

prospect

a web application for neighbourhood
assessment & comparison

Report

Developer Team

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Design Team

Vik Chu

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context & scope

developers	Michael Sin, Nicholas Bao, Krishna Purani & Ahmad Hanjoura				
product title	Prospect: Web application for assessing & comparing neighbourhoods				
product statement	Prospect is a web application for visualizing & comparing various Edmonton neighbourhoods and allowing a predictive model to forecast future housing markets.				
technologies	<table><tr><td>Backend</td><td>Frontend</td></tr><tr><td><ul style="list-style-type: none">• R-Studio• MySQL• Django Web Framework</td><td><ul style="list-style-type: none">• MapBox API• React• HTML/CSS</td></tr></table>	Backend	Frontend	<ul style="list-style-type: none">• R-Studio• MySQL• Django Web Framework	<ul style="list-style-type: none">• MapBox API• React• HTML/CSS
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<ul style="list-style-type: none">• R-Studio• MySQL• Django Web Framework	<ul style="list-style-type: none">• MapBox API• React• HTML/CSS				
constraints & issues	<p>Our original idea was to collect data of all properties in Edmonton including standard house details, such as: square footage, # of rooms, # of bathrooms, garage, etc.</p> <p>However, due to this information only being accessible to holders of realtor licenses, this data was unavailable to us.</p> <p>Instead our team was able to extract public data from Edmonton's data portal for existing neighbourhoods, clean and transform this data, and ultimately create a predictive model based on Edmonton neighbourhoods.</p>				

methodology

goal

Our goal with this project was to provide users with the ability to compile all relevant data when purchasing or selling property in the Edmonton area.

idea

In order to reach our goal, we developed a web application that is easily accessible and usable for our users.

research

To bring our idea to life, research was done as to what data was most relevant to our users - if that data was collectible, and in what presentation would our users benefit mostly from.

approach

We conducted interviews from real-estate agents to see what our potential users cared about. We also conducted research as to what technologies would be appropriate to our development.

collection

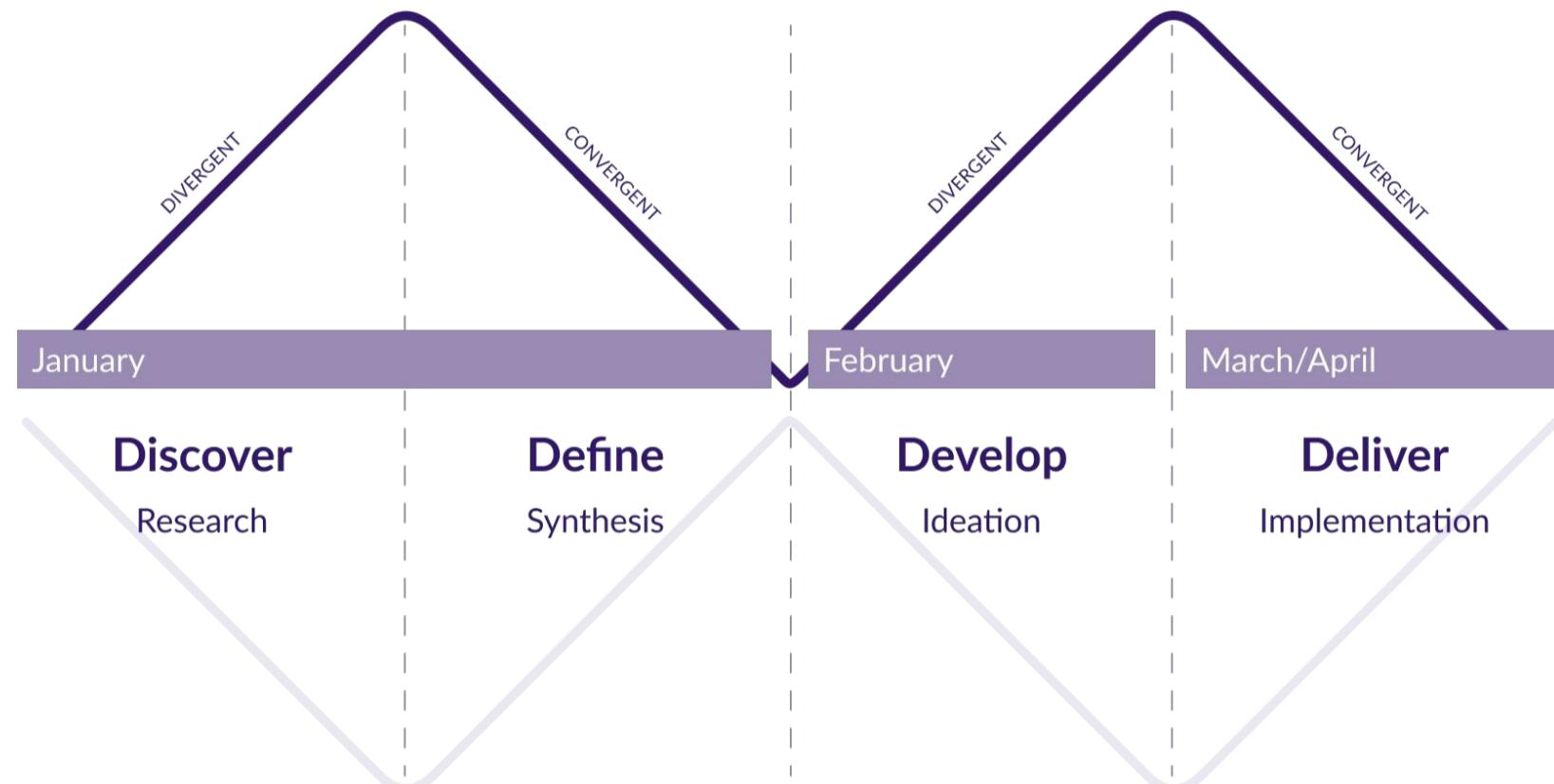
In order to collect our relevant data, we came across an issue early on in research - in that, the data was not accessible to the public. Instead we shifted our focus from every individual properties, to property data we could obtain as well as neighbourhood data.

