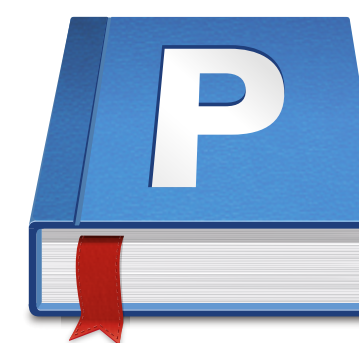


Parkopedia
2019 Parking
Index
North
America



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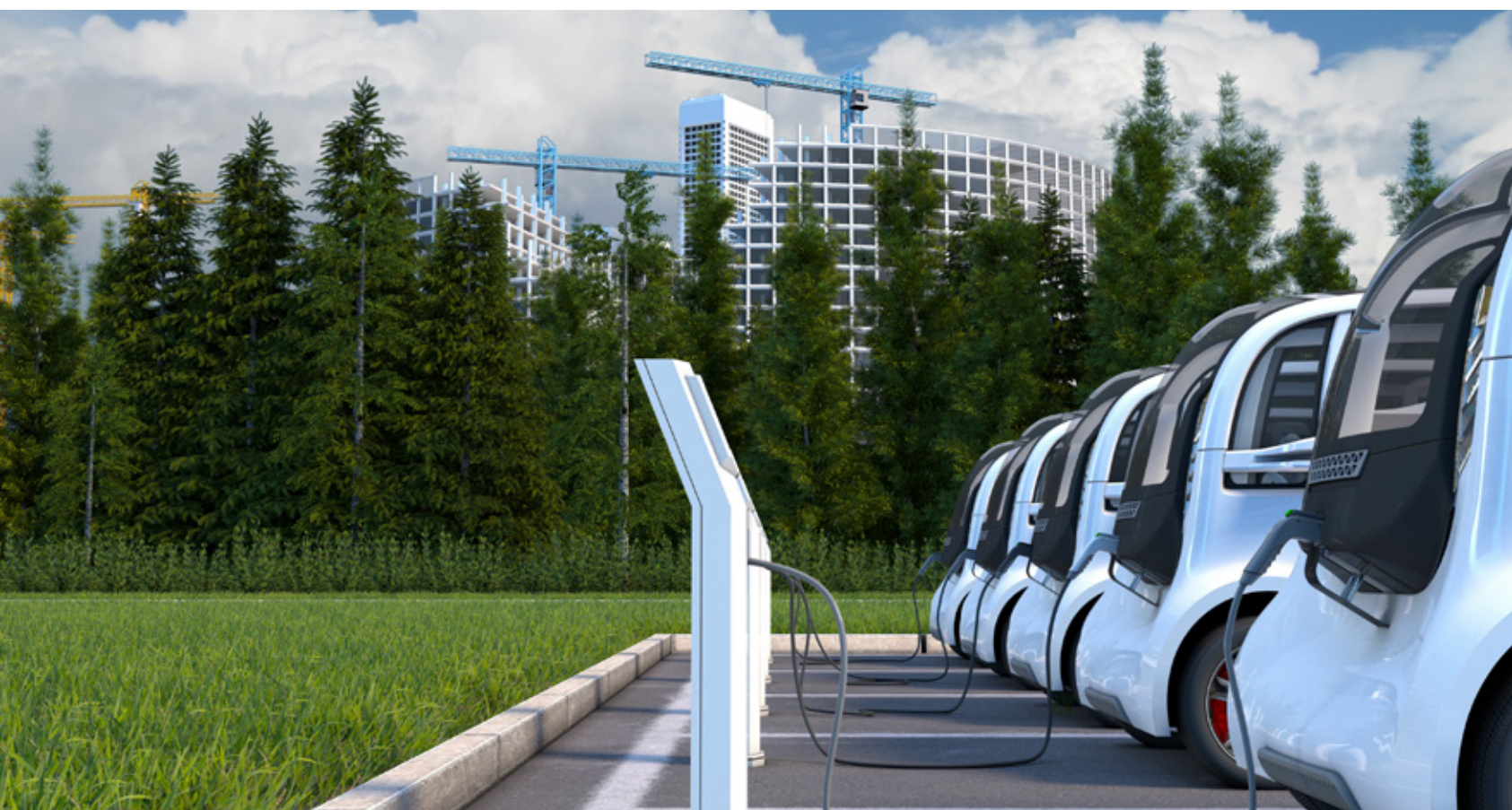
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1.0 Executive Summary



1.0 Executive Summary



In 2019, New York retains its position as North America's most expensive city for 2-hour off-street parking versus 2017, with Chicago and Boston in second and third place. Montreal moves ahead of Calgary as the most expensive Canadian city for paid 2-hour off-street parking.

New York is also the most expensive North American city for short-term on-street parking; Miami Beach and Chicago are in second and third place respectively. Montreal is the most expensive Canadian city for paid 2-hour on-street parking, as well as off-street.

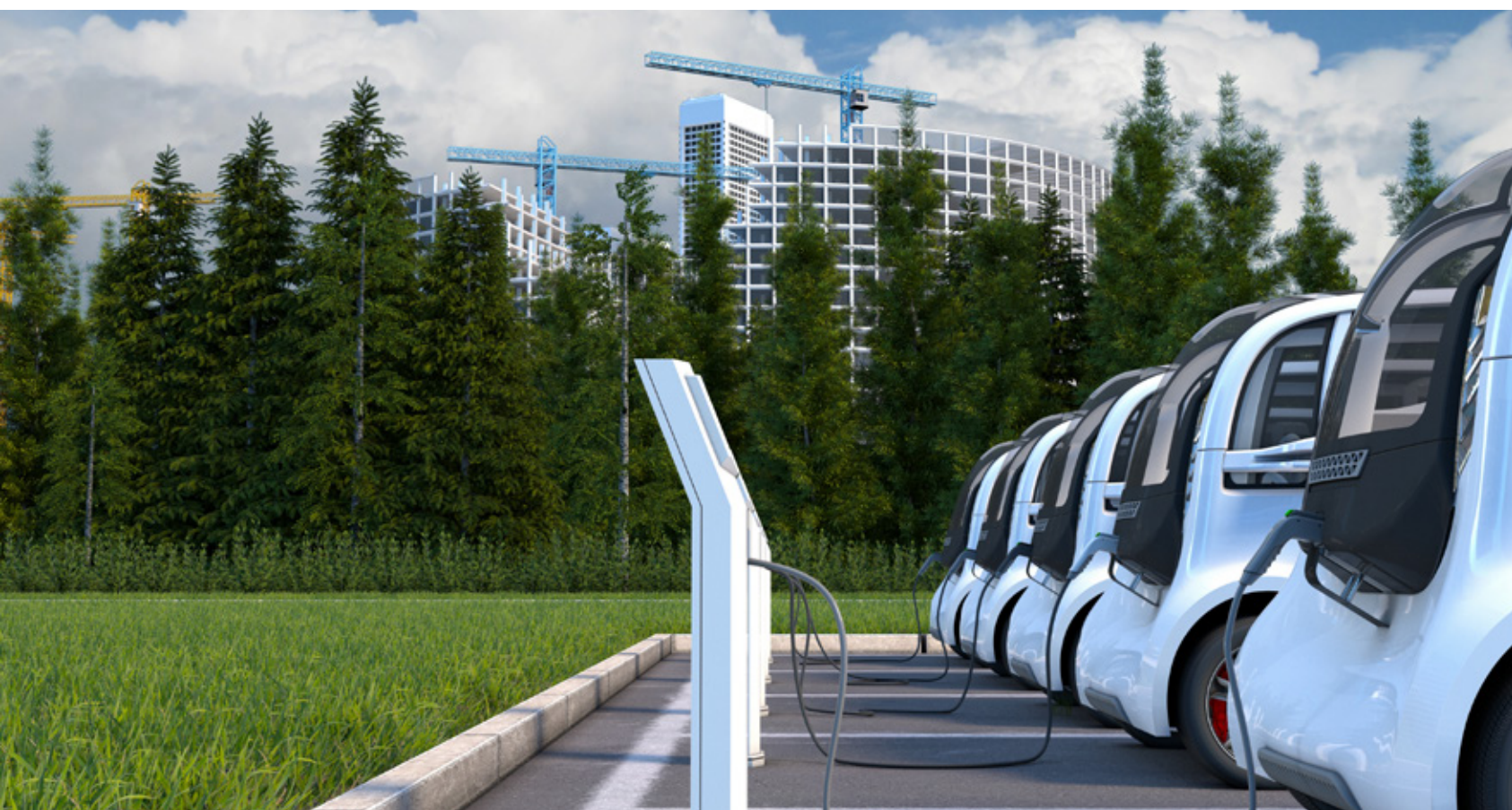
In the majority of cities in North America, 2-hour on-street prices are significantly cheaper than off-street parking rates; only Miami Beach has cheaper off-street parking.

As in 2017, New York, Boston and Chicago are still the most expensive for daily parking.

New York is once again the most expensive North American city for monthly parking, with Boston in second as it was in 2017, with San Francisco pushed into fourth place behind Jersey City.



2.0 Methodology



2.0 Methodology



Prices were calculated as the mean of corresponding parking rates for all publicly available paid off-street and on-street parking locations in a city centre, based on Parkopedia's global dataset of 70 million parking spaces across 89 countries:

2 hour parking: 2 hour stay on a weekday (1100-1300 on a Wednesday)

Daily parking: 8 hour stay on a weekday (0930-1730 on a Wednesday)

Monthly parking: Unreserved monthly rate (a space is guaranteed but it is not a dedicated space)

Average price is calculated as:

$$\frac{\sum_{i=1}^n Price_i}{n}$$

Average density is calculated as:

$$\frac{\sum_{i=1}^n Spaces_i}{Area\ of\ Hexagon}$$

Average yield is calculated as:

$$\frac{\sum_{i=1}^n (Price_i \times Occupancy_i \times Spaces_i)}{\sum_{i=1}^n Spaces_i}$$

Occupancy levels are based on [Parkopedia's dynamic data](#), a combination of real-time data and sophisticated predictive models to determine parking space availability at any given time.

Note: Base data in this report includes only paid parking spaces; free-to-park locations are excluded for the purposes of average price calculations.



3.0 North America Pricing



3.1 Top 50 Cities for 2-hour Off-Street Prices



Rank	Country	State	City	Average 2-hr price USD	Rank	Country	State	City	Average 2-hr price USD
1	United States	NY	New York	\$37.07	26	United States	TX	Houston	\$8.98
2	United States	IL	Chicago	\$21.18	27	United States	CA	Santa Monica	\$8.77
3	United States	MA	Boston	\$20.63	28	United States	LA	New Orleans	\$8.69
4	United States	PA	Philadelphia	\$16.55	29	United States	CA	Sacramento	\$8.36
5	United States	DC	Washington	\$16.33	30	United States	OR	Portland	\$8.07
6	United States	CO	Denver	\$12.90	31	United States	PA	Pittsburgh	\$7.98
7	United States	CA	San Francisco	\$12.35	32	United States	VA	Arlington	\$7.80
8	United States	CA	Los Angeles	\$12.10	33	United States	CA	Long Beach	\$7.74
9	United States	CA	San Diego	\$11.81	34	United States	CA	Pasadena	\$7.62
10	United States	FL	Miami	\$11.54	35	United States	TX	Dallas	\$7.53
11	United States	MD	Baltimore	\$11.26	36	United States	GA	Atlanta	\$7.48
12	United States	RI	Providence	\$10.93	37	Canada	ON	Ottawa	\$7.37
13	United States	NJ	Newark	\$10.89	38	United States	MN	Minneapolis	\$7.36
14	United States	NJ	Jersey City	\$10.85	39	United States	OH	Cleveland	\$7.04
15	United States	TN	Nashville	\$10.03	40	Canada	AB	Edmonton	\$7.02
16	Canada	QC	Montreal	\$9.83	41	United States	CT	Hartford	\$7.02
17	United States	CA	San Jose	\$9.73	42	Canada	BC	Vancouver	\$7.01
18	Canada	AB	Calgary	\$9.69	43	United States	MO	Kansas City	\$7.00
19	Canada	ON	Toronto	\$9.67	44	United States	VA	Alexandria	\$6.76
20	United States	WA	Seattle	\$9.65	45	United States	TX	San Antonio	\$6.64
21	United States	CA	Oakland	\$9.61	46	Canada	QC	Quebec	\$6.61
22	United States	TX	Austin	\$9.48	47	United States	CT	New Haven	\$6.61
23	United States	HI	Honolulu	\$9.40	48	United States	WI	Milwaukee	\$6.28
24	United States	WA	Bellevue	\$9.02	49	United States	OH	Columbus	\$6.22
25	United States	IN	Indianapolis	\$9.00	50	United States	OH	Cincinnati	\$5.43

In 2019, New York retains its position as North America's most expensive city for 2-hour off-street parking, with an average of \$37.07 for 2-hrs.

Chicago and Boston switch places versus their 2017 rankings, and Washington DC, Philadelphia, and Denver all leap-frog San Francisco for average short-term parking rates.

Montreal is the most expensive Canadian city for 2-hour off-street parking in 2019, overtaking 2017's most expensive city Calgary.

3.2 Map of Top 10 Cities: 2-hour Off-Street



3.3 Top 50 Cities for 2-hour On-Street Prices



Rank	Country	State	City	Average 2-hr Price USD	Rank	Country	State	City	Average 2-hr Price USD
1	United States	NY	New York	\$8.34	26	United States	CT	New Haven	\$2.99
2	United States	FL	Miami Beach	\$7.42	27	United States	MI	Ann Arbor	\$2.94
3	United States	IL	Chicago	\$6.99	28	United States	MI	Kalamazoo	\$2.91
4	United States	WA	Seattle	\$6.35	29	United States	TX	Houston	\$2.90
5	United States	FL	Miami	\$5.90	30	United States	AZ	Tempe	\$2.83
6	United States	LA	New Orleans	\$5.58	31	United States	AZ	Phoenix	\$2.82
7	United States	CA	San Francisco	\$5.33	32	United States	CA	Long Beach	\$2.65
8	United States	FL	Hollywood	\$5.04	33	United States	IN	Indianapolis	\$2.59
9	United States	PA	Philadelphia	\$4.99	34	United States	CO	Boulder	\$2.57
10	United States	DC	Washington	\$4.68	35	United States	RI	Providence	\$2.50
11	Canada	QC	Montreal	\$4.31	36	United States	CA	San Diego	\$2.38
12	Canada	ON	Toronto	\$4.10	37	United States	TX	Austin	\$2.28
13	United States	CA	Los Angeles	\$4.07	38	Canada	NS	Halifax	\$2.25
14	United States	UT	Salt Lake City	\$4.00	39	Canada	ON	London	\$2.25
15	United States	CA	San Jose	\$4.00	40	United States	CA	Fresno	\$2.21
16	United States	GA	Atlanta	\$4.00	41	United States	OH	Columbus	\$2.14
17	United States	PA	Pittsburgh	\$3.98	42	United States	FL	West Palm Beach	\$2.12
18	Canada	BC	Vancouver	\$3.94	43	United States	MI	Detroit	\$2.09
19	United States	CA	Sacramento	\$3.72	44	United States	CO	Denver	\$2.01
20	United States	OR	Portland	\$3.54	45	United States	TX	El Paso	\$2.00
21	United States	MN	St Paul	\$3.52	46	United States	AL	Birmingham	\$2.00
22	United States	MA	Boston	\$3.51	47	United States	NJ	Newark	\$2.00
23	United States	MD	Baltimore	\$3.46	48	United States	TX	Juárez	\$2.00
24	United States	VA	Arlington	\$3.42	49	United States	WA	Tacoma	\$2.00
25	United States	MO	St. Louis	\$3.00	50	United States	IN	Bloomington	\$2.00

New York is also the most expensive North American city for short-term on-street parking; Miami Beach and Chicago move into second and third place respectively.

