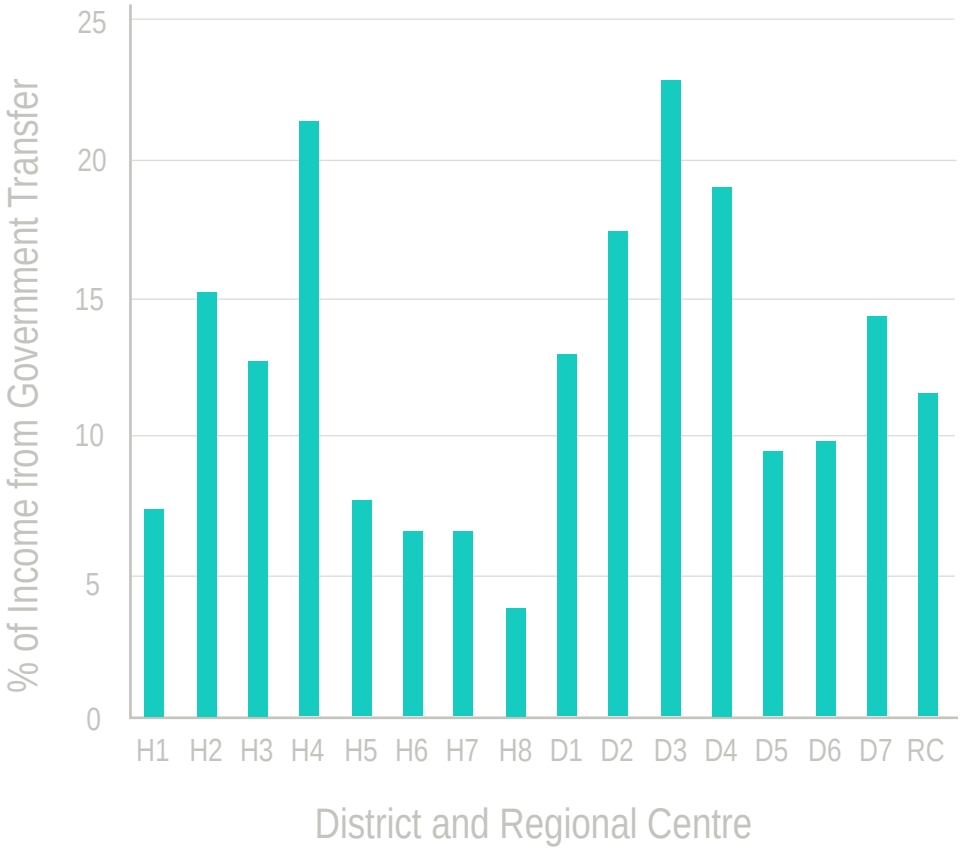
The Regional Centre, as a whole, receives 11.6% of all income through government transfer, which is lower than the Nova Scotia rate of 13.6%. However, it is much higher than the HRM average (8.8%), indicating a concentration of residents dependent on the government.

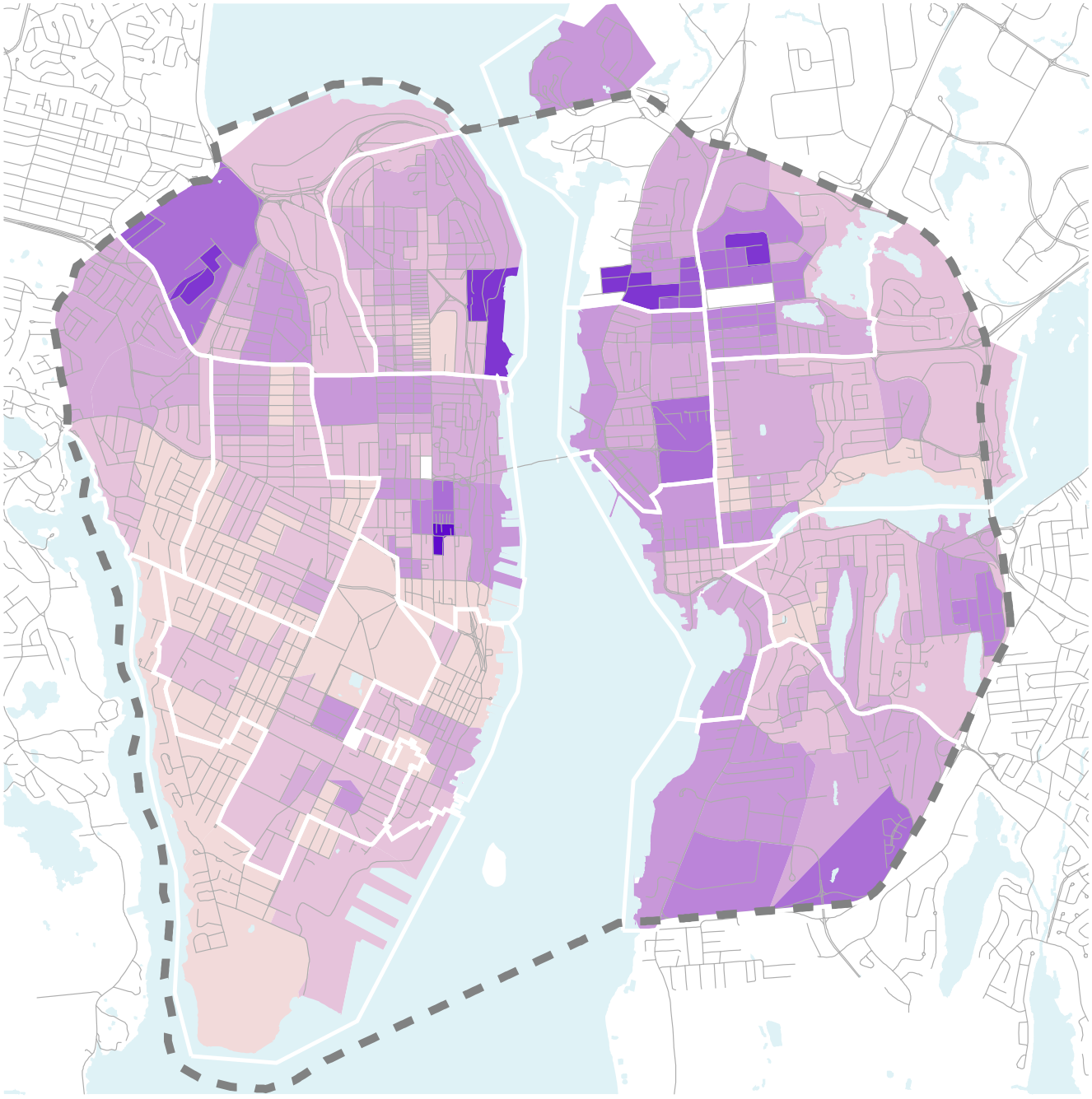
RC residents of Dartmouth are likely to receive higher rates of government transfer than Halifax (14.6%). While the Halifax peninsula rate, 9.9%, is higher than that of the HRM, it is still significantly less than the Dartmouth and Nova Scotia rates.

