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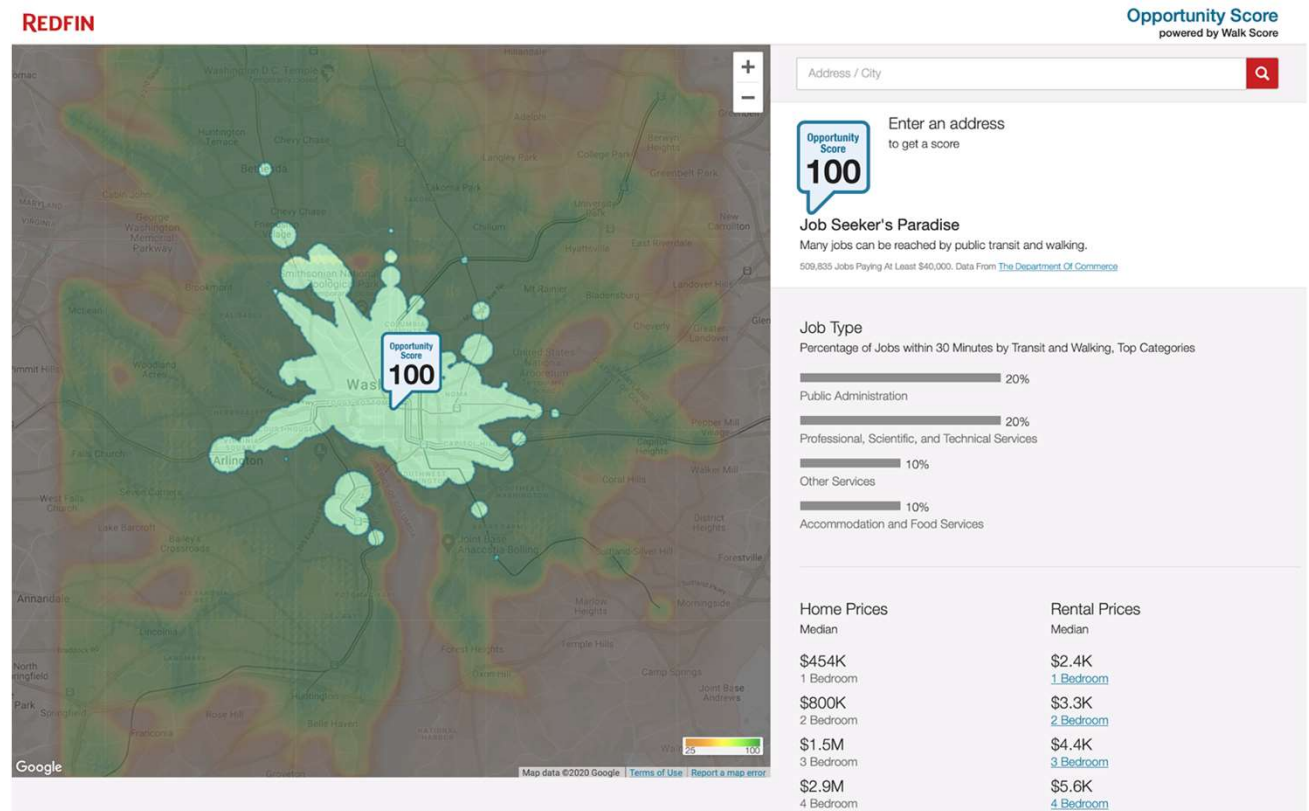
Opportunity Projects

Lead Economist, Taylor Marr

Redfin's Opportunity Score

Opportunity Score is an online tool that helps Americans find homes within a 30-minute car-free commute to nearby jobs.

Opportunity Score assigns an address a rating, from zero to 100, that represents how easy it is to get to nearby jobs without a car.