Montreal is the most expensive Canadian city for both on-street and off-street parking.

3.4 Map of Top 10 Cities: 2-hour On-Street



3.5 2-hr Parking: Greatest Difference Off-Street vs On-Street



Rank	Country	State	City	% Difference Off vs On	Rank	Country	State	City	% Difference Off vs On
1	United States	CO	Denver	541.79%	20	United States	CA	San Jose	143.25%
2	United States	MA	Boston	487.75%	21	Canada	ON	Toronto	135.85%
3	United States	NJ	Jersey City	450.76%	22	Canada	ON	London	135.11%
4	United States	NJ	Newark	444.50%	23	United States	CA	San Francisco	131.71%
5	United States	TX	Dallas	434.04%	24	Canada	QC	Montreal	128.07%
6	United States	CA	San Diego	396.22%	25	United States	VA	Arlington	128.07%
7	United States	NY	New York	344.48%	26	United States	OR	Portland	127.97%
8	United States	RI	Providence	337.20%	27	United States	CA	Sacramento	124.73%
9	United States	TX	Austin	315.79%	28	United States	CT	New Haven	121.07%
10	United States	MN	Minneapolis	271.72%	29	United States	PA	Pittsburgh	100.50%
11	United States	MO	Kansas City	250.00%	30	United States	FL	Miami	95.59%
12	United States	DC	Washington	248.93%	31	United States	WA	Tacoma	92.50%
13	United States	IN	Indianapolis	247.49%	32	Canada	NS	Halifax	88.44%
14	United States	PA	Philadelphia	231.66%	33	United States	GA	Atlanta	87.47%
15	United States	MD	Baltimore	225.43%	34	Canada	BC	Vancouver	77.92%
16	United States	TX	Houston	209.66%	35	United States	MO	St Louis	73.00%
17	United States	IL	Chicago	203.00%	36	United States	LA	New Orleans	55.73%
18	United States	CA	Los Angeles	197.30%	37	United States	WA	Seattle	51.97%
19	United States	CA	Long Beach	192.08%	38	United States	FL	Miami Beach	-27.76%

The majority of cities in North America have significantly more expensive 2-hour off-street parking prices versus on-street prices, and this is particularly noticeable in Denver, Boston, Jersey City, Newark and Dallas. Only Miami Beach has cheaper paid 2-hour off-street parking.

3.6 Top 50 Cities for Daily Off-Street Prices

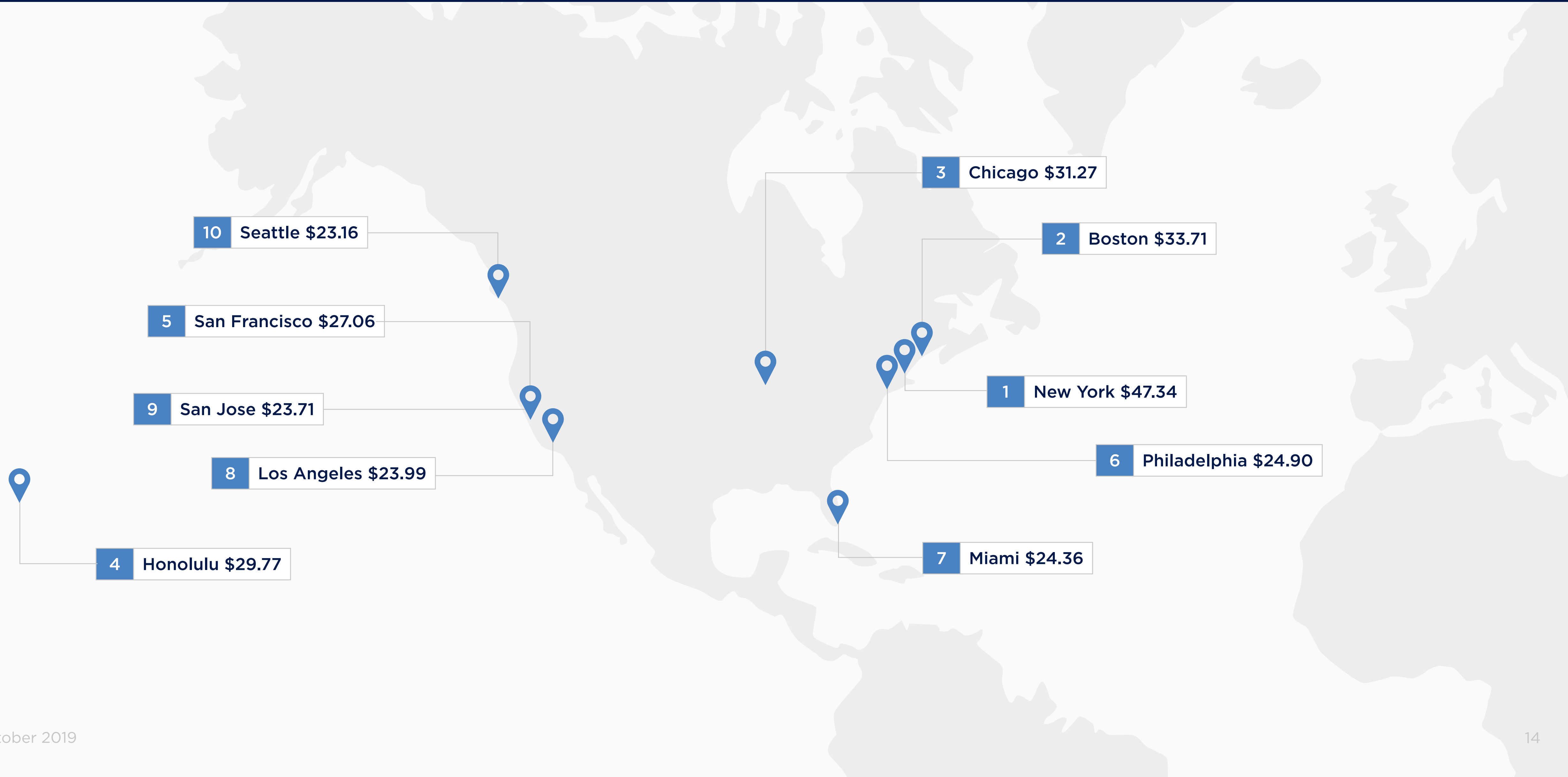


Rank	Country	State	City	Average daily price USD	Rank	Country	State	City	Average daily price USD
1	United States	NY	New York	\$47.34	26	United States	CA	Irvine	\$17.55
2	United States	MA	Boston	\$33.71	27	United States	NC	Charlotte	\$17.41
3	United States	IL	Chicago	\$31.27	28	United States	MD	Baltimore	\$17.40
4	United States	HI	Honolulu	\$29.77	29	United States	WA	Bellevue	\$17.35
5	United States	CA	San Francisco	\$27.06	30	United States	CA	La Jolla	\$17.29
6	United States	PA	Philadelphia	\$24.90	31	Canada	AB	Calgary	\$17.11
7	United States	FL	Miami	\$24.36	32	United States	MD	Alexandria	\$17.00
8	United States	CA	Los Angeles	\$23.99	33	United States	CT	New Haven	\$16.97
9	United States	CA	San Jose	\$23.71	34	United States	MI	Grand Rapids	\$16.79
10	United States	WA	Seattle	\$23.16	35	United States	RI	Providence	\$16.68
11	United States	DC	Washington	\$22.99	36	United States	SC	Charleston	\$16.17
12	United States	MI	Detroit	\$22.04	37	United States	CA	Long Beach	\$16.17
13	United States	CA	Santa Monica	\$22.03	38	United States	LA	New Orleans	\$16.12
14	United States	CA	Oakland	\$21.03	39	United States	FL	Fort Lauderdale	\$16.12
15	United States	CO	Denver	\$20.49	40	United States	CA	Berkeley	\$16.00
16	United States	TX	Corpus Christi	\$20.00	41	United States	NY	Niagara Falls	\$15.75
17	United States	CA	San Diego	\$19.95	42	United States	FL	Orlando	\$15.67
18	United States	TX	Austin	\$19.76	43	Canada	ON	Toronto	\$15.48
19	United States	TN	Nashville	\$19.56	44	United States	TX	Dallas	\$15.40
20	United States	NJ	Jersey City	\$19.54	45	United States	PA	Pittsburgh	\$15.39
21	United States	TX	Houston	\$19.39	46	United States	OR	Portland	\$15.25
22	United States	CA	Sacramento	\$19.00	47	United States	WI	Madison	\$15.15
23	United States	IN	Indianapolis	\$18.59	48	United States	VA	Virginia Beach	\$15.00
24	United States	CT	Hartford	\$18.37	49	United States	NJ	Newark	\$14.98
25	United States	FL	Miami Beach	\$17.77	50	United States	MN	Minneapolis	\$14.85

The same 3 cities that rank most expensive for 2-hour off-street pricing - New York, Boston and Chicago - are also the most expensive for daily parking, as was the case in 2017.

Honolulu, which ranks 23rd for 2-hr parking, moves up to 4th when looking at daily prices, and San Francisco moves from 8th to 5th. These two cities were in 5th and 4th position for North American daily parking rates in 2017.

3.7 Map of Top 10 Cities: Daily Off-Street



3.8 Top 50 Cities for Monthly Off-Street Prices



Rank	Country	State	City	Average monthly price USD	Rank	Country	State	City	Average monthly price USD
1	United States	NY	New York	\$655.19	26	United States	VA	Alexandria	\$143.13
2	United States	MA	Boston	\$337.14	27	United States	MD	Bethesda	\$141.67
3	United States	NJ	Jersey City	\$302.15	28	United States	MN	Minneapolis	\$140.50
4	United States	CA	San Francisco	\$296.90	29	United States	DE	Wilmington	\$140.15
5	United States	DC	Washington	\$273.35	30	Canada	ON	Ottawa	\$139.48
6	United States	PA	Philadelphia	\$258.46	31	United States	MI	Ann Arbor	\$138.75
7	United States	IL	Chicago	\$241.62	32	United States	CA	San Diego	\$138.12
8	United States	WA	Seattle	\$230.96	33	United States	VA	Arlington	\$137.87
9	United States	PA	Pittsburgh	\$204.84	34	United States	CA	Los Angeles	\$136.55
10	United States	RI	Providence	\$201.84	35	United States	CT	Hartford	\$134.29
11	Canada	ON	Toronto	\$192.36	36	Canada	MB	Winnipeg	\$128.27
12	United States	OR	Portland	\$191.53	37	United States	LA	New Orleans	\$128.26
13	United States	WA	Bellevue	\$183.70	38	United States	FL	Miami Beach	\$126.72
14	United States	CA	Berkeley	\$179.50	39	Canada	SK	Regina	\$126.00
15	United States	CO	Denver	\$173.22	40	United States	TN	Nashville	\$125.87
16	United States	CA	Oakland	\$163.64	41	United States	TX	Fort Worth	\$125.18
17	United States	SC	Charleston	\$163.00	42	United States	OH	Cleveland	\$124.11
18	Canada	QC	Montreal	\$154.43	43	United States	MN	St Paul	\$123.70
19	United States	MI	Detroit	\$153.85	44	United States	AK	Anchorage	\$122.74
20	United States	TX	Austin	\$152.50	45	United States	TX	Dallas	\$122.47
21	United States	MD	Baltimore	\$152.32	46	Canada	SK	Saskatoon	\$122.14
22	United States	NJ	Newark	\$151.95	47	Canada	BC	Victoria	\$121.97
23	Canada	AB	Calgary	\$151.53	48	United States	CT	New Haven	\$121.25
24	United States	HI	Honolulu	\$147.40	49	United States	VA	Richmond	\$120.00
25	United States	WI	Madison	\$147.00	50	United States	TX	Houston	\$117.67

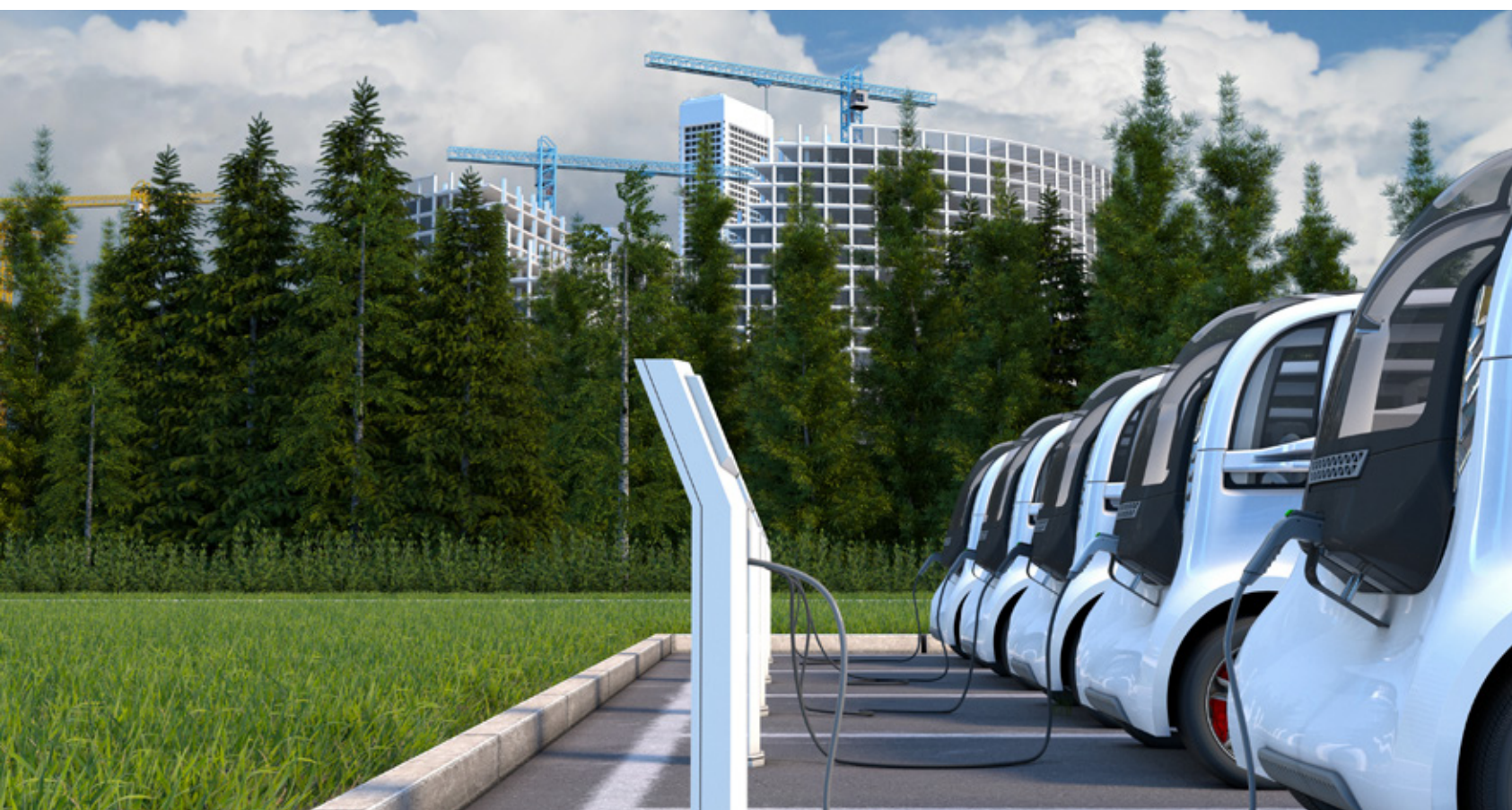
New York is once again the most expensive North American city for monthly parking, with Boston in second as it was in 2017, with San Francisco pushed into fourth place behind Jersey City.