Of the eight districts in Halifax, five on the south and west districts fall below the HRM average for government transfer payments (H1, and H5-8). A concentration of payments is seen towards the northwest portion of the peninsula, which reflects the above average unemployment rates seen in these districts.

In Dartmouth, all seven districts have government transfer rates higher than the HRM average, with D5 and D6 falling just slightly above the HRM rate. Spatially, the areas with high levels of government transfer for Dartmouth are focused in the northwest, in Districts D2-D4.

There is a notable difference in government transfer between the downtowns of Dartmouth and Halifax. The rate of D1 exceeds its counterpart, H1, by nearly a factor of two. Generally, low median household incomes correspond to elevated rates of government transfer. However, the median household income of H1 and D1 are quite similar (just over $400 separates the two districts), which suggests that median household income cannot be used as a direct predictor of government transfer.




0
0.5
1
2
3
km
% of Income via Government Transfer
<5
5-10
10-15
15-20
20-25
25-30
30-35
35-40
40-45
45-50
50-100
Repressed Data
N

UNEMPLOYMENT

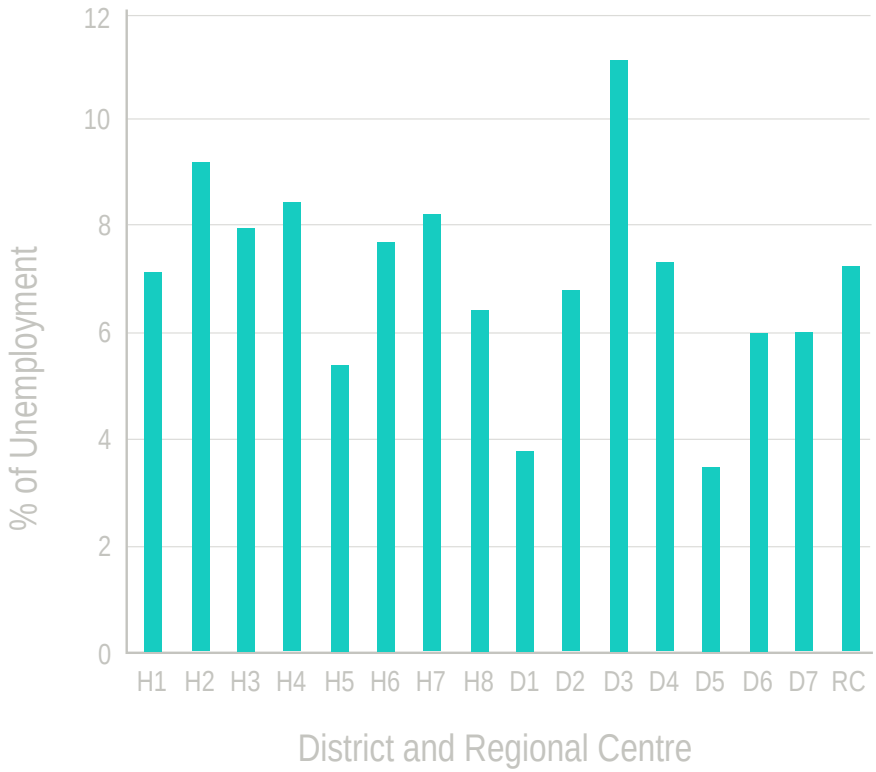
The Regional Centre unemployment rate of 7.2%, exceeds that of the HRM's rate of 6.3%

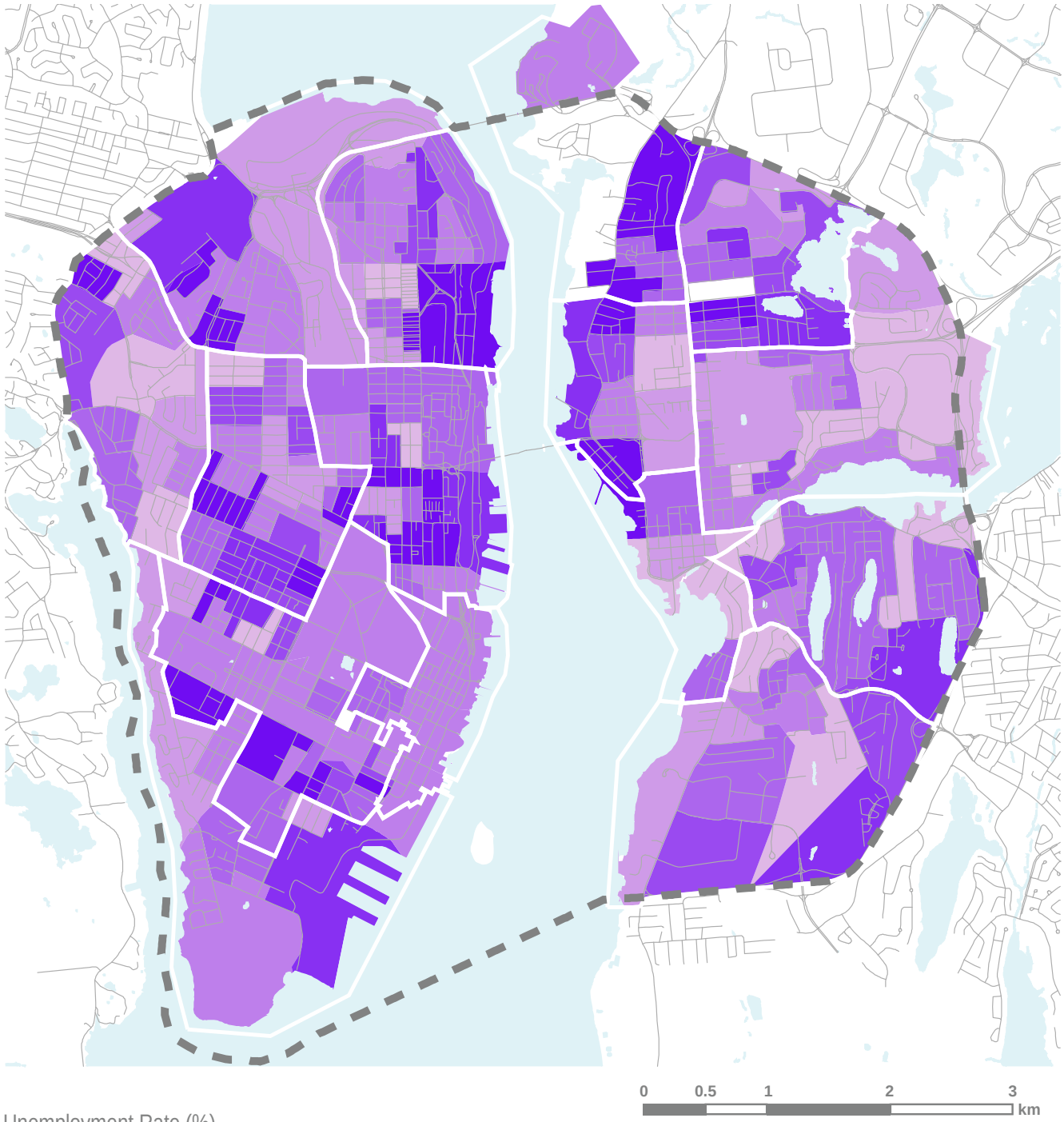
The unemployment rate in the Regional Centre (RC) is 7.2%, somewhat higher than the rate of the HRM (6.3%). However, it is still considerably lower than the province as a whole (9.1%).