results

competitor analysis

In order to determine some advantages, research was done into what we could do better than our competitors. While individual property data was our initial plan, we noticed that all our competitors had very little details about the neighbourhood itself.

design sprint double diamond



AGILE development

During the development phase, we adopted the AGILE project management methodology. This ensured that coupled with our continuous research, we could make changes constantly to our web application.

user profile



primary

Home buyers searching for the right neighbourhood based on value, walkability, and crime.



secondary

Home sellers wanting to know the best time to sell property in order to maximize return.



Bhaavik Bakshi

Age: 42

Family: wife and two daughters

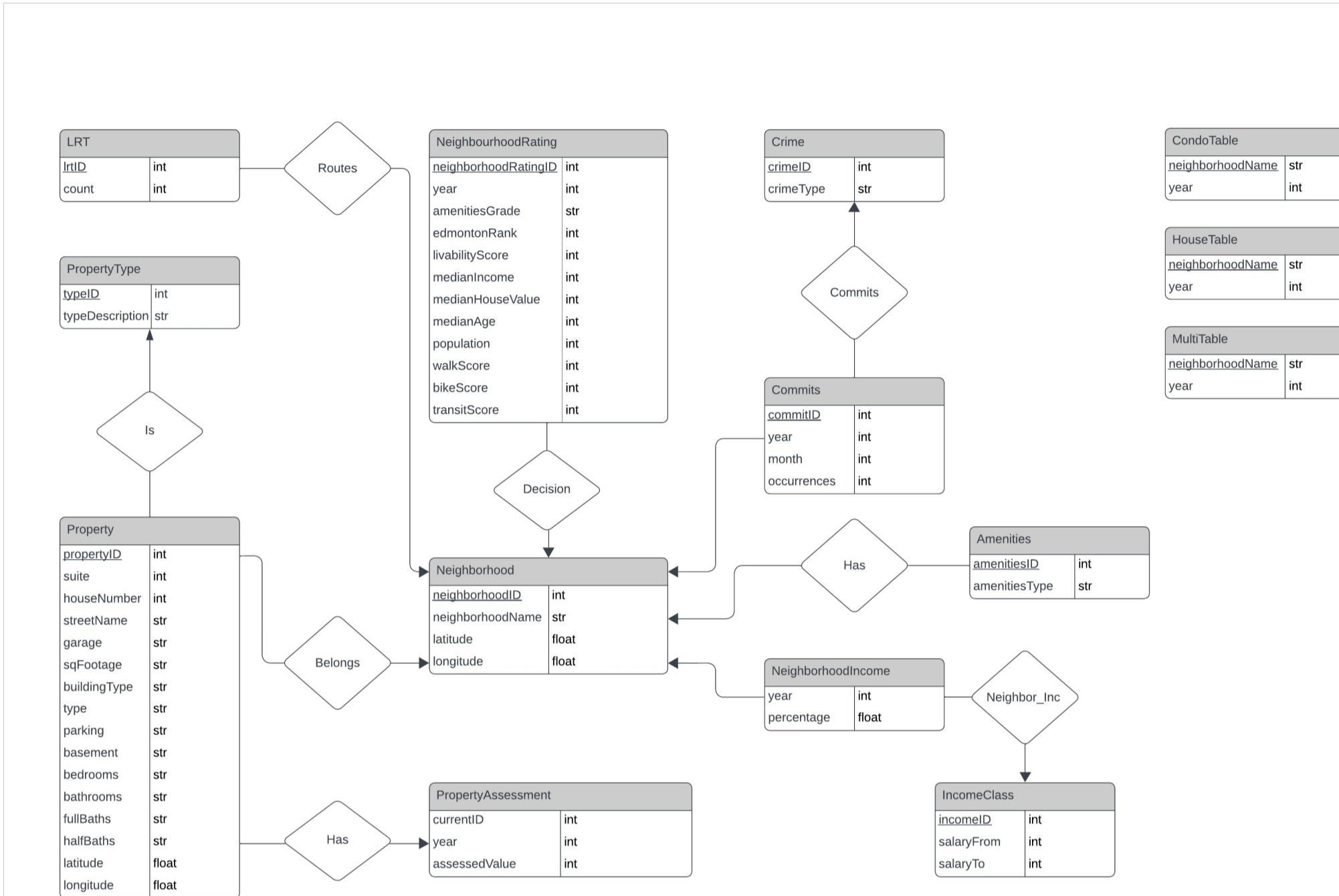
Occupation: construction project manager

User type: home buyer (primary)

“As a father who immigrated with my wife and two daughters, I want to find a safe and suitable neighbourhood so my family has a comfortable living environment with easy access to essential amenities.”

database design

er diagram



approach

In designing the backend, we decided to go for a relational database, with the ability to scale. This is because we were dealing with values in our data that were attributed to a certain neighbourhood, and also can scale with millions of data points.

implementation

To implement our database, we used MySQL in order to house our data as well as making sure the keys developed in each table were in relation to our main schema - Neighborhood.

technologies