3.9 Map of Top 10 Cities: Monthly Off-Street





4.0 Selected Cities: Price, Density and Estimated Yield



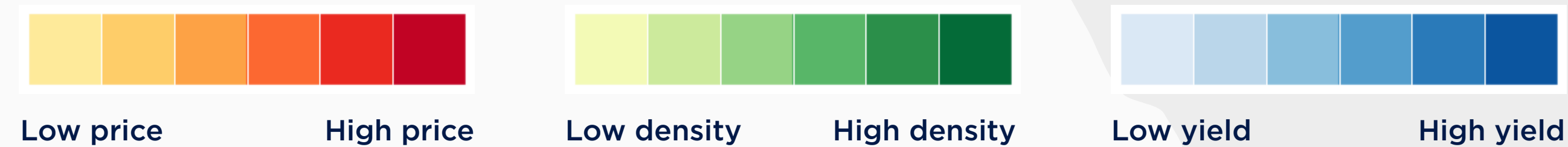


4.0 Selected Cities: Price, Density and Estimated Yield

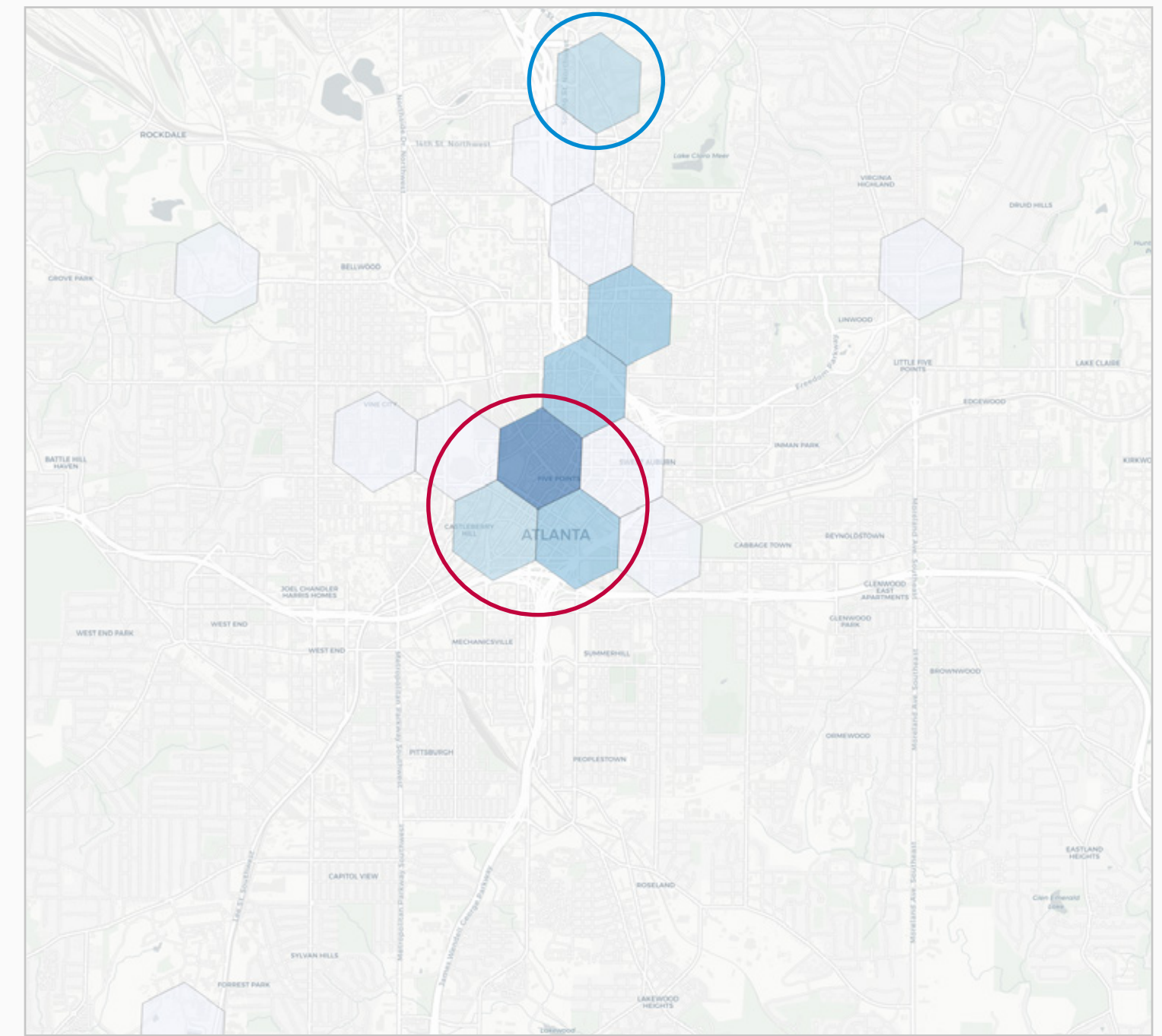
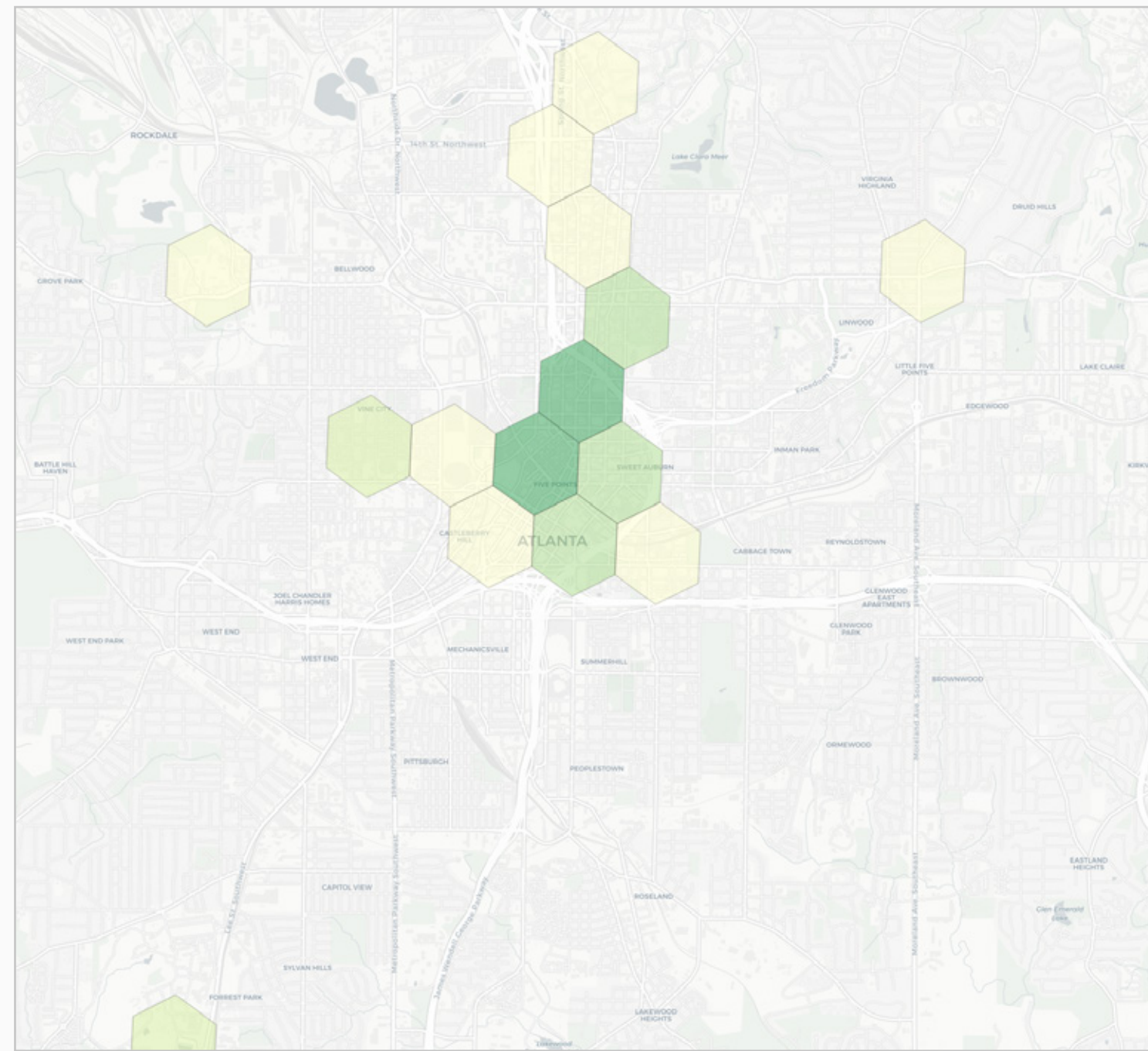
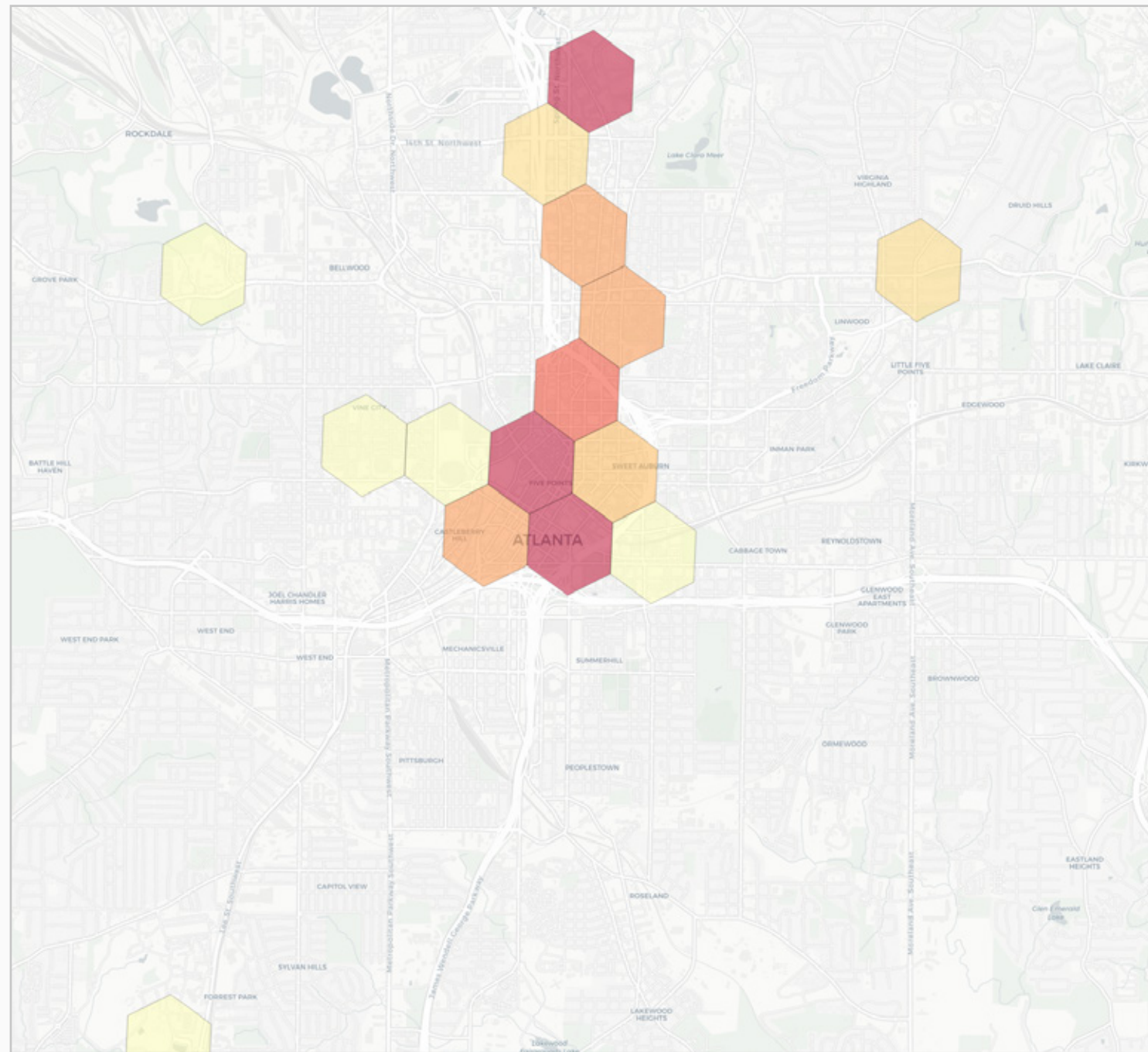
We have analyzed the distribution of 2-hour prices and parking space density for selected cities across North America, to provide a more detailed city-level view of the paid parking environment, and understand how specific Points of Interest might impact pricing and/or parking provision in the surrounding area.

We have also calculated an estimated yield, using the formula as per the methodology, to give guidance for parking providers, city or private development planners, to help understand possible future opportunities where parking may be over or under-provisioned. The yield is an estimate and does not reflect profitability, as costs may differ widely between cities and within cities, in particular the cost of real estate.

The tone of the hexagons in the heatmaps for each city indicate the relative strength of the feature analyzed.