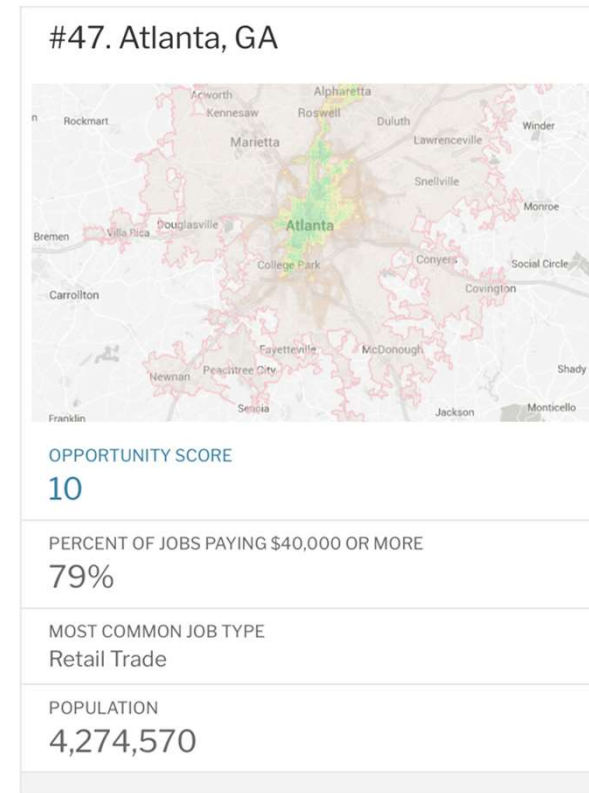
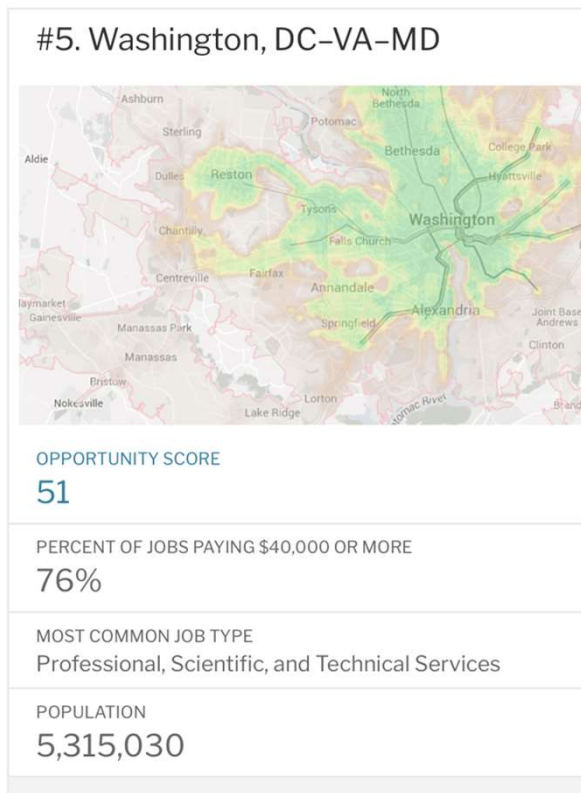
<https://www.redfin.com/news/introducing-opportunity-score/>

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Redfin's Opportunity Score

The land of opportunity looks very different across cities depending on how accessible jobs are via public transit or biking.

#1. San Jose, CA
opportunity score of 70



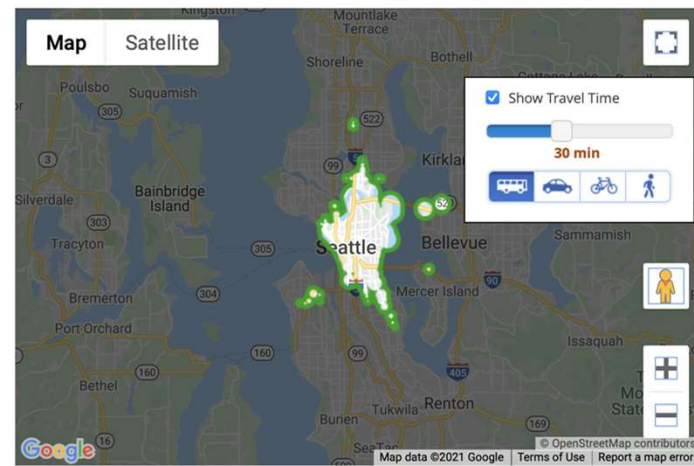
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How We Built Opportunity Score

Opportunity Score is powered by:

- The [Walk Score](#) [Travel Time API](#)