Of all RC districts, District D5 has the lowest rate of unemployment at 3.5%, less than half the RC average (7.2%). This low rate may reflect high levels of home-ownership and post-secondary education, and relatively low rates of government transfer. A higher proportion of older working age groups (30-55 years of age) as opposed to younger university age groups, may also explain this low unemployment rate. On the other end of the spectrum, District D3 has an unemployment rate of 11.1%, nearly 4% higher than that of the RC, and over 3 times the rate of the lowest district. This elevated rate corresponds to D3's low rates of post-secondary education and household incomes, and its high rates of government transfer. It must be noted that a large portion of D3 contained suppressed data; however, the inclusion of their related employment data would likely reinforce D3's high unemployment rate.

Dartmouth has both the highest and lowest district-level unemployment rates. Only two Districts (D3 and D4) have rates above the RC average, while four are below the HRM average of 6.3% (D1, D5-D7). The unemployment situation in the Halifax side is generally worse than in the Dartmouth side. A half of Halifax's districts have rates above the RC average, and only H5 (5.4%) has a rate smaller than that of the HRM average (6.3%). Overall, the Halifax side of the RC has a 1.7% higher rate of unemployment than that of the Dartmouth side (7.8% and 6.1% respectively).

Important to note is the unemployment rate of Dartmouth's downtown (D1) which is 3.8%. This is almost half of the Halifax side average. D1's other indicators explain little as to why this rate is so low, and more investigation is required regarding this district's unemployment rate. It is possible that some sampling bias occurred with the census data, producing an unstable calculation, and the number should be viewed with a caveat.




0
0.5
1
2
3
km
Unemployment Rate (%)
0-2
2-4
4-6
6-8
8-10
10-12
>12
Repressed Data
N

MEDIAN HOUSEHOLD INCOME

Median household income is ~$10,000 less in the Regional Centre than in the HRM

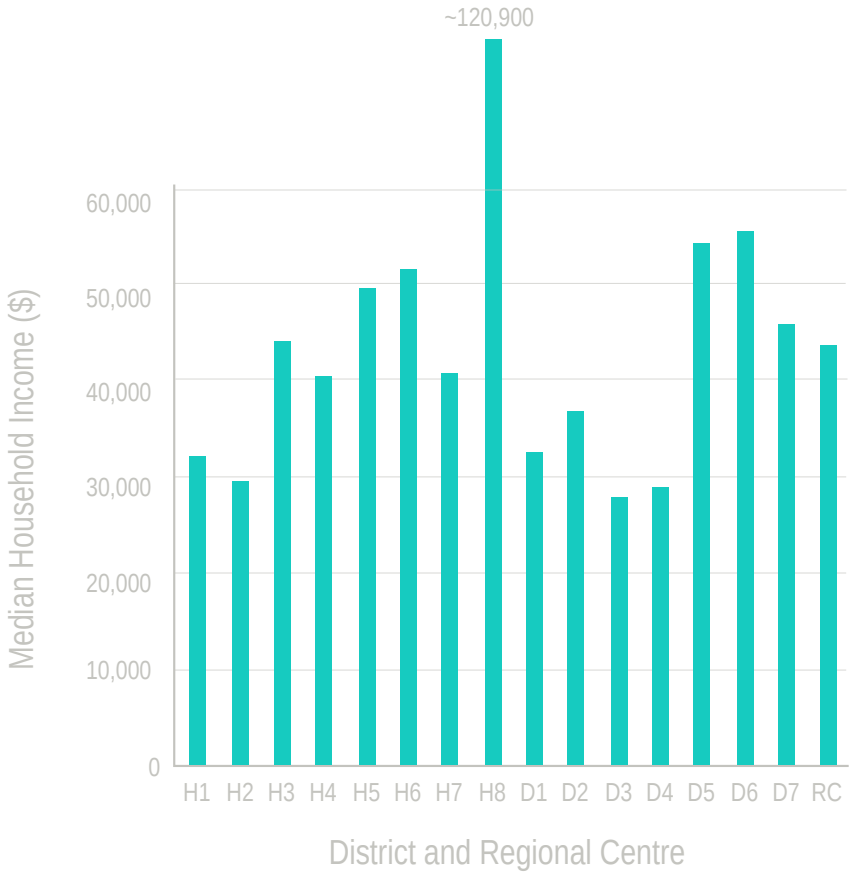
Median household income varies widely across the Halifax Regional Centre (RC). Halifax exhibits a high concentration of wealth in areas adjacent to the Northwest Arm, and north of Point Pleasant Park. Similarly, the areas surrounding the Brightwood Golf Course and Lake Banook have the highest rates of median household income in Dartmouth.

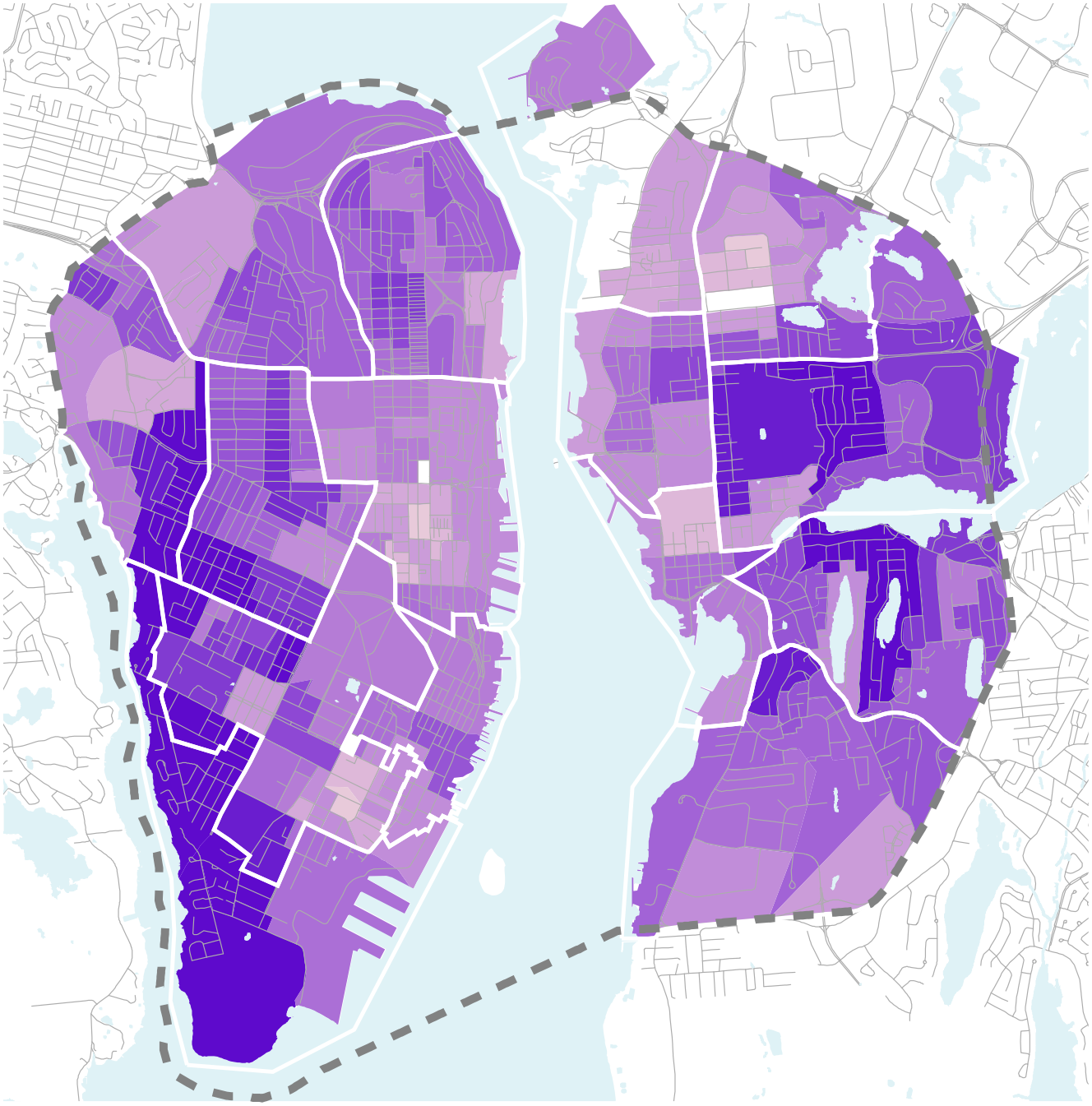
The average median household income of the RC ($44,692) is similar to the Nova Scotia average at $46,605, but nearly $10,000 less ($54,108) than that of HRM. Median household incomes in District H8 exceed the other 14 districts drastically at ~$120,900; 2.7 times the RC average, and 4.2 times that of the District D3 ($28,635), which has the lowest median household income. (Note: the value for D3 is somewhat skewed due to suppressed data).