4.1 Atlanta

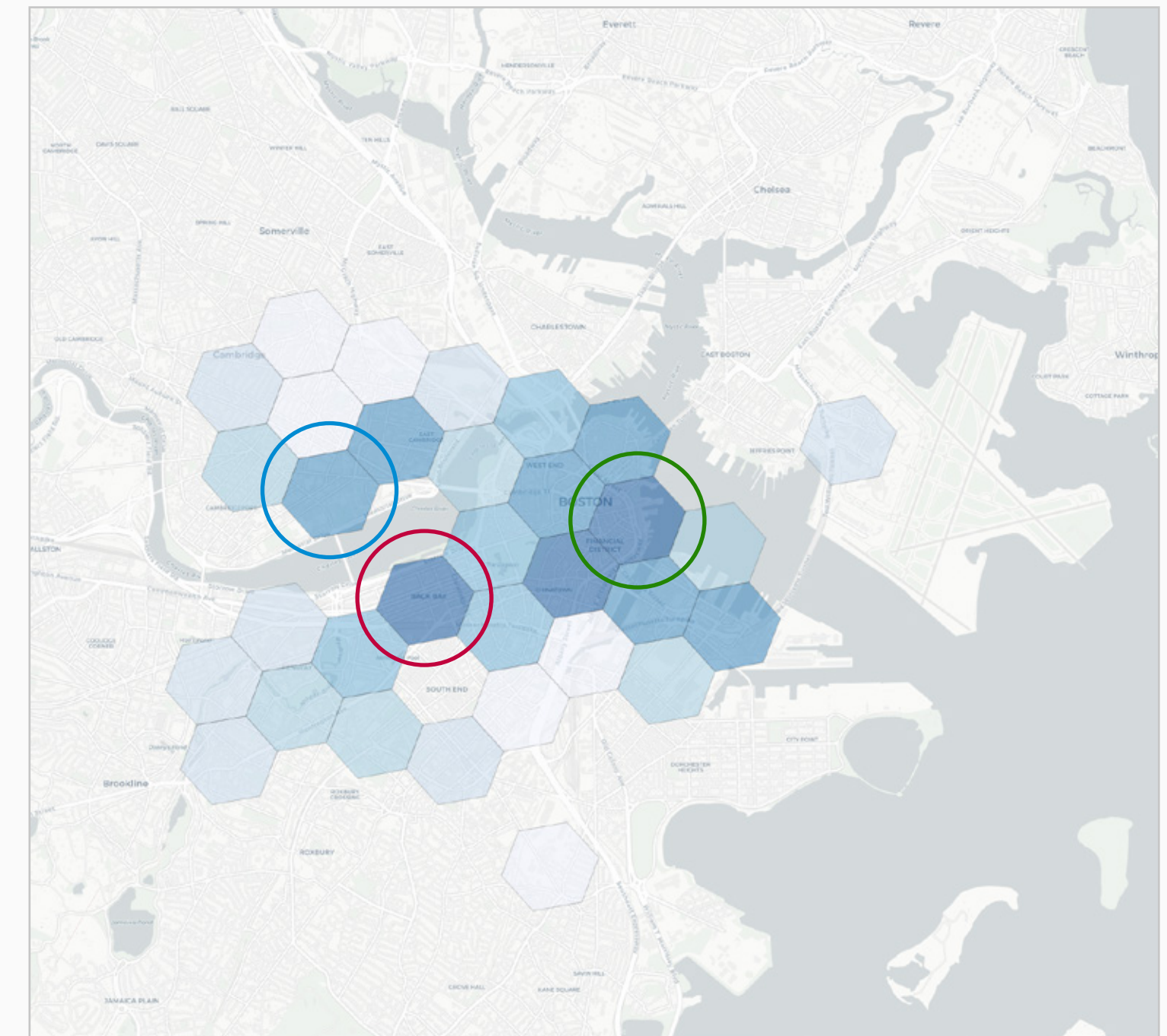
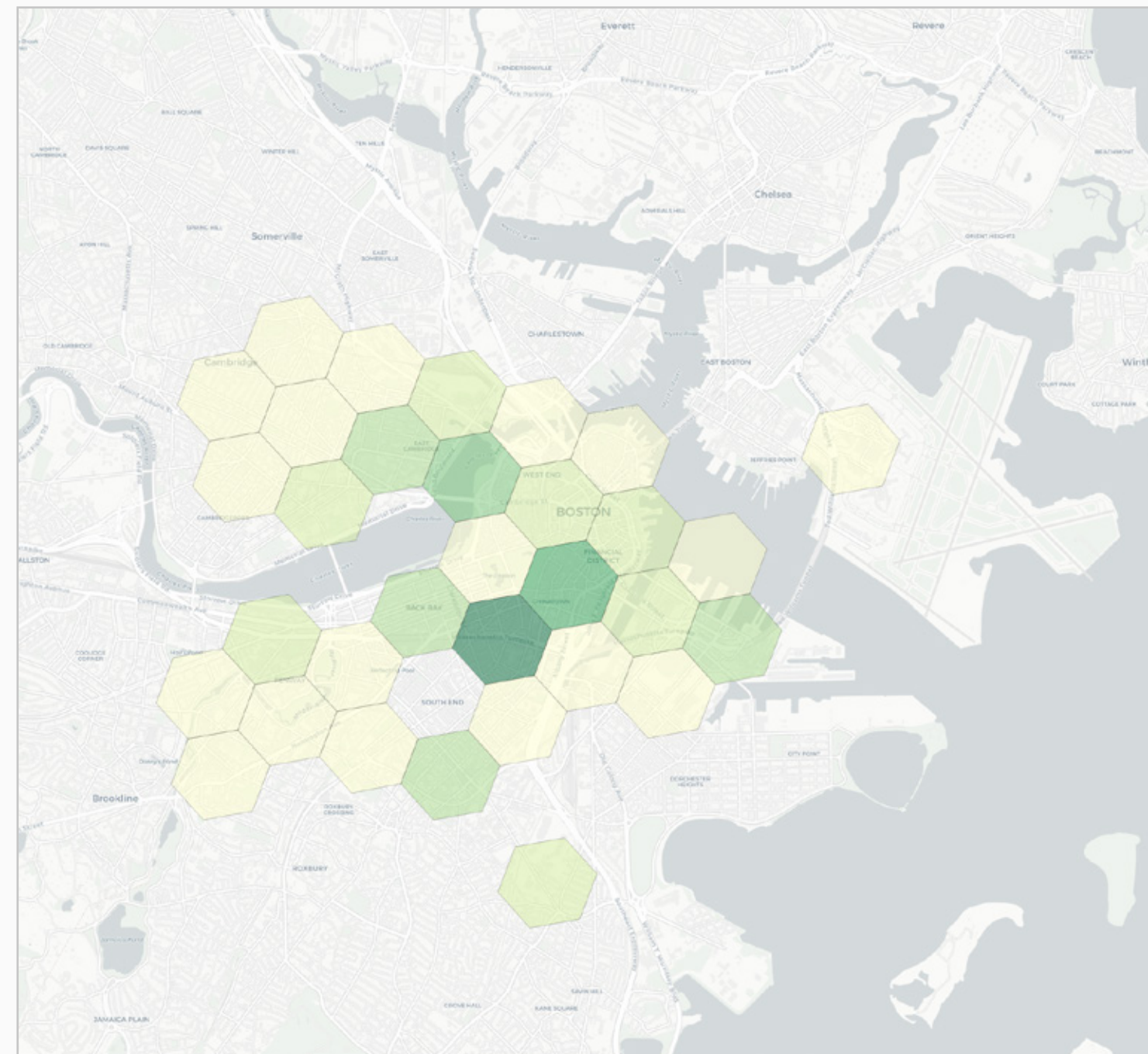
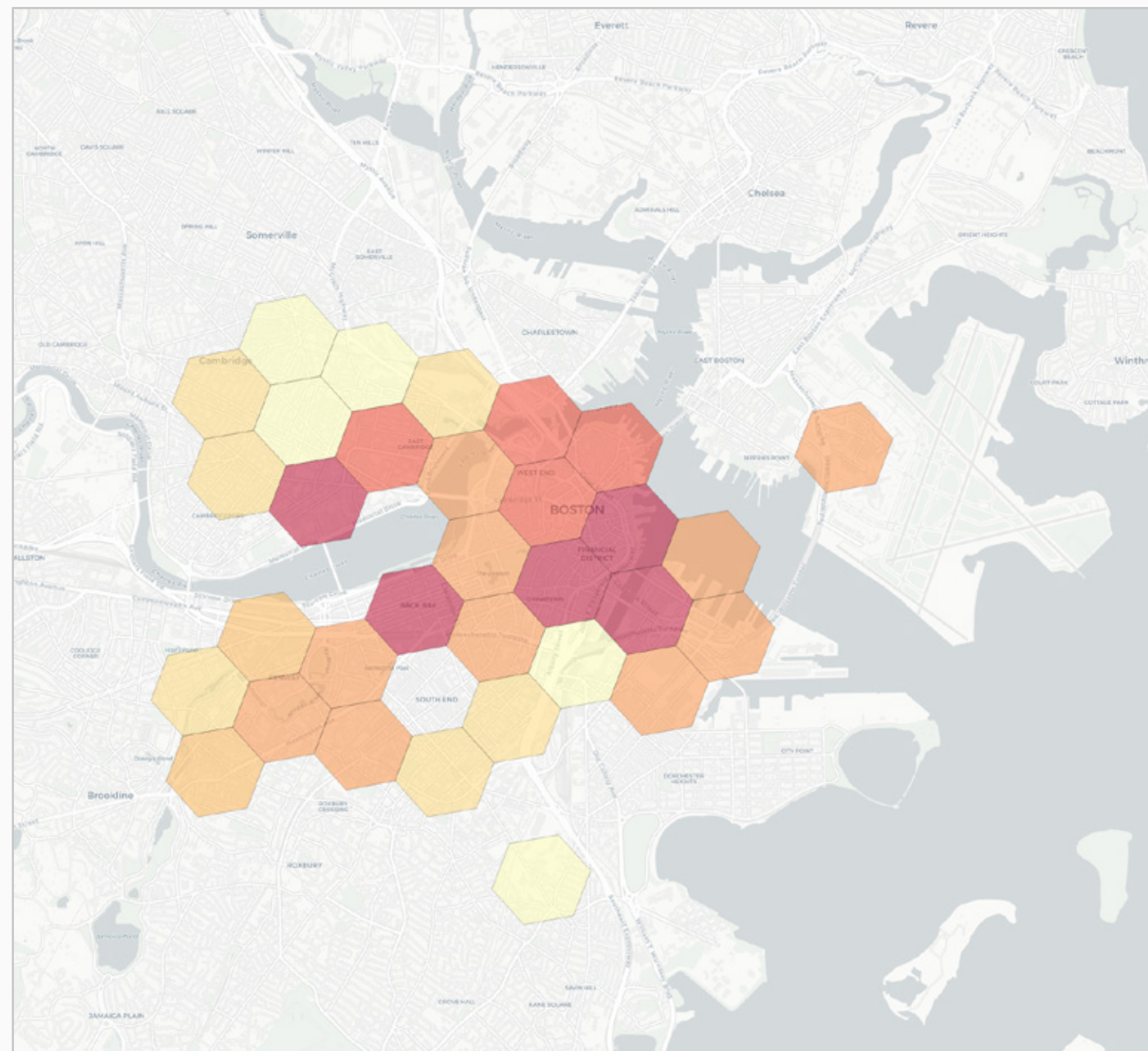


- Potential yield most closely mirrors the pricing distribution, with the highest yield coming from the Downtown area (red circle), which also has the highest density of parking.
- Yield in MidTown (blue circle) is higher than the surrounding area due to the higher prices, driven by shops, restaurants and bars, though it is not at the same level as Downtown Atlanta, due to lower occupancies.