Example: Adding the Travel Time Widget

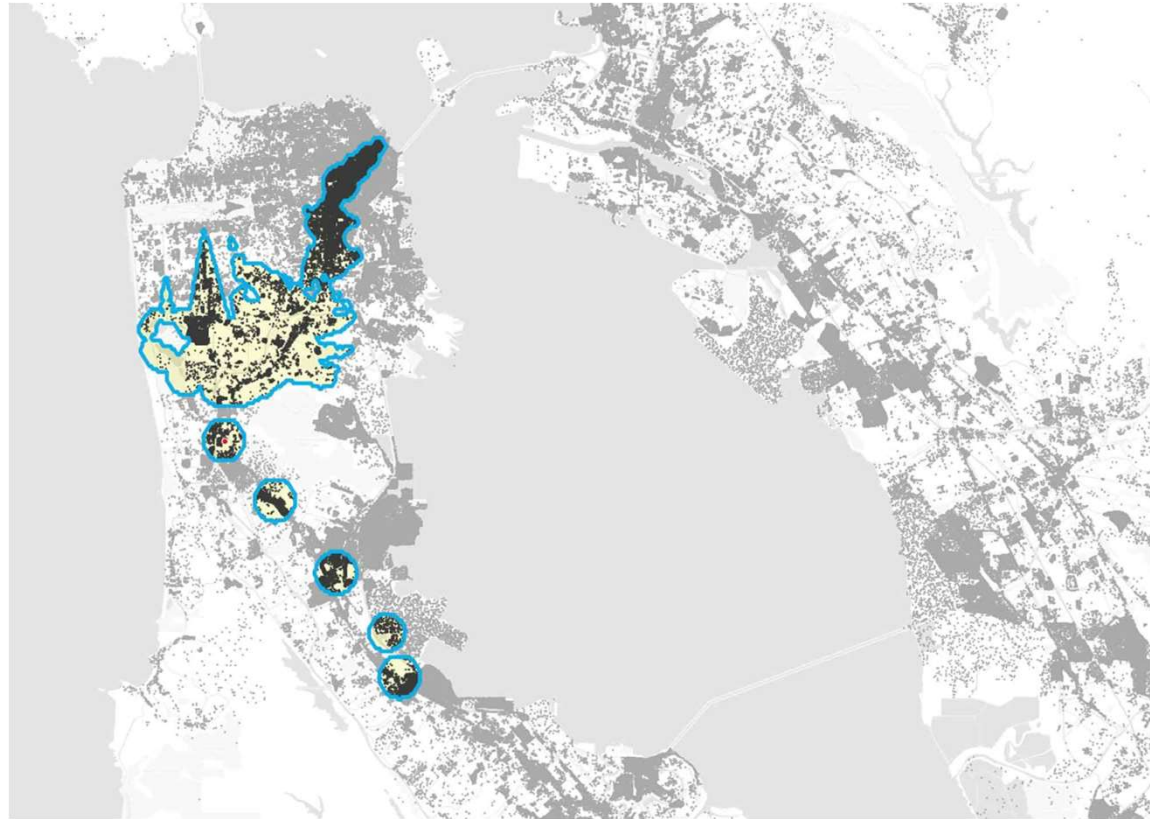


```
var map = new google.maps.Map(  
  document.getElementById("map_container"),  
  {  
    mapTypeId : google.maps.MapTypeId.ROADMAP,  
    center    : new google.maps.LatLng(47.61460,-122.31704),  
    zoom      : 13  
  }  
);  
var widget = new walkscore.TravelTimeWidget({  
  map      : map,  
  origin   : '47.61460,-122.31704',  
  show     : true,  
  mode     : walkscore.TravelTime.Mode.DRIVE  
});
```

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How We Built Opportunity Score