Both Dartmouth and Halifax have lower than expected median household incomes in the downtown Districts (D1 and H1). At $33,173 and $32,761 respectively, the RC's downtowns are nearly $10k below the RC average, and $20k less than HRM average.

Some districts in Dartmouth have average median incomes $10k less than the RC average. Both D3 ($28,635) and D4 ($29,601) fall into this category; their median household incomes are nearly $25k less than the HRM rates. These lower median household income rates are attributable to availability of low income housing rentals, and low rates of education.

The lowest median household income of the Halifax districts is H2 ($30,048). It has a relatively high rental rate and an unemployment rate greater than the Nova Scotia average. The large number of university students may also be skewing the income level.




Median Household Income ($)
<10K
10-15K
15-20K
20-25K
25-30K
30-35K
35-40K
40-45K
45-50K
50-55K
55-60K
60-65K
65-70K
70-75K
>75K
Repressed Data
0
0.5
1
2
3
km
N

RENTAL RATES

Rental rates are above 40% in all districts with the exception of H8, with a Regional Centre average of 62%

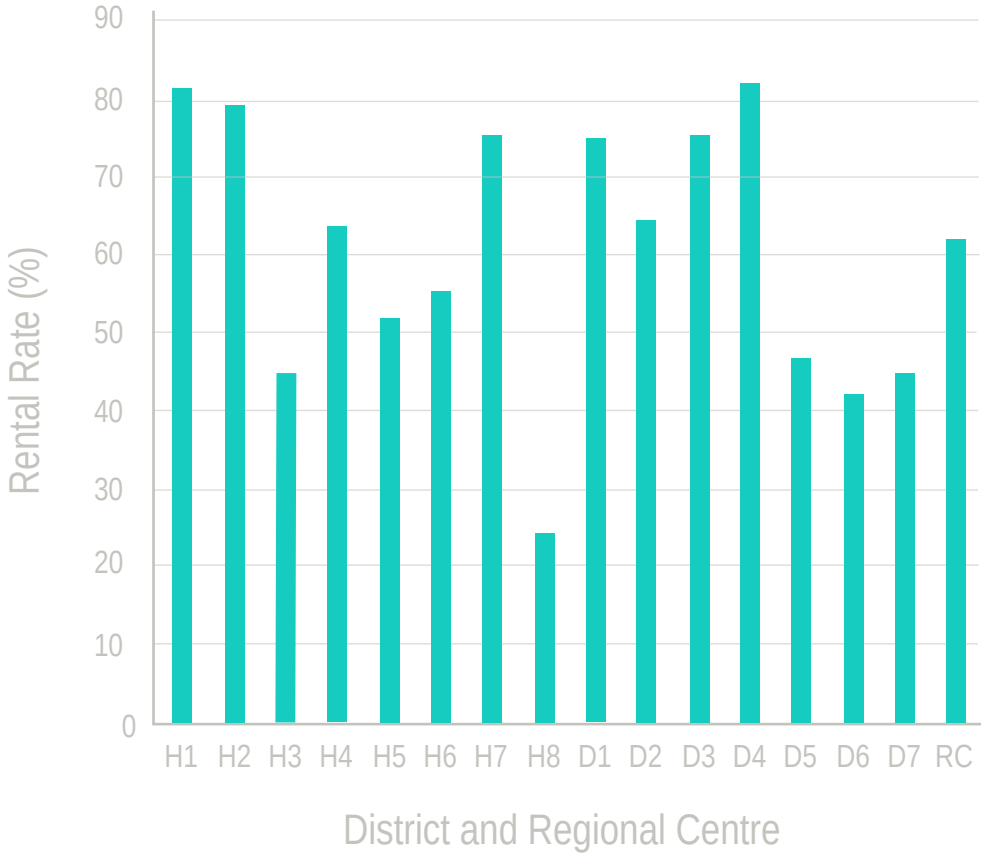
There is a concentration of rental units in the downtown districts, and the proportion declines as one moves outward. For instance, the District H1 has an 81.5% rental rate, H2 has the rate of 79.2%, and the rate is 75.3% in H7.