Maps Key




-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.2 Boston

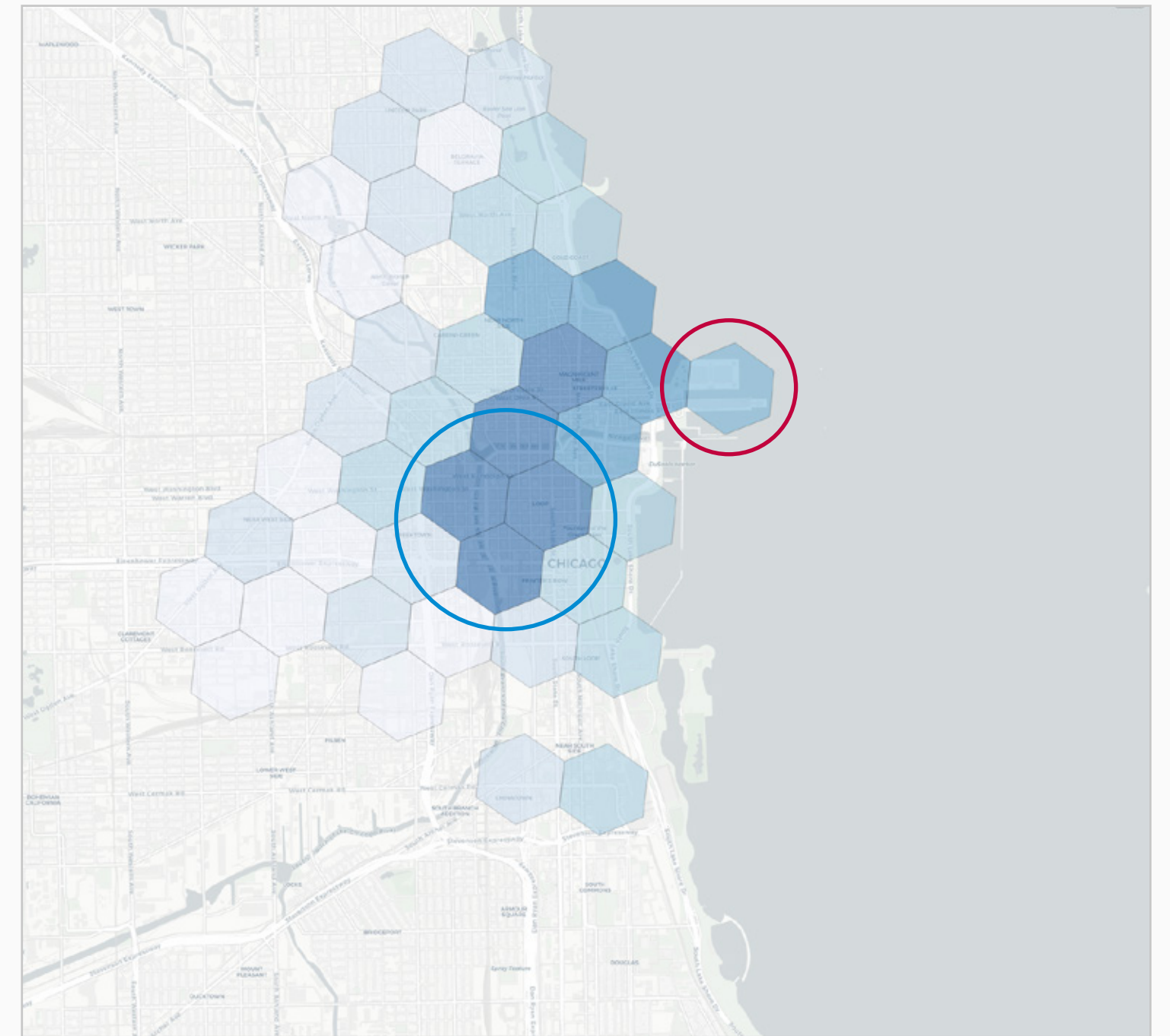
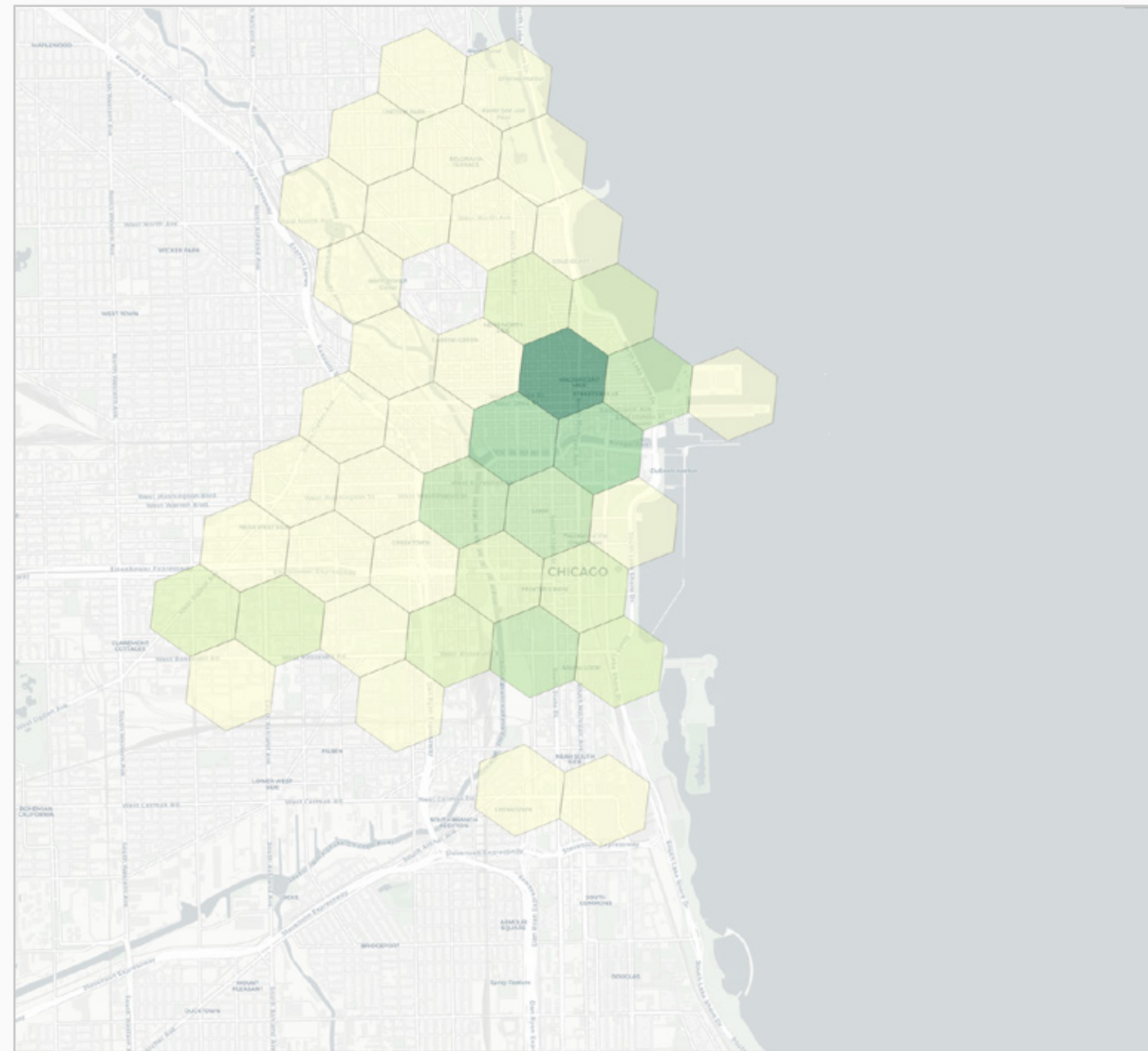
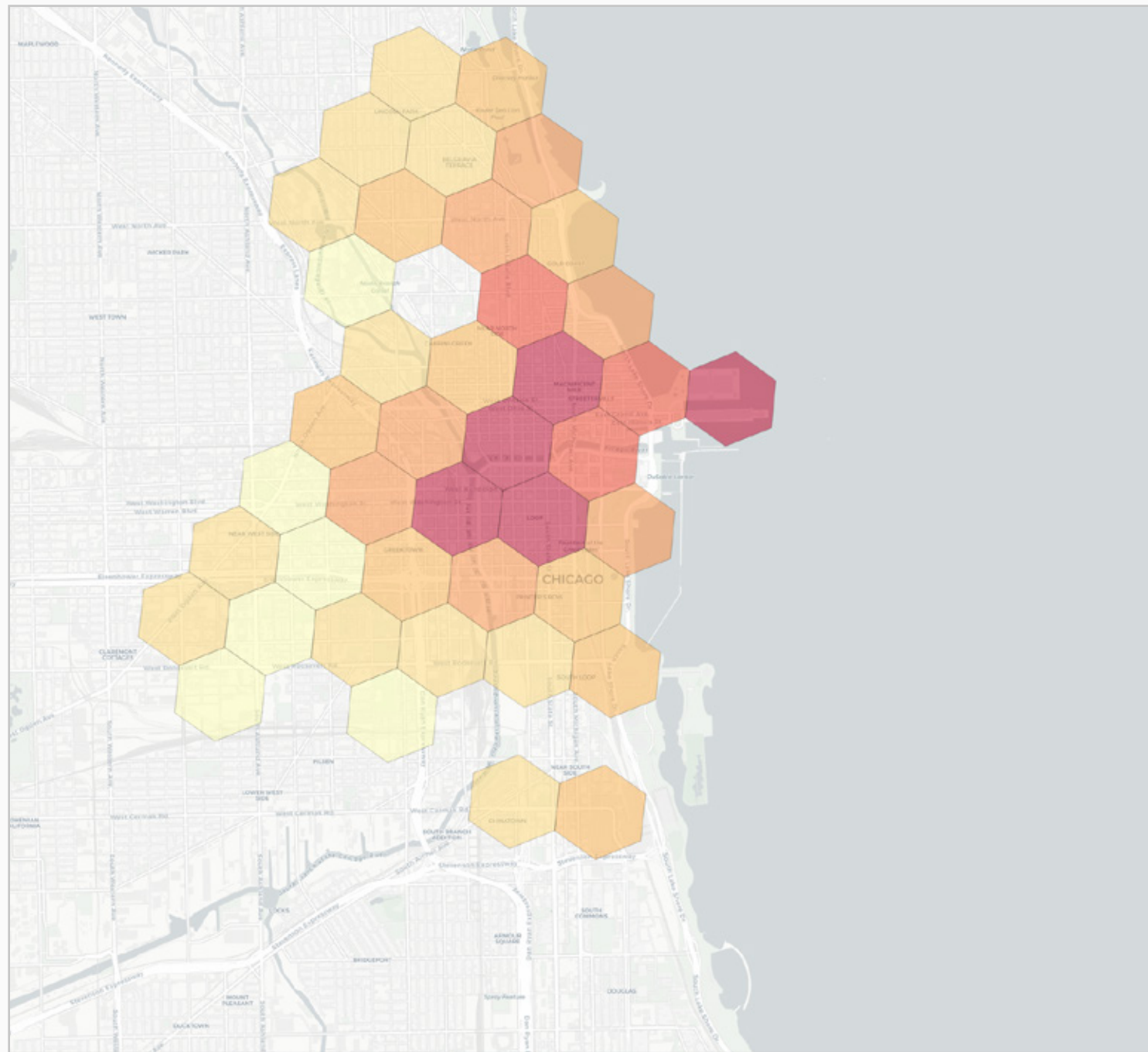


- The red circle includes two large shopping malls (Copley Place and the Prudential Centre), where demand is reflected in high prices, moderate provision and high occupancy, resulting in high yields;
- MIT is the location of the blue circle, providing a good yield from moderate provision of spaces and high prices;
- The green circle is Boston's downtown and financial area, where high prices, good provision of spaces and high occupancy leads to high yields.

Maps Key




-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.3 Chicago

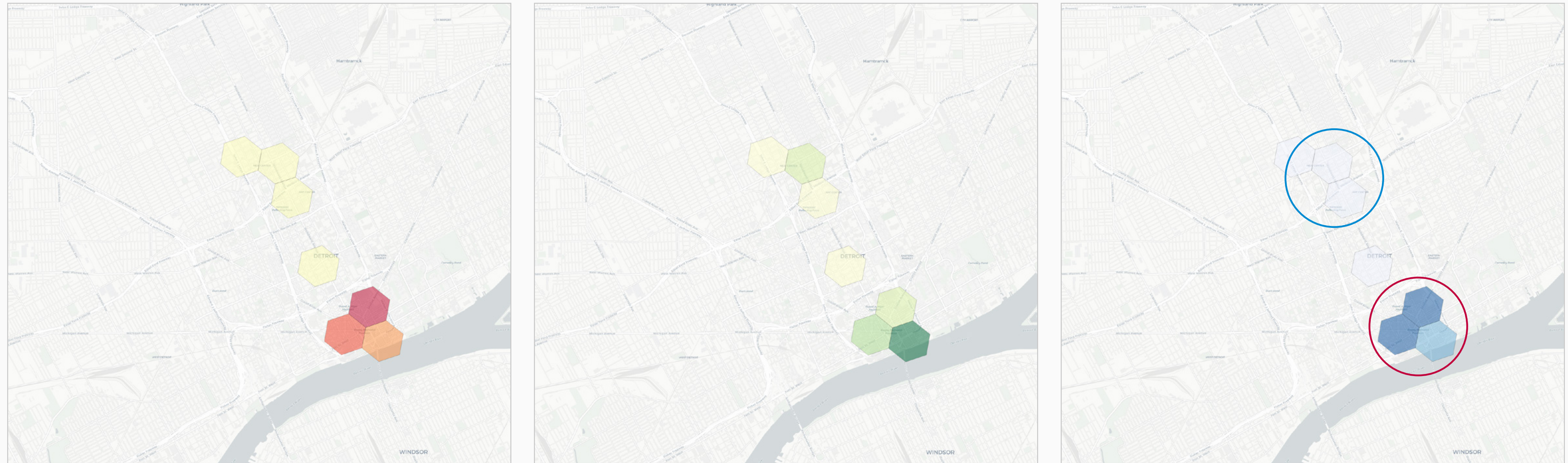


- Navy Pier, a Chicago landmark including the Centennial Wheel, Chicago Children’s Museum, and the Museum of Contemporary Art amongst other attractions, is shown in the red circle. This area has high pricing and good yield, although occupancy is lower than for downtown.
- The downtown and financial district of “The Windy City”, shown in the blue circle, is where high prices and high levels of occupancy deliver the best yield.

Maps Key

-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.4 Detroit

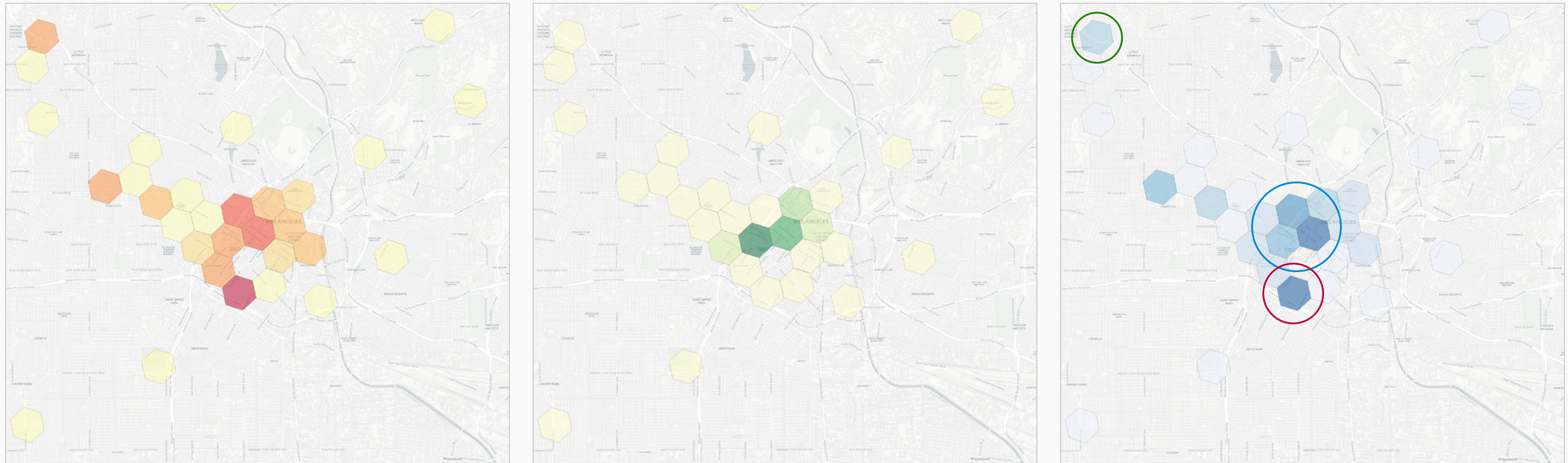


- The downtown and GreekTown areas (red circle) in Detroit have the highest prices, and also the highest occupancy, ensuring a good yield.
- There is moderate provision of off-street parking in the MidTown area (blue circle), where attractions include the Museum of Contemporary Art, the Charles Wright Museum, Michigan Children’s Hospital and Wayne State University

Maps Key

- Average 2-hour off-street price
- Parking provision density
- Estimated yield

4.5 Los Angeles

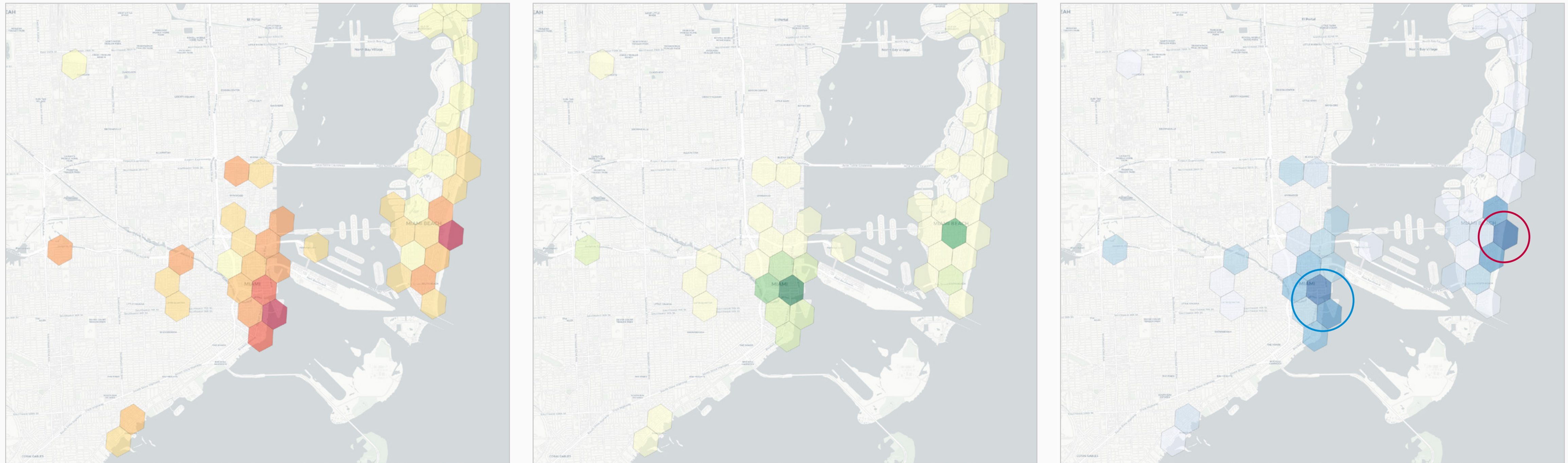


- The Fashion District of Los Angeles (red circle) provides a good yield due to the high prices and high levels of occupancy seen here.
- Numerous five star and boutique hotels, including the Sheraton Grand, Millennium Biltmore, The Los Angeles Athletic Club, etc, are situated in the Wilshire Boulevard/Flower Street area shown in the blue circle, driving up prices, occupancy and yield.
- Hollywood and the Beverly Hills area are shown in the green circle, with moderate prices and occupancy providing a reasonable yield.