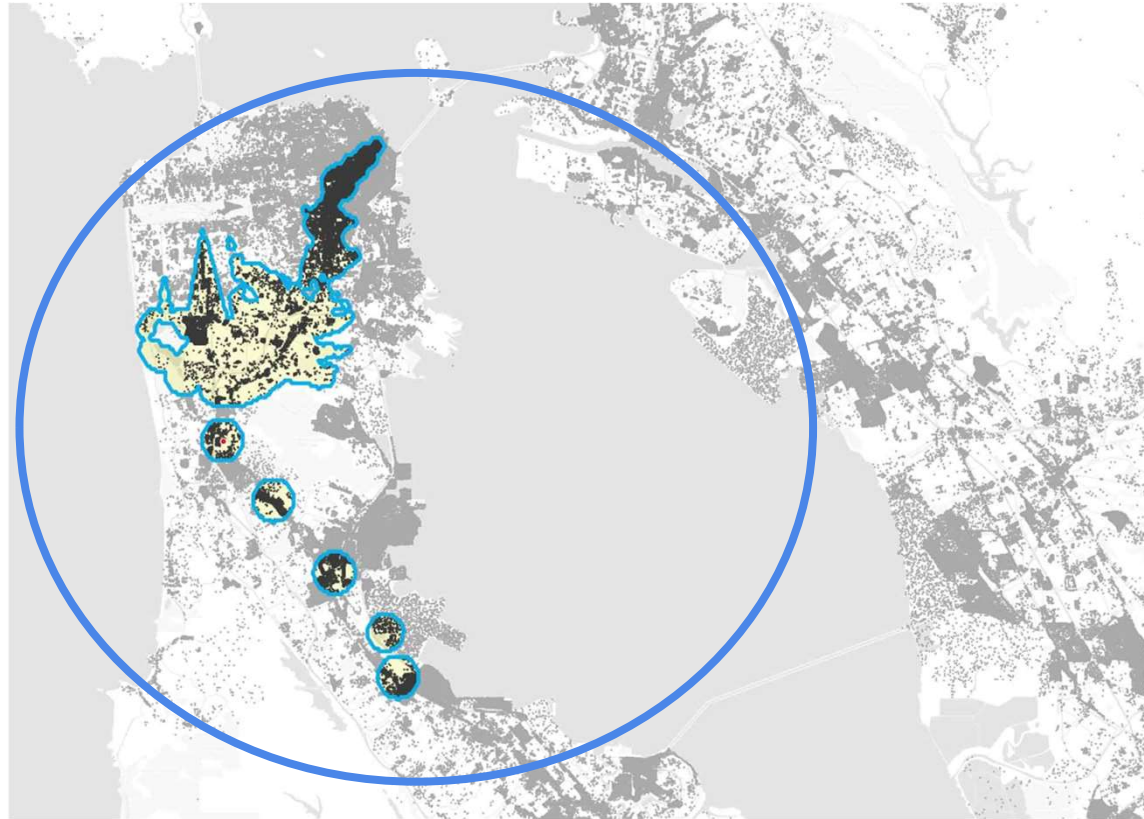
Opportunity Score factors in block-level employment data exploded to random points within the polygon from the Department of Commerce (LEHD Origin-Destination Employment Statistics). Opportunity Score includes jobs with a minimum annual salary of \$40,000.



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How We Built Opportunity Score

After we count up the jobs, we factor in the population in a 30-mile buffer from the origin point using block group population estimates from the Census Bureau.



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How We Built Opportunity Score

Then we do some math:

- Redfin uses a binomial distribution to create an Opportunity Score value proportional to the probability of getting a transit commutable job.
- First, we count the number of jobs that are accessible in 30 minutes by transit, along with the population of the area in a 30 mile buffer.
- This gives us a score between 0 & 100 for each point

$$OppScore(n,p) = \sum_{k=1}^n \frac{n!}{k! (n-k)!} * p^k * (1-p)^{n-k}$$

$$p \propto \frac{1}{Local\ Population}$$

$$n \propto Transit\ Commutable\ Jobs$$

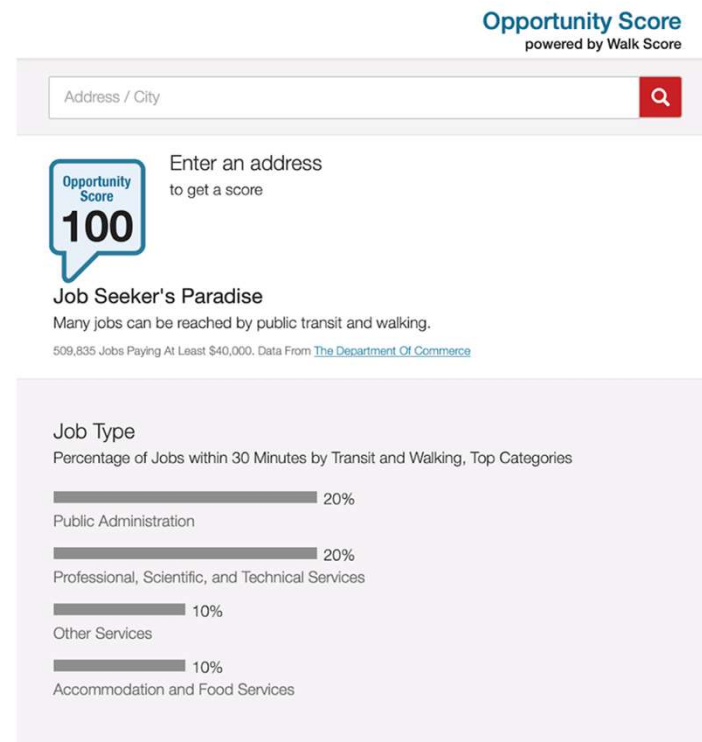
Pathways to Job Opportunity: How Our Scores Stack Up