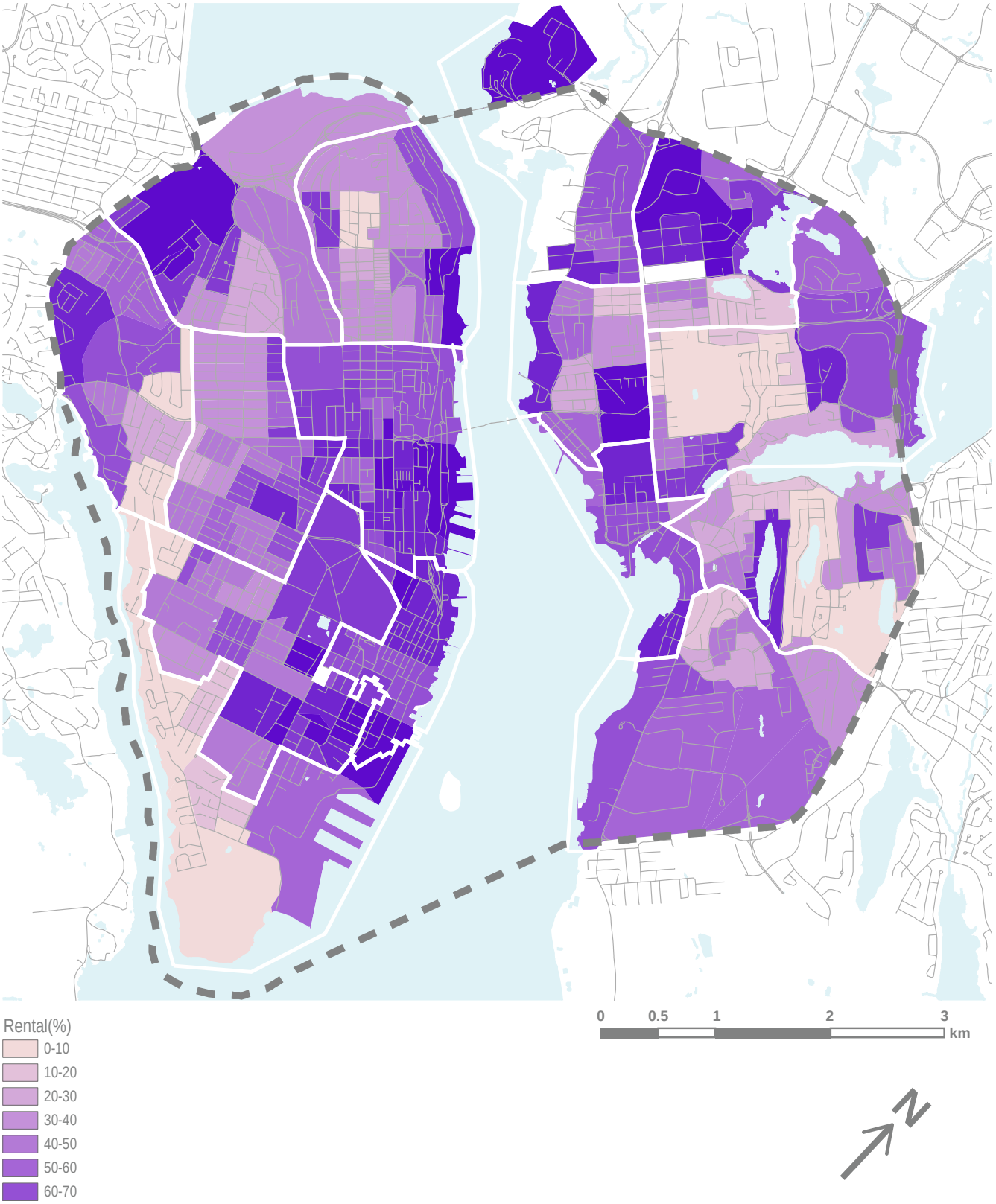
In District H1, renters are concentrated in a small number of large tower apartments, owing to the incentives of developers to maximize the profits of small scale properties. Moreover, developers' desire to retain ownership of high-value land in the downtown core may lead to rental properties, rather than the condominium ownership model.

H2's proximity to the employment centre of downtown makes it an attractive option for both young professionals and students attending universities. The demands of student renters are amplified in District H7, as it contains not only St. Mary's University, but all three campuses for Dalhousie University.

With a rental rate of only 24%, District H8 greatly differs in ownership trends with H1. H8 is characterized by very high household income and an established neighbourhood with high tenancy periods, and lower rates of movement in or out of the area (data not shown). The established neighbourhood aspect is mirrored, though to a lesser extent, in District H3 (44.6% rental rate). H3, however, is mixed with rental dwellings and owner occupied dwellings in the Hydrostone area and the surrounding single- family homes.

In Dartmouth, there is a concentration of affordable-rental units in Districts D3 (75.3%), and D4 (81.8%). Similar to Downtown Halifax (H1), Downtown Dartmouth (D1) has a higher rental rate (74.8%) than the rest of Dartmouth, and the rental units are concentrated in a small geographic area. Land owners may be using the rental model to retain ownership of high-value land, possibly with the intent of selling it off in the future.




Rental(%)
0-10
10-20
20-30
30-40
40-50
50-60
60-70
70-80
80-90
90-100
Repressed Data
0
0.5
1
2
3
km
N

HOUSING COSTS

Gross ownership payments are an average of $234 higher monthly than rental payments in the HRM

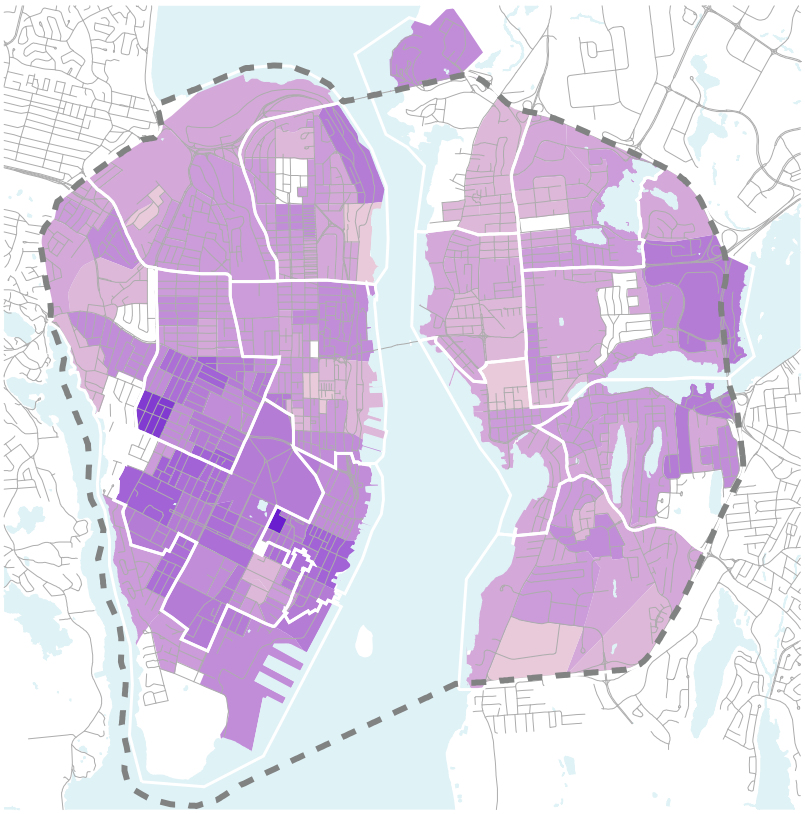
Majority of rental units existing in HRM area located within the Regional Centre (RC). Average monthly rental payments for the RC is equivalent to the HRM average ($751 vs 754), and $80 higher than the Nova Scotia average. Rental payments are the highest in District H1 ($1,061); over $400 a month more than the lowest average in D4 ($622).

Home ownership in the RC costs $63 a month more than the HRM average ($1,051 vs $988), and $290 more than the Nova Scotia average. While the monthly cost is high, the homes in the RC are worth $60,000 more than the homes in the whole of HRM on average, and $115,000 more than the Nova Scotia average (data not shown).