Maps Key




- Average 2-hour off-street price
- Parking provision density
- Estimated yield

4.6 Miami

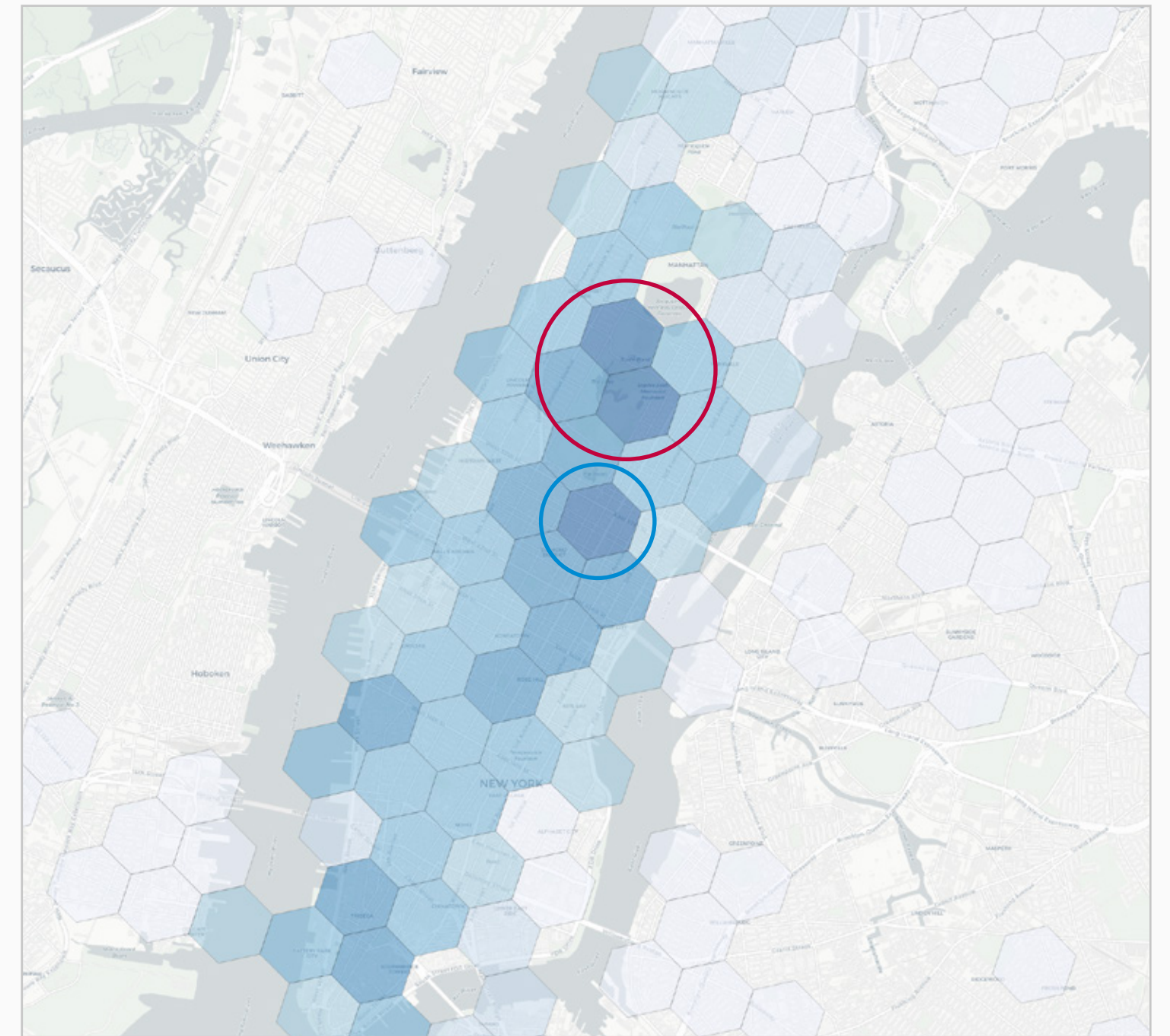
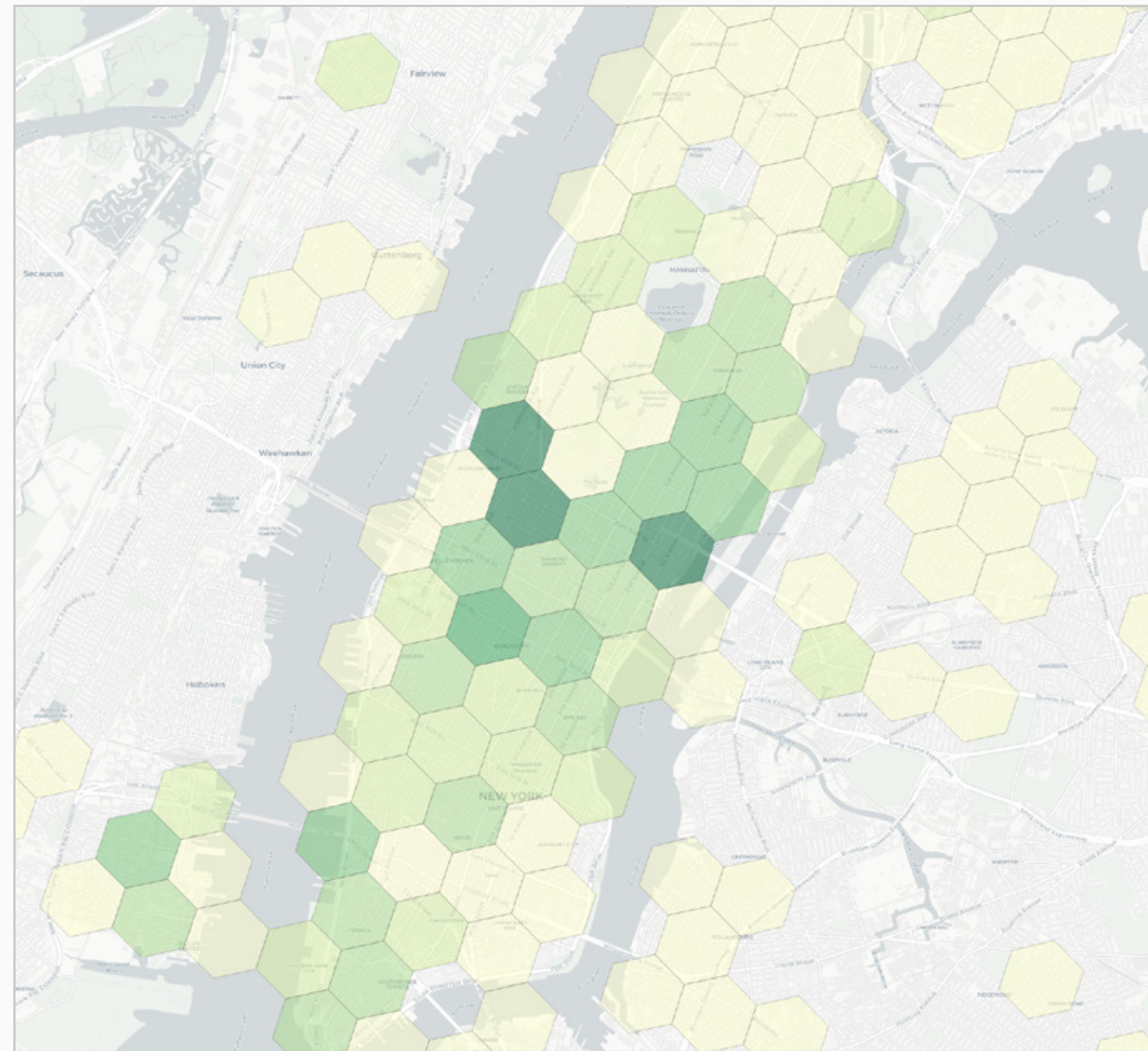
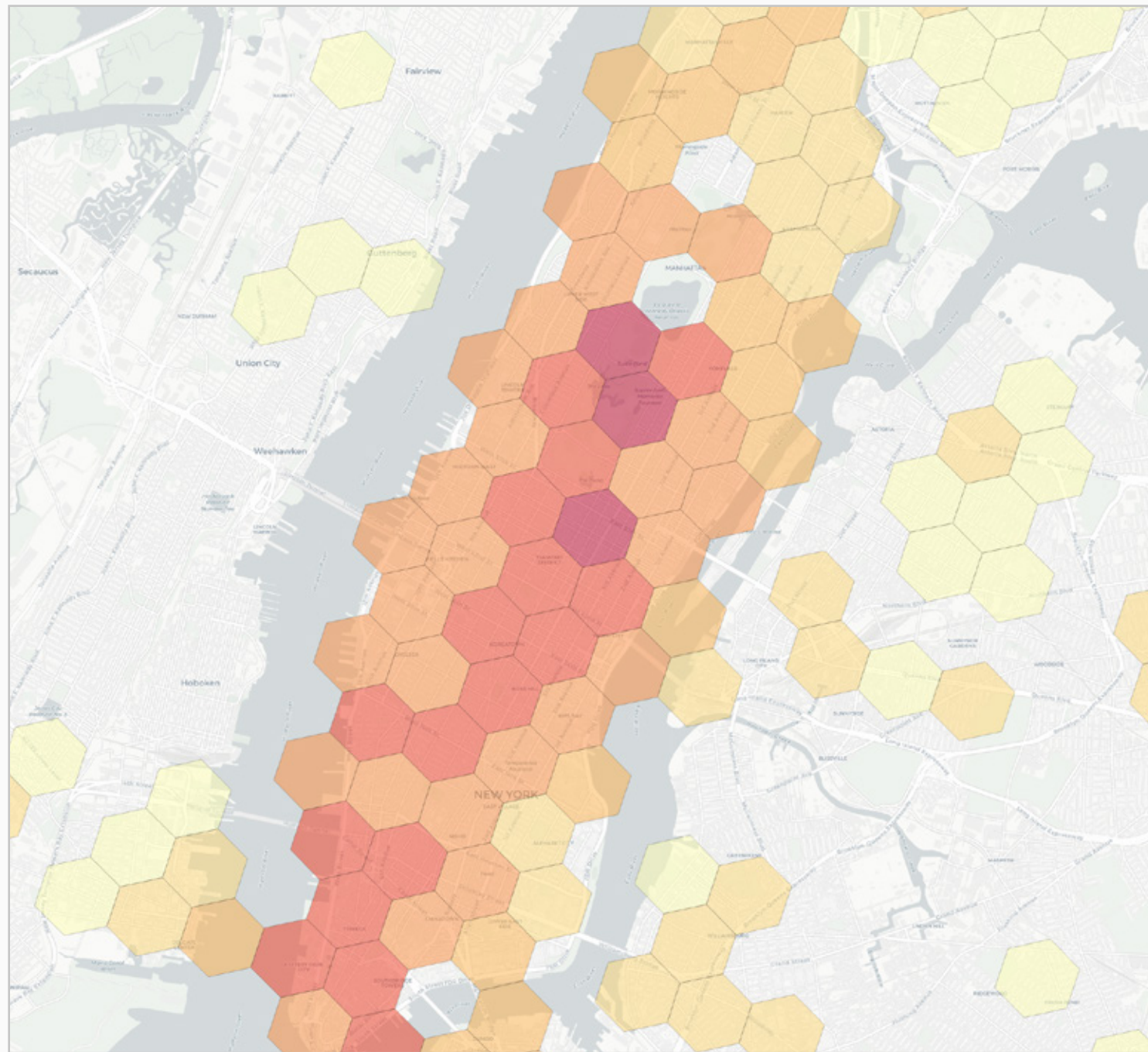


- In Miami Beach, the area shown in the red circle features the top hotels (Ritz-Carlton, Lowes, etc), pushing up prices, occupancy and therefore yield.
- Downtown Miami in the blue circle has the second highest prices, and combined with a high provision of spaces and high levels of occupancy, provides good yields.