While MySQL was used primarily. We also used Django ORM in order to extract and refine the necessary data to our front-end in an efficient manner.

ui/ux

design

The design implemented was to introduce our users with a simple onboard. As well as an interactive map, in which users would click for a summarized info component of the neighbourhood, and go to a more detailed single view, or compare it to another neighborhood.

components

Front-end design was done using react for each individual components, while also utilizing MapBox API for our interactive map.

flow

In order to see the flow of the user interaction please take a look at deliverables in the next page.

prospect brand identity

professional, sleek, concise

typography

Lato

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9
! ? @ # \$ % &

Weight: regular, italic, semi-bold, bold
Case: sentence, letter, or title case
Colour: purple, white, grey, or black
Uses: headers, body, microtext

Urbanist

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
0 1 2 3 4 5 6 7 8 9
! ? @ # \$ % &

Weight: bold only
Case: letter case only
Colour: purple, white, grey, or black
Uses: logo, high level headers

character styles

Heading 1: Lato Bold, 36 pt
Heading 2: Lato Bold, 30 pt
Heading 3: Lato Bold, 24 pt
Heading 4: Lato Semibold, 20 pt

Body: Lato Regular, 18 pt / bold / italics / underline — Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut sit amet est non nulla rutrum eleifend sit amet non ligula. Aliquam erat volutpat. Phasellus aliquet libero eu neque tempus, nec justo eleifend. Duis consectetur turpis massa, a convallis mag tincidunt vitae. Curabitur orci enim, ultricies non nibh quis, gravida fringilla lectus.