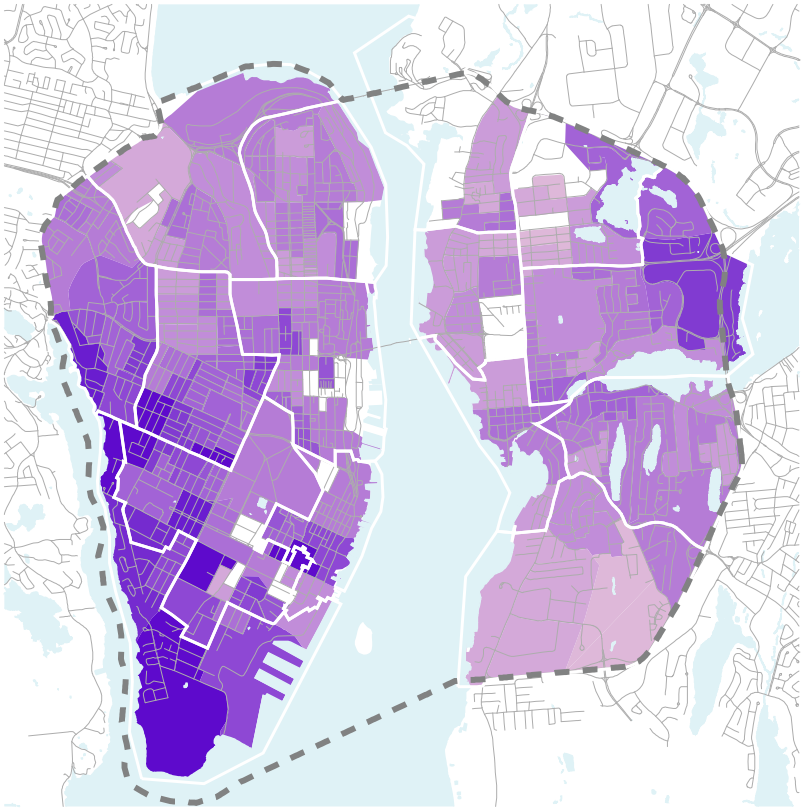
Monthly expenses for homes are highest in District H8 ($1,609), corresponding with the highest average value of homes (~$557k) in the all of the districts. In general, Halifax's ownership payment amounts are highest in areas adjacent to the Northwest Arm, and decreases as the distance increases from there. There are also some pockets of areas with higher home payments within the H1 District and directly adjacent to the university campuses.

In Dartmouth, the highest home expenses are seen in areas adjacent to lakes, particularly in District D5, along the shore of Lake Mic Mac.

RENTAL PAYMENTS



OWNERSHIP PAYMENTS



Average Monthly Payment ($)

- Repressed Data or No Payments
- 0-500
- 500-600
- 600-700
- 700-800
- 800-900
- 900-1000
- 1000-1100
- 1100-1200
- 1200-1300
- 1300-1400
- 1400-1500
- 1500-1600
- 1600-1700
- >1700

0 0.5 1 2 3 km

TYPE OF EMPLOYMENT

Retail and trade is the largest employment sector in the Regional Centre.

Employment industry profiles vary in different geographical areas. For example, urban areas may have higher proportions of people engaged in service, communication, and education industries, while employments in rural areas may largely be in resource based industries such as agriculture, forestry and fisheries. We can see this difference represented in the profiles of the Regional Centre (RC) districts vs the Nova Scotia averages. The adjacent figure shows the breakdown of employment by group of industries at the district level. Employment classifications are consolidated from the original NAICS (North America Industry Classification System) codes—See Process- Reclassification of Data pg 30 for a detailed list of NAICS classification codes and the consolidation groupings. It is important to note that this data represents the employment type of people living in the districts, not the types of industries that are located in the districts.

Natural Resource Exaction and Energy, unsurprisingly, does not have much presence inside the RC, accounting for only 1.1% of employment. For NS overall, this industry accounts for 6%. Similarly, Manufacturing and Construction Industries accounts for about 7% of employment in the RC, while the NS average is about 15%.

Retail and Trade in the RC has a larger presence on the Dartmouth side (21%), compared to Halifax (14%).

Finance and Communication industries are important to both the RC and the HRM (9.7 vs 9.8% respectively), compared with 7% in Nova Scotia overall. The Halifax side of the RC has a greater proportion of employment in this industry than the Dartmouth side (11% vs 8%).

This trend extends to the **Professional and Management Services** sector. Halifax has a higher rate than Dartmouth (9.0% vs 5.7%), and the RC average (7.8%) is higher than the Nova Scotia average (5%). Among districts this sector has quite a large spread: between 14.6% in H1 and 1.7% in D3.

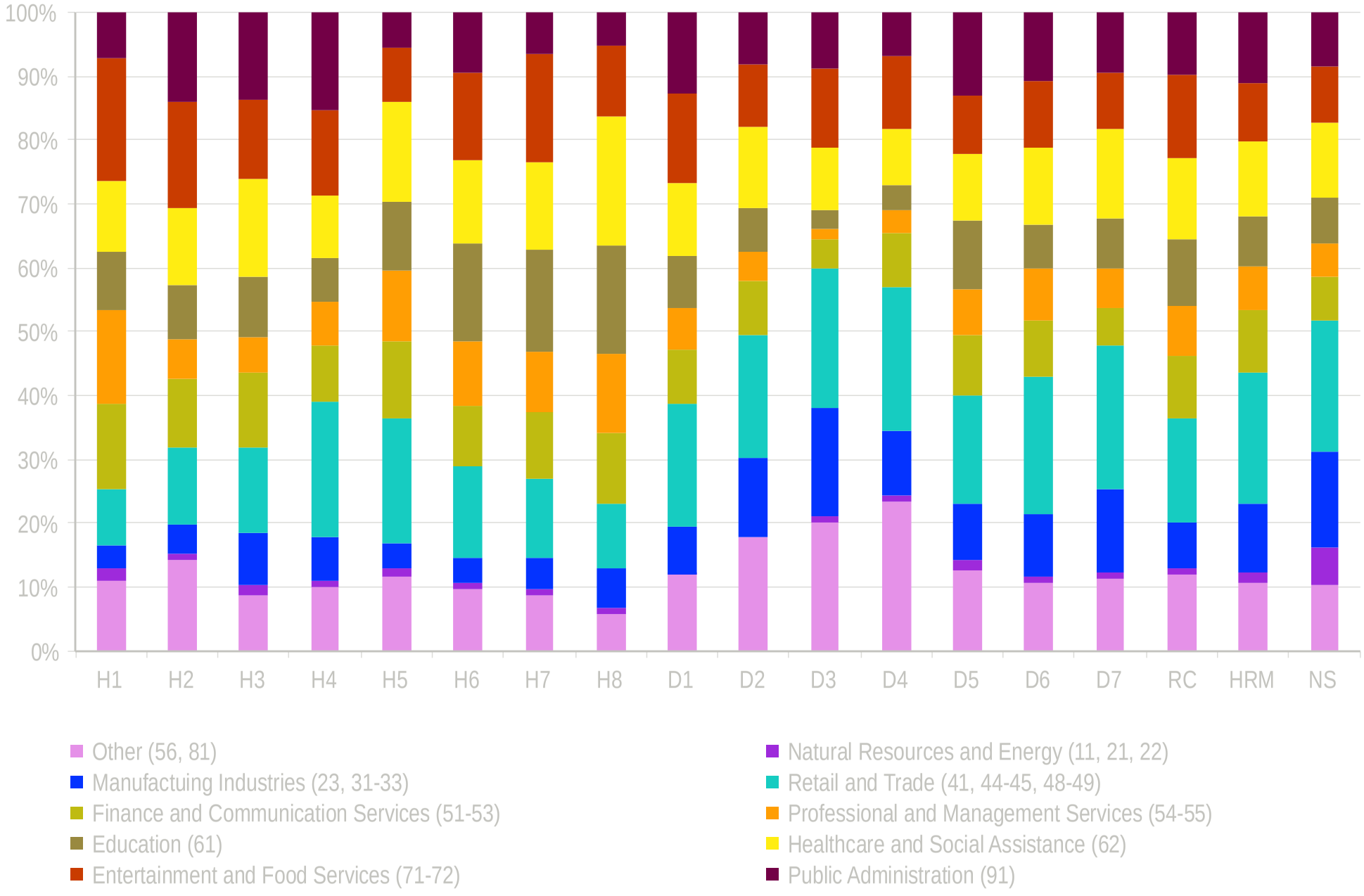
The **Education** sector is another where the RC average (10.5%) exceeds both the HRM (7.8%) and NS (7.4%) averages. The Halifax side of the RC has nearly twice the rate of Dartmouth (12.4% vs 6.9% respectively).