Opportunity Score	Description
75-100	Job Seekers' Paradise Many jobs can be reached by public transit and walking.
50-74	Good Job Accessibility Public transportation to jobs is available but less convenient.
25-49	Some Job Accessibility A car is probably needed to get to most jobs.
0-24	Limited Job Accessibility You're unlikely to get to work in thirty minutes, with or without a car.

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How We Built Opportunity Score

Additional data provided: Breakdown of the distribution of job categories accessible within the 30 minute carless commute from the address of interest:



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How We Built Opportunity Score

Additional data provided:

Real-time median asking price data from Redfin.com within the 30-minute commutable region updated daily.

Real-time median asking rents from walkscore.com within the 30-minute commutable region updated daily.

A series of python scripts queried our databases daily to check for active asking prices and rents by bedroom and stored by region within the database

Home Prices Median

\$454K
1 Bedroom

\$800K
2 Bedroom

\$1.5M
3 Bedroom

\$2.9M
4 Bedroom

Rental Prices Median

\$2.4K
[1 Bedroom](#)

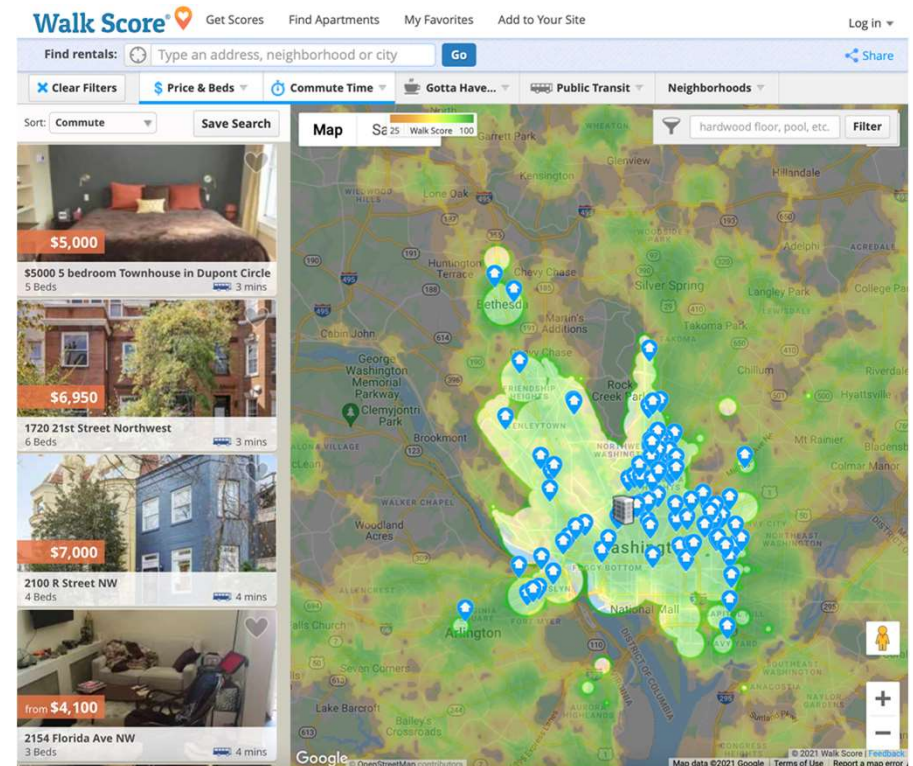
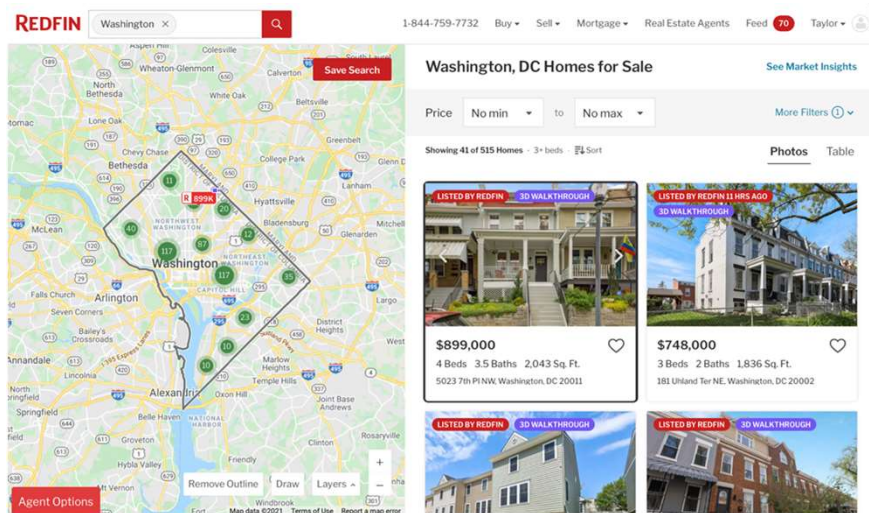
\$3.3K
[2 Bedroom](#)