Microtext: Lato Regular, 16 pt / bold / italics / underline — Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut sit amet est non nulla rutrum eleifend sit amet non ligula. Aliquam erat volutpat. Phasellus aliquet libero eu neque tempus, nec justo eleifend. Duis consectetur turpis massa, a convallis mag tincidunt vitae.

colour

Primary #331B6A 100%, #331B6A 50%, #331B6A 10%
#F5F5F5 100%, #FBFBFB 100%, #101010 100%, #494949 100%, #959595 100%

Secondary #4B73FE 100%, #ED80EF 100%

elements

Corner radius: 10

Default Hover Toggled

\$ Default \$ Hover \$ Toggled

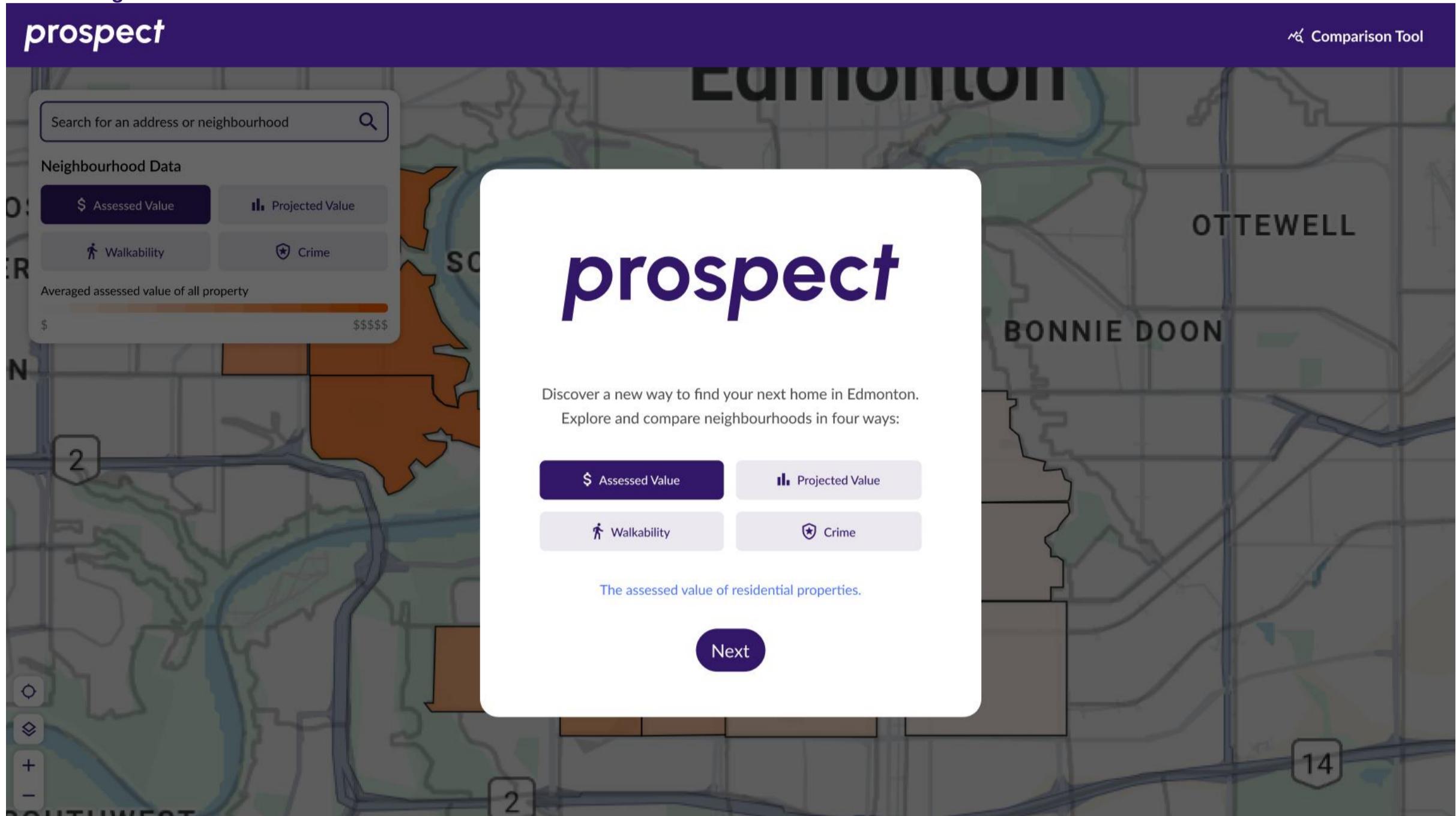
Search for an address or location

Neighbourhood Garneau

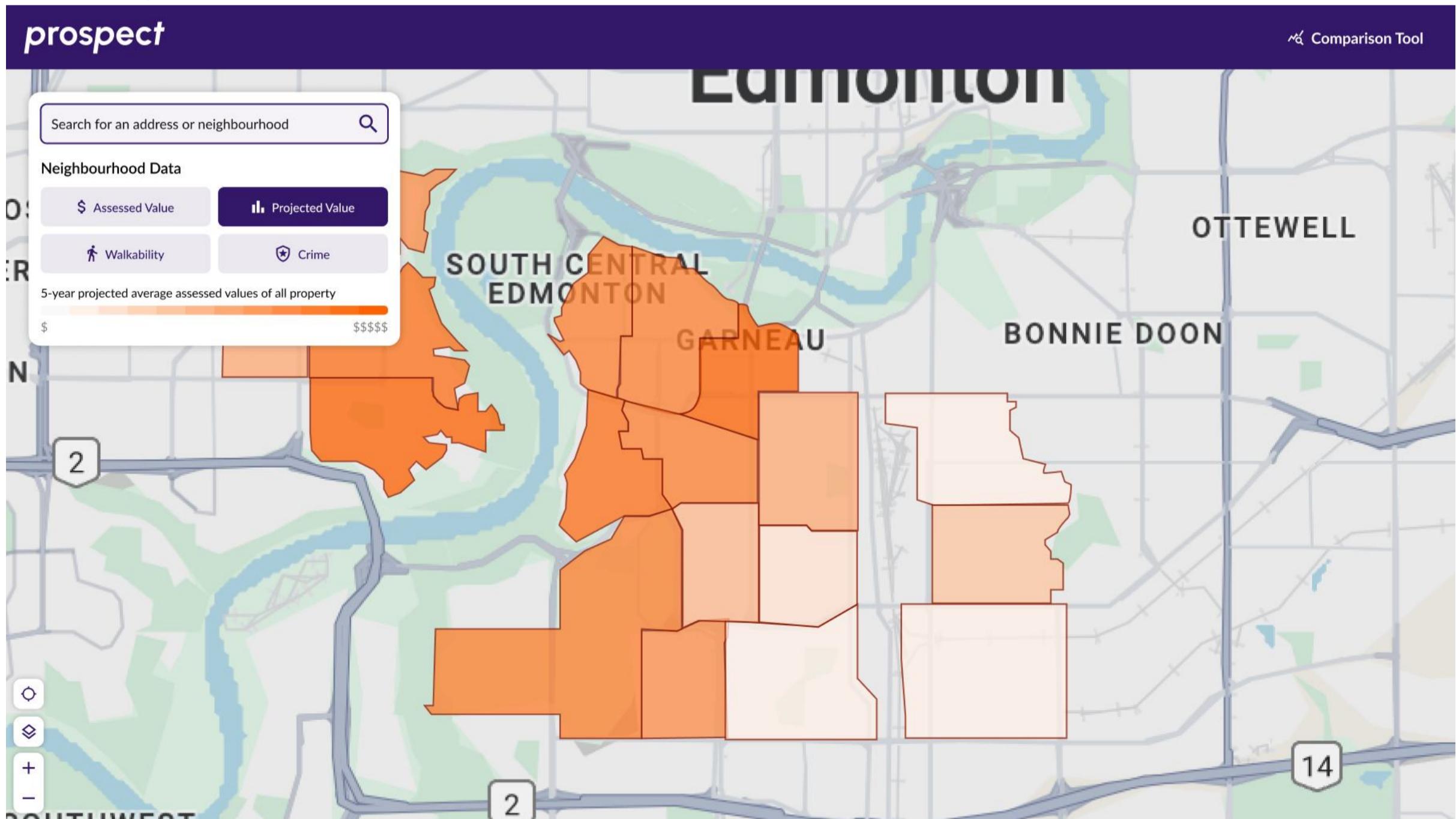
Map icons: location, up, down, shield, magnifying glass, bars, person, house, map, person walking.