The proportion of employment by the **Healthcare and Social Assistance** sector is relatively similar to the HRM and NS averages, which are both 11.7%.

The RC has considerably high proportion of employment in the **Entertainment and Food Services** (13%), compared with the HRM (9.2%) and NS (8.8%). Within the RC, the Halifax side has a higher rate of employment in this sector (14.4%) compared to Dartmouth (10.5%).

Public Administration employment rate is similar between Halifax and Dartmouth (10%), while slightly lower than the HRM (11.1%), and higher than in NS (8.4%).

The **Other** category includes Administration and Support, Waste Management and Remediation Services, and Other Services. There is a slightly higher proportion of people employed in this category of jobs within the RC (12.1%), compared to HRM (10.6%) and the province as a whole (10.2%).


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
H1
H2
H3
H4
H5
H6
H7
H8
D1
D2
D3
D4
D5
D6
D7
RC
HRM
NS
Other (56, 81)
Natural Resources and Energy (11, 21, 22)
Manufactuing Industries (23, 31-33)
Retail and Trade (41, 44-45, 48-49)
Finance and Communication Services (51-53)
Professional and Management Services (54-55)
Education (61)
Healthcare and Social Assistance (62)
Entertainment and Food Services (71-72)
Public Administration (91)

TRANSPORTATION MODE

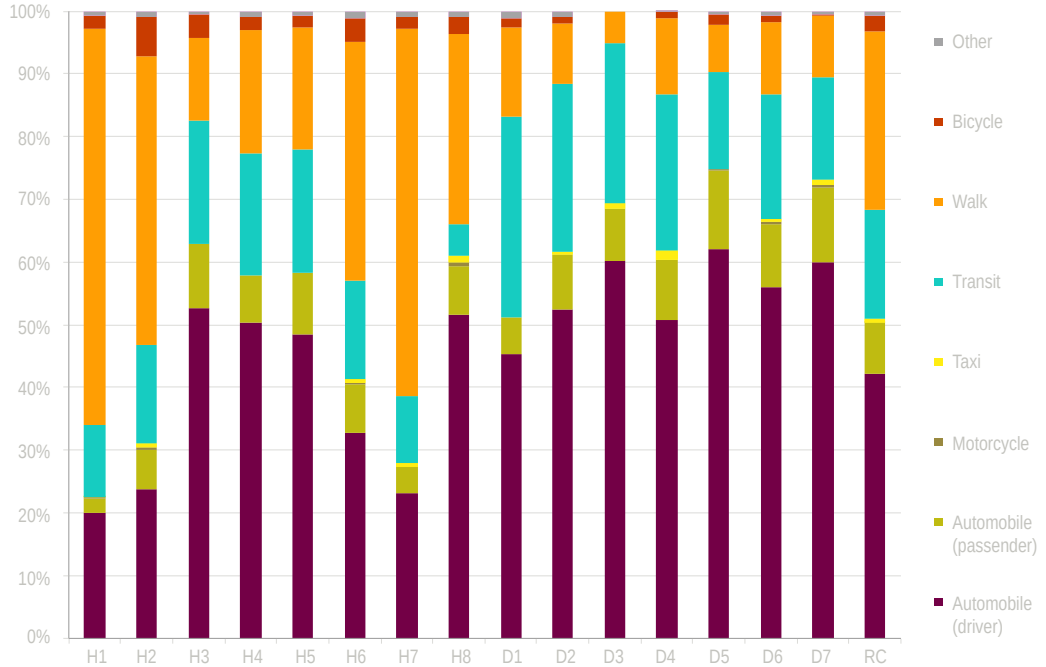
Residents of the Regional Centre are 3x more likely to use transit or active transportation than the NS average.