Maps Key




-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.7 New York

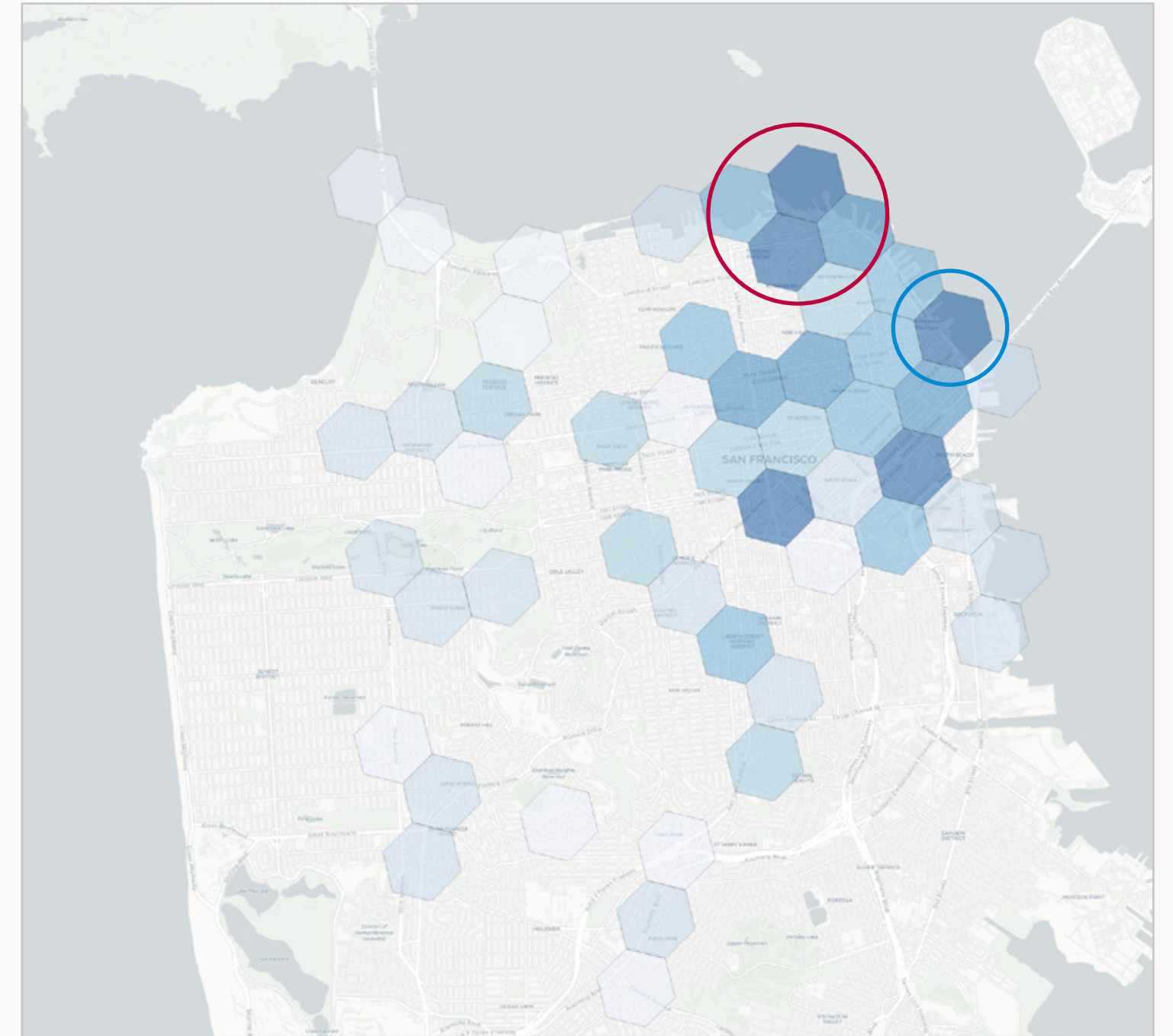
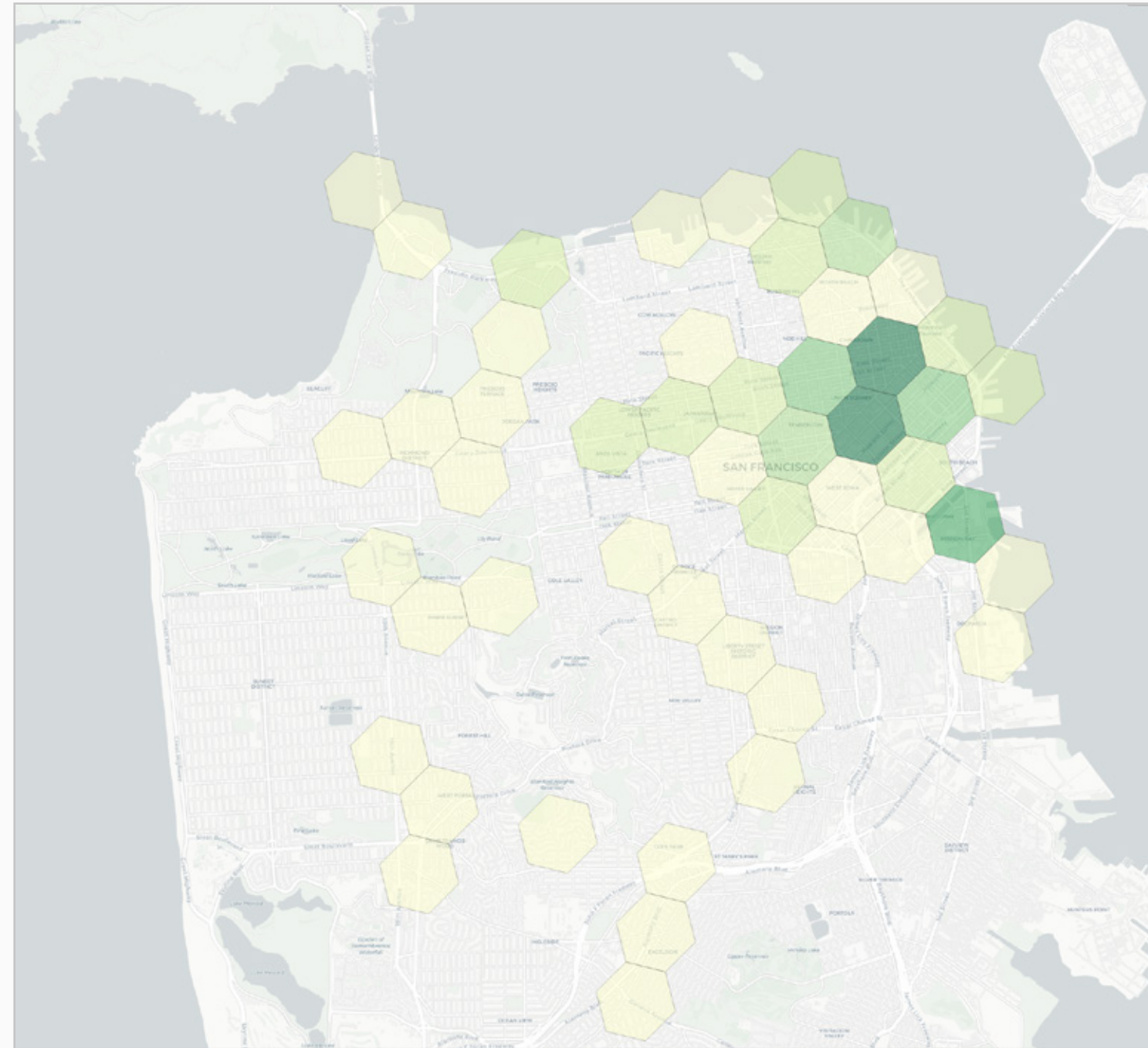
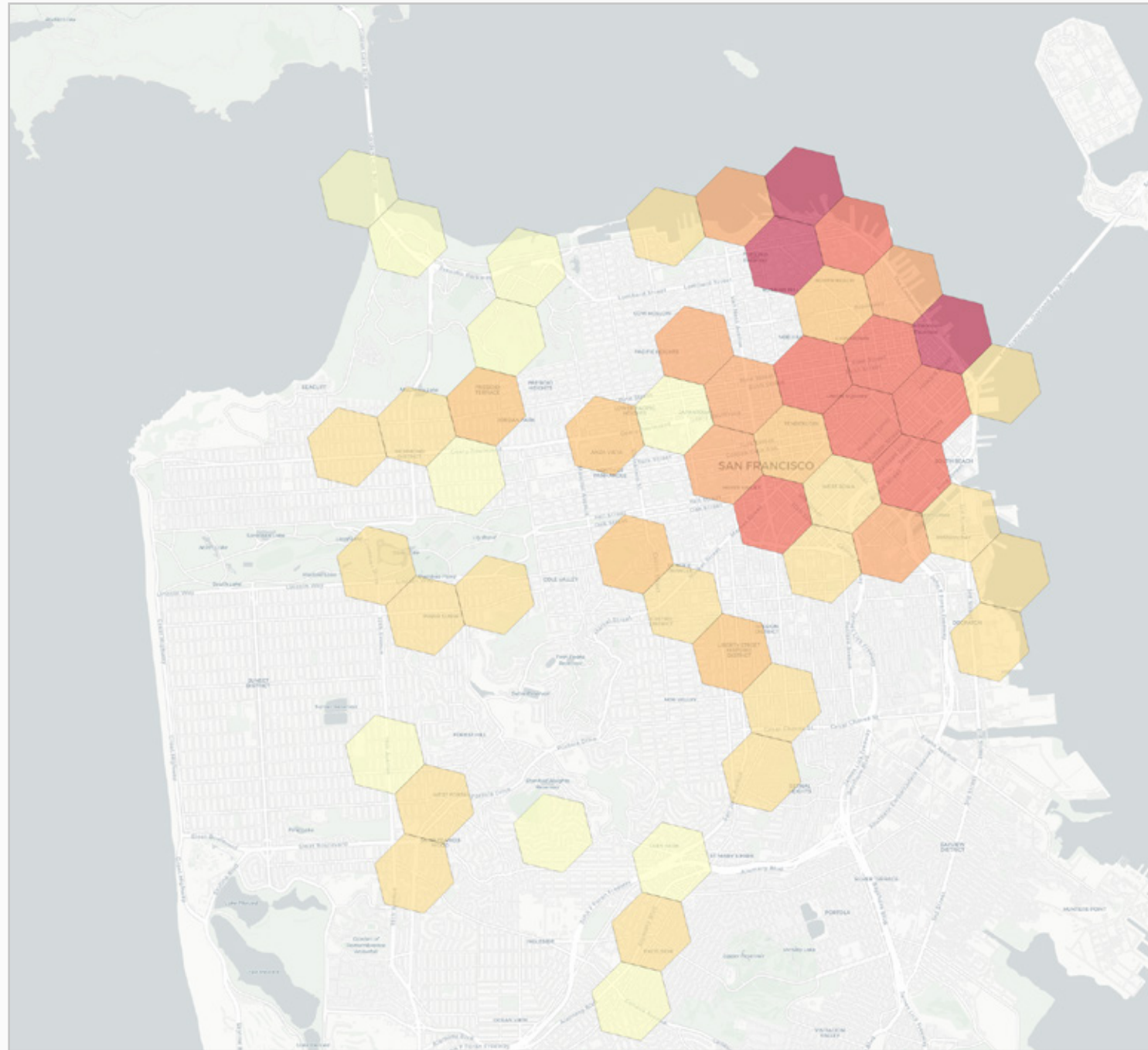


- The area just south of Central Park (red circle) features shopping and attractions including Carnegie Hall, the Museum of Modern Art and the Rockefeller centre, where high prices and high levels of demand and occupancy result in the highest yield in the city.
- Midtown Manhattan (blue circle) has many shops, restaurants and bars, which create demand that in turn leads to high prices and high occupancy, resulting in high yield.