deliverables

Onboarding - Welcome screen

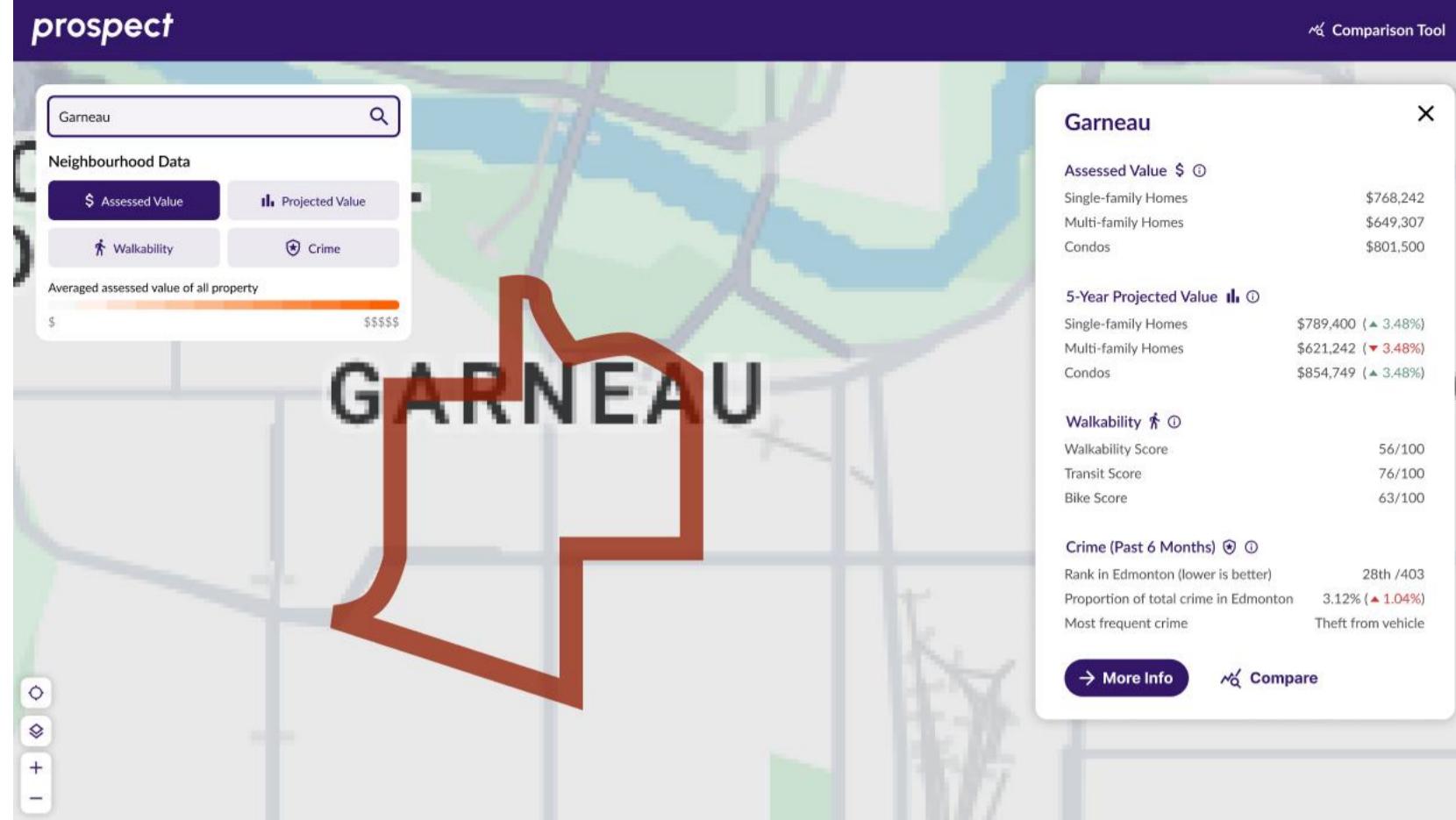


Interactive MapBox API



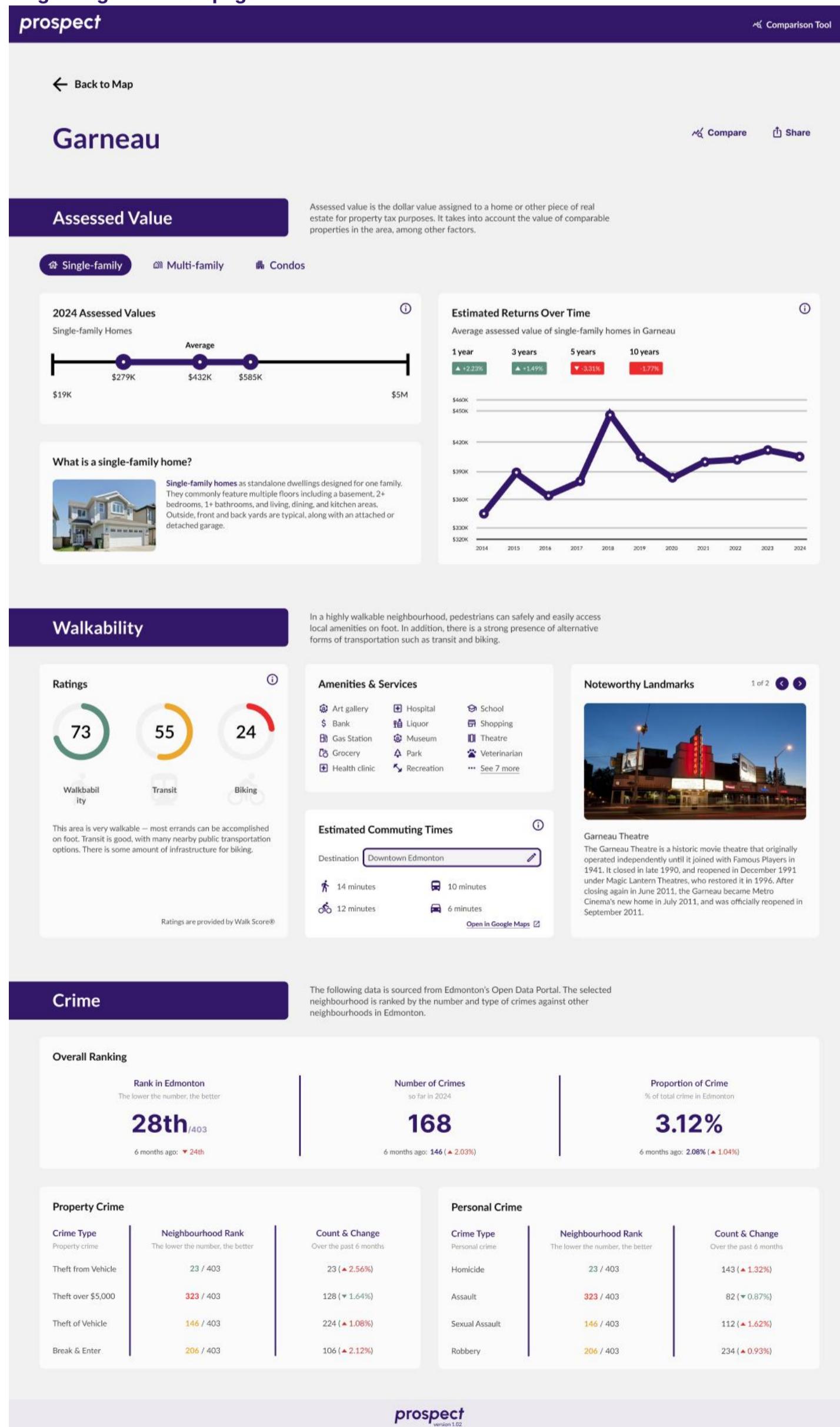
Neighbourhood preview - informatics

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Single neighbourhood page

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Comparison preview

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[Comparison Tool](#)

[← Back to Garneau](#)

Compare Neighbourhoods

[Share](#)

Assessed Value

Assessed value is the dollar value assigned to a home or other piece of real estate for property tax purposes. It takes into account the value of comparable properties in the area, among other factors.

Single-family Multi-family Condos



Estimated Returns Over Time

Average assessed value of single-family homes in Garneau

1 year 3 years 5 years 10 years



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Walkability

In a highly walkable neighbourhood, pedestrians can safely and easily access local amenities on foot. In addition, there is a strong presence of alternative forms of transportation such as transit and biking.