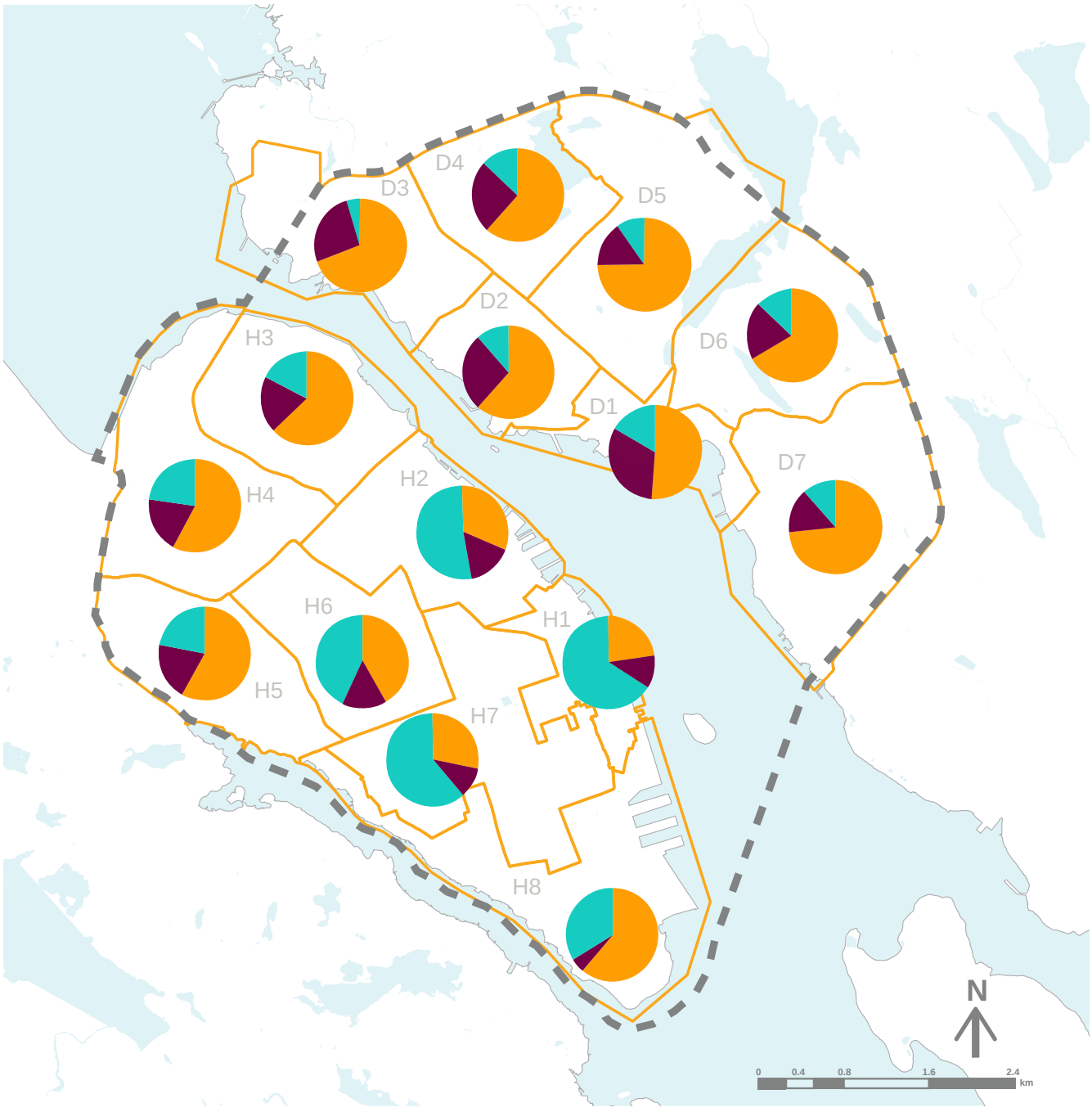
Residents of the Halifax Regional Centre (RC) are nearly three times more likely to use transit as their main form of transportation than average NS residents (17.4% vs 5.9%). Likewise, 30% of all trips occurring in the RC are by active modes of transportation, compared to the NS average of 10%. RC residents are much less likely to use motorized transport (50%) than average HRM (76%) or NS (84%) residents.

Within the RC, Halifax residents are 3.5 times more likely to use active transportation than those living on the Dartmouth side (43% vs 12%). This difference in rates reflects the walkable nature of the Halifax peninsula, especially the downtown core. In fact, even the lowest active transportation rate in Halifax (H3: 17.5%) exceeds the highest rate in Dartmouth (D1: 16.7%). Active transportation is highest in District H1, and there are see similarly high rates in adjacent districts. As distance increases from downtown, there is a distinct drop in the number of residents using active transportation modes in Halifax, as seen in District H3, for example.

District H1 has the lowest motorized transportation use (23%) and the highest use of active transportation modes (66%) of all the districts. This can likely be attributed to the close proximity of many goods and services, making the area very walkable. On the other end of the spectrum is District D3. The share of active transportation in D3 is only 5%, the smallest of all districts, and the share of automobile use is close to 70%, one of the highest of all districts. The mode choice pattern by the D3 residents was surprising, as we expected that areas with challenging socioeconomic conditions would typically use more cost-friendly modes of transportation than automobiles. District D5 has the highest rate of motorized transportation (75%).

Dartmouth residents are 7% more likely to use transit as their main form of transportation than Halifax residents (22% vs 15%). H8, the district with exceptionally high median household income, exhibits minimal transit use (5%), the lowest of any district. However, the H8 residents' use of active transportation is 34%, the fifth highest of all districts; likely reflecting their proximity to employment centres (H7 and H1). Transit use is the highest in District D1 (32%), reflecting presence of the Alderney Ferry Terminal that allows easy transport to Halifax, and close proximity to the Bridge Terminal.





District	H1	H2	H3	H4	H5	H6	H7	H8	D1	D2	D3	D4	D5	D6	D7	RC
Motorized Transportation	22.6%	31.0%	62.9%	57.8%	58.2%	41.4%	28.0%	61.0%	51.2%	61.6%	69.4%	61.8%	74.9%	66.8%	73.1%	50.9%
Transit	11.4%	15.8%	19.6%	19.4%	19.9%	15.6%	10.6%	5.0%	32.0%	26.9%	25.6%	24.8%	15.4%	20.0%	16.4%	17.4%
Active Transportation	66.0%	53.2%	17.5%	22.8%	21.9%	43.0%	61.4%	34.0%	16.7%	11.6%	5.0%	13.3%	9.7%	13.2%	10.5%	31.7%

INDICATOR USE

INDICATOR APPLICATION OVERVIEW

Indicators developed herein offer a deeper understanding of the Regional Centre and can help city planners develop more evidence-based and focused planning strategies.

Three examples in this section explore how the indicators can be used for different types of planning, such as: developing action plans and prioritizing some services for districts with concentrations of vulnerable people, evaluating spatial equity of amenities and related health implications, and formulating a development strategy for population densification goals.

LIMITATIONS, RECOMMENDATIONS & FUTURE DATA NEEDS

LIMITATIONS & RECOMMENDATIONS

Due to poor quality of the 2011 Canadian Population Census data, a time series analysis (e.g., comparison of income inequality patterns between 2006 and 2011) was not possible. Monitoring the social and demographic characteristics of districts over time is crucial in order to assess the possible impacts various decisions and actions will have, and to anticipate future needs across the Regional Centre districts. A surveillance system of basic social and demographic indicators will further strengthen the evidence-based planning decision-making process.

A spatial accessibility analysis for different services could not be conducted due to lack of accurate residential location data. In order to develop indicators related to accessibility of services within the Regional Centre, it is necessary to have property data that enables distinction between residences and non-residences. The property data HRM holds can be modified and added to the property type information, for example, by linking them to tax-related data.

Methodology should be developed to take into account the 'edge effects' of cross-district use of services when assessing spatial accessibility. As seen in the district park density values, the sizes of parks vary. Many residents of different districts access larger size parks such as Point Pleasant Park and Citadel. Although adjacent districts may not have a high park density, it does not always mean that the residents do not have adequate access to green space. The park density indicator created in this project is preliminary, and does not take these factors into account.

While district-level indicators show robust patterns of resident and area characteristics, it is helpful to use the district-level indicators in conjunction with the Dissemination Area-level indicators to examine the within-district differences. Often, the average of characteristics can mask important gaps that exist within an area. Finer-level indicators can further assist the analysis at hand and help explain the justification of some decisions.

FUTURE DATA NEEDS

Tax returns and property assessment data is needed to distinguish land use at a finer-level—e.g., within a street block, multi-purpose building, and zones that allow mixed land use.

Canadian Business Survey data is needed to assess which industries the residents engage in within each district (similar information is available via Census), and whether their district of employment and district of residence are the same.

Updated point location data needs to be made available—e.g., grocery stores, healthcare services, daycare, bus stops, etc.—for spatial accessibility analysis.

Fine-grained zoning type distinctions within Downtown Halifax and Downtown Dartmouth are needed in order to better estimate indicators related to land use such as residential population density.

A single spatial dataset which indicates the jurisdictional differences in land ownership within the Regional Centre is needed to develop future indicators.

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