Maps Key




-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.8 San Francisco

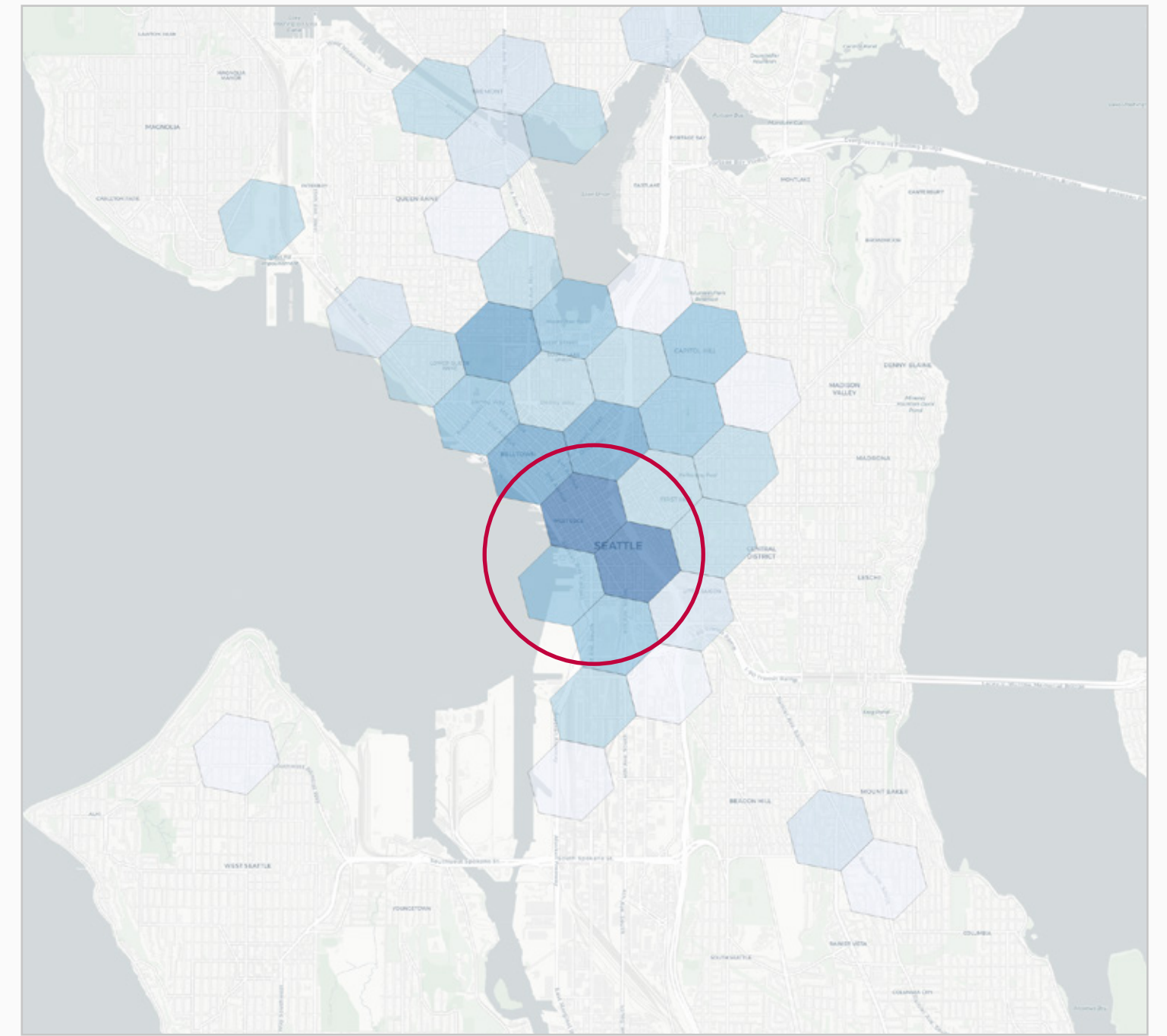
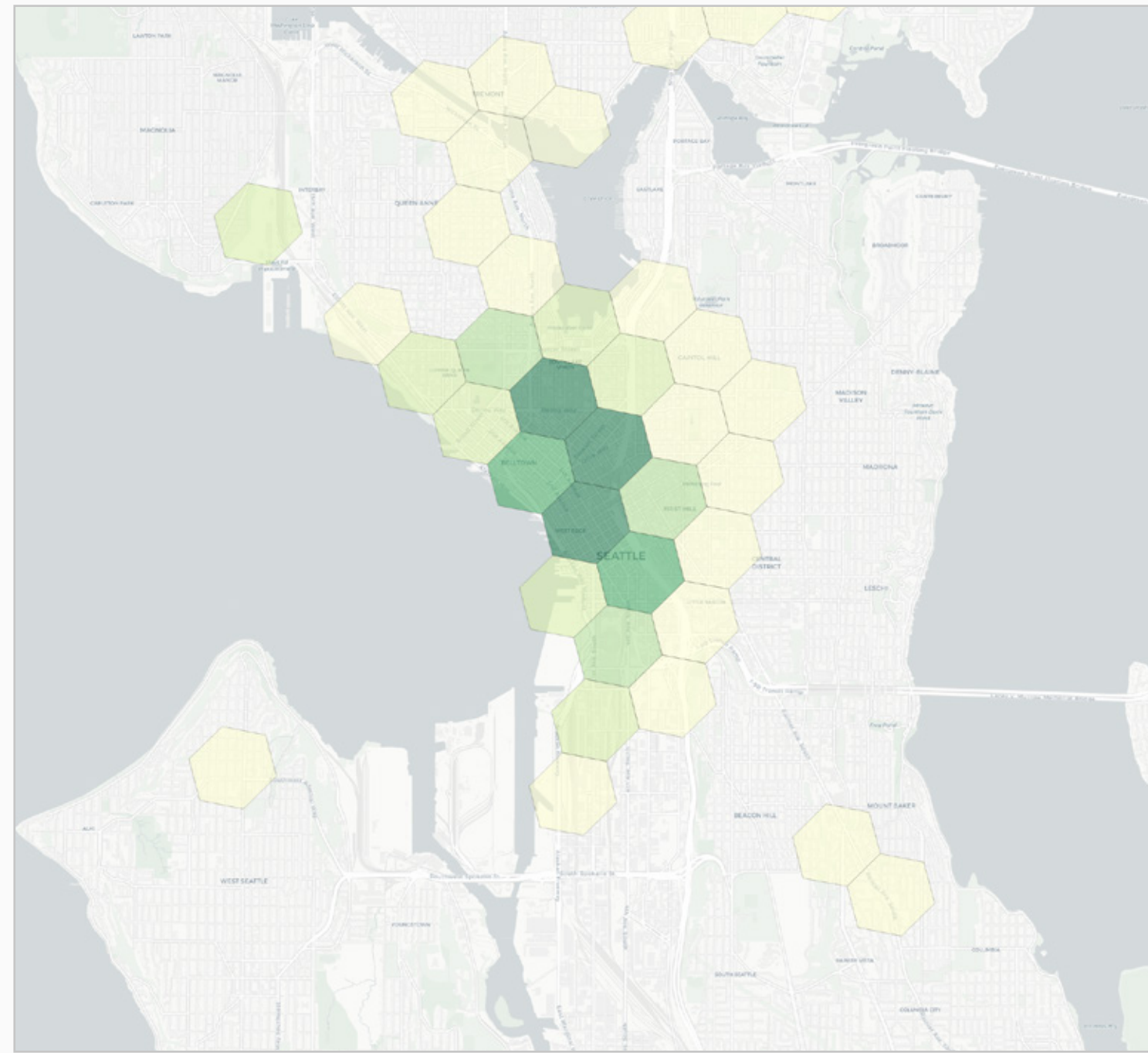
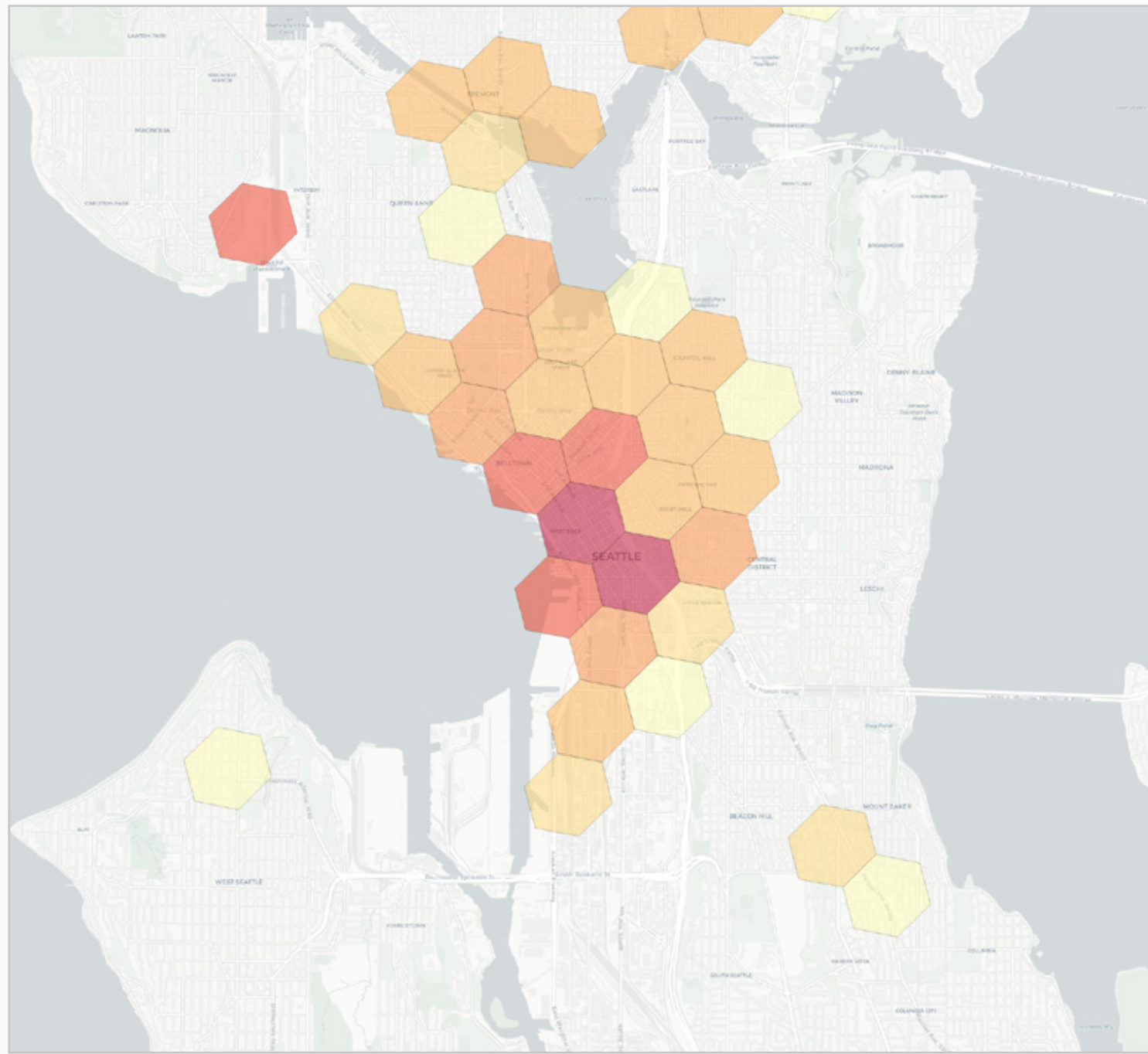


- Fisherman's Wharf is in the red circle, a key San Francisco restaurant and entertainment attraction, and trips to Alcatraz Island depart from here. As such, parking prices are high, providing good yield.
- The Financial District (blue circle) also provides good yield, as it has the highest levels of occupancy for the city.

Maps Key




-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.9 Seattle

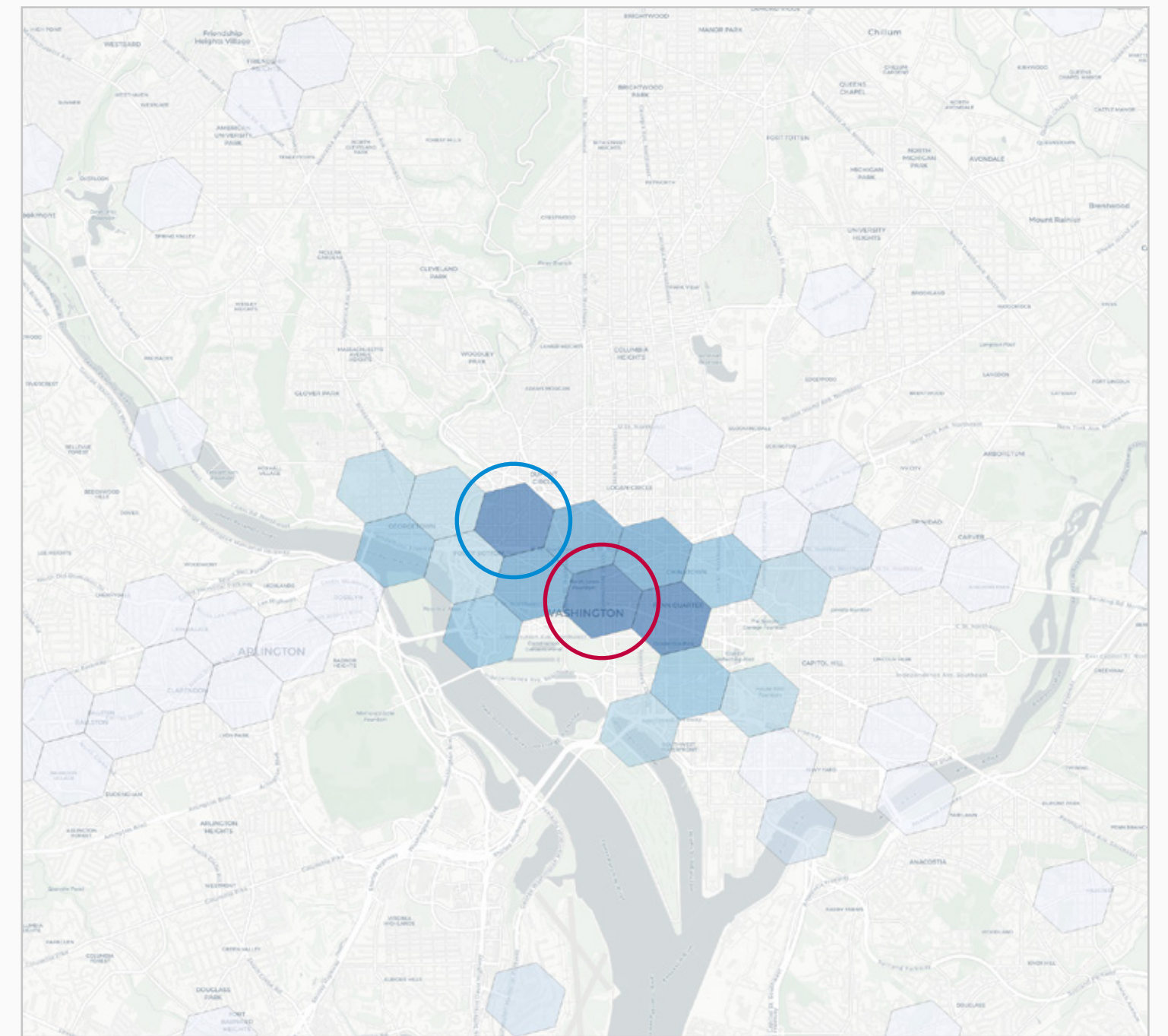
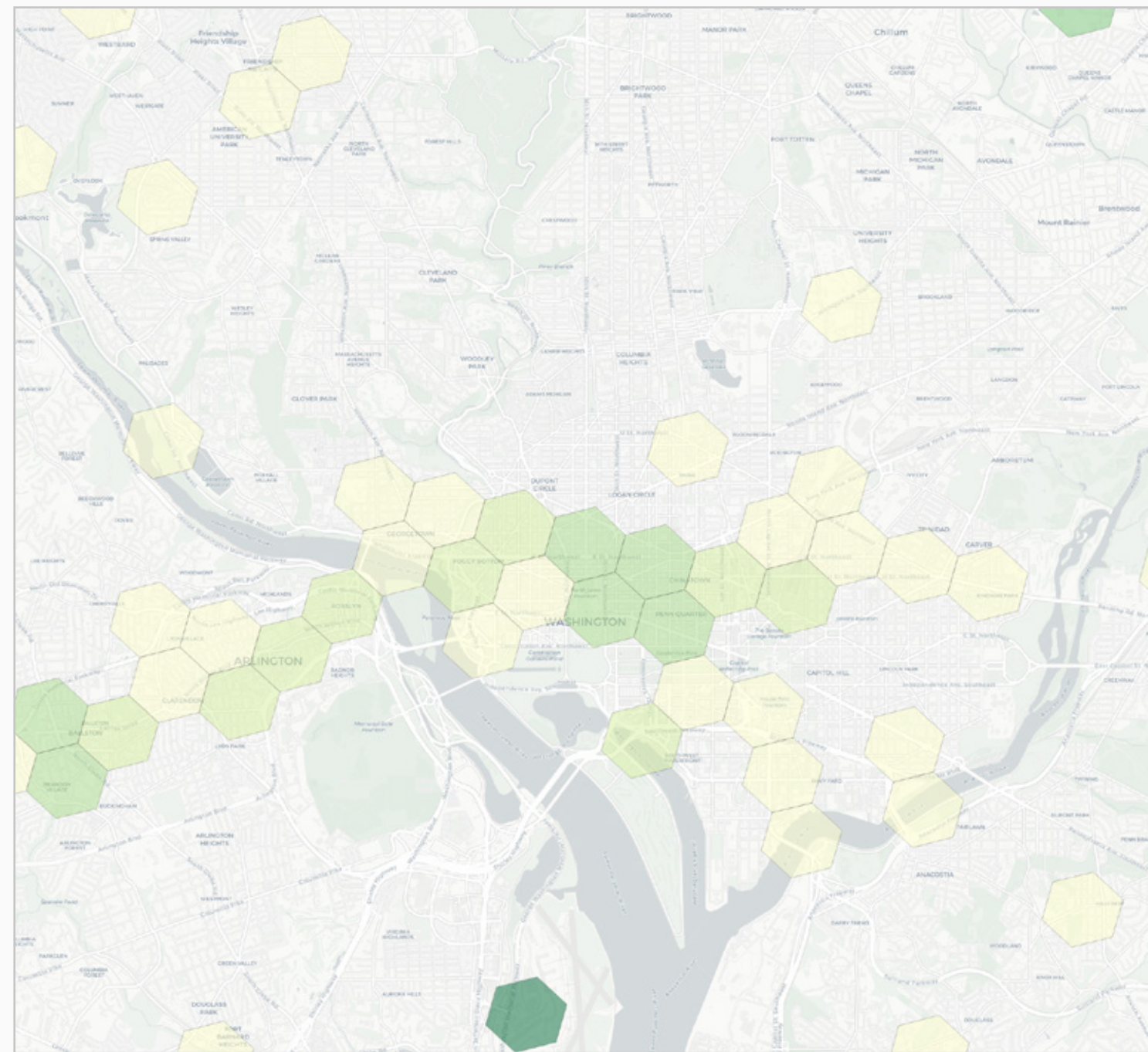