\$4.4K
[3 Bedroom](#)

\$5.6K
[4 Bedroom](#)

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How We Built Opportunity Score

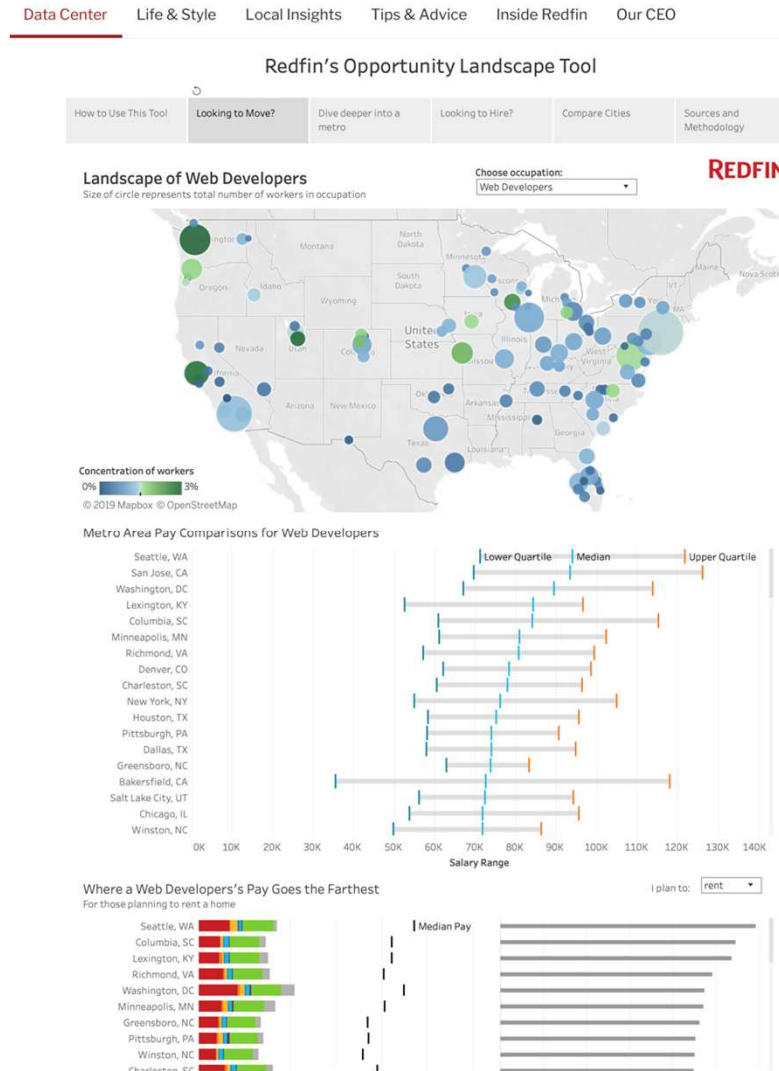


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Additional Opportunity Tools: Job Opportunity Tool

Shows metro-area job clusters and metro-area pay ranges for a given occupation from the Bureau of Labor Statistics and compares various components of cost of living to evaluate disposable income.

<https://www.redfin.com/blog/job-opportunity-tool/>



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Thank You!

Q&A