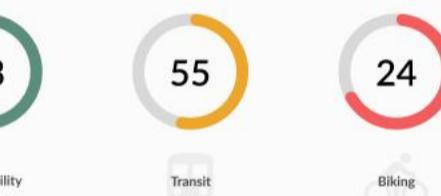
Ratings



This area is very walkable – most errands can be accomplished on foot. Transit is good, with many nearby public transportation options. There is some amount of infrastructure for biking.

Ratings provided by Walk Score®

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Ratings provided by Walk Score®

Estimated Commuting Times

Destination: Downtown Edmonton



2 hours 10 minutes
12 minutes 6 minutes

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Destination: Downtown Edmonton



2 hours 10 minutes
12 minutes 6 minutes

Amenities & Services

- Art gallery
- Bank
- Gas Station
- Grocery
- Health clinic
- Hospi
- Liquor
- Museum
- Park
- Recreation
- School
- Shopping
- Theatre
- Veterinarian

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Crime

The following data is sourced from Edmonton's Open Data Portal. The selected neighbourhood is ranked by the number and type of crimes against other neighbourhoods in Edmonton.

Overall Ranking

Rank in Edmonton
The lower the number, the better

28th / 403
6 months ago: 24th

Number of Crimes
so far in 2024

168
6 months ago: 146 (▲ 2.03%)

Proportion of Crime
% of total crime in Edmonton

3.12%
6 months ago: 2.08% (▲ 1.04%)

Overall Ranking

Rank in Edmonton
The lower the number, the better

128th / 403
6 months ago: 130th

Number of Crimes
so far in 2024

320
6 months ago: 392 (▼ 2.57%)

Proportion of Crime
% of total crime in Edmonton

5.33%
6 months ago: 6.21% (▼ 0.88%)

Property Crime

Crime Type Neighbourhood Rank
Property crime The lower the number, the better

Theft from Vehicle

23 / 403

Count & Change
Over the past 6 months

23 (▲ 2.56%)

Property Crime

Crime Type Neighbourhood Rank
Property crime The lower the number, the better

Theft from Vehicle

23 / 403

Count & Change
Over the past 6 months

23 (▲ 2.56%)

Personal Crime

Crime Type Neighbourhood Rank
Personal crime The lower the number, the better

Homicide

23 / 403

Count & Change
Over the past 6 months

143 (▲ 1.32%)

Personal Crime

Crime Type Neighbourhood Rank
Personal crime The lower the number, the better

Homicide

23 / 403

Count & Change
Over the past 6 months

143 (▲ 1.32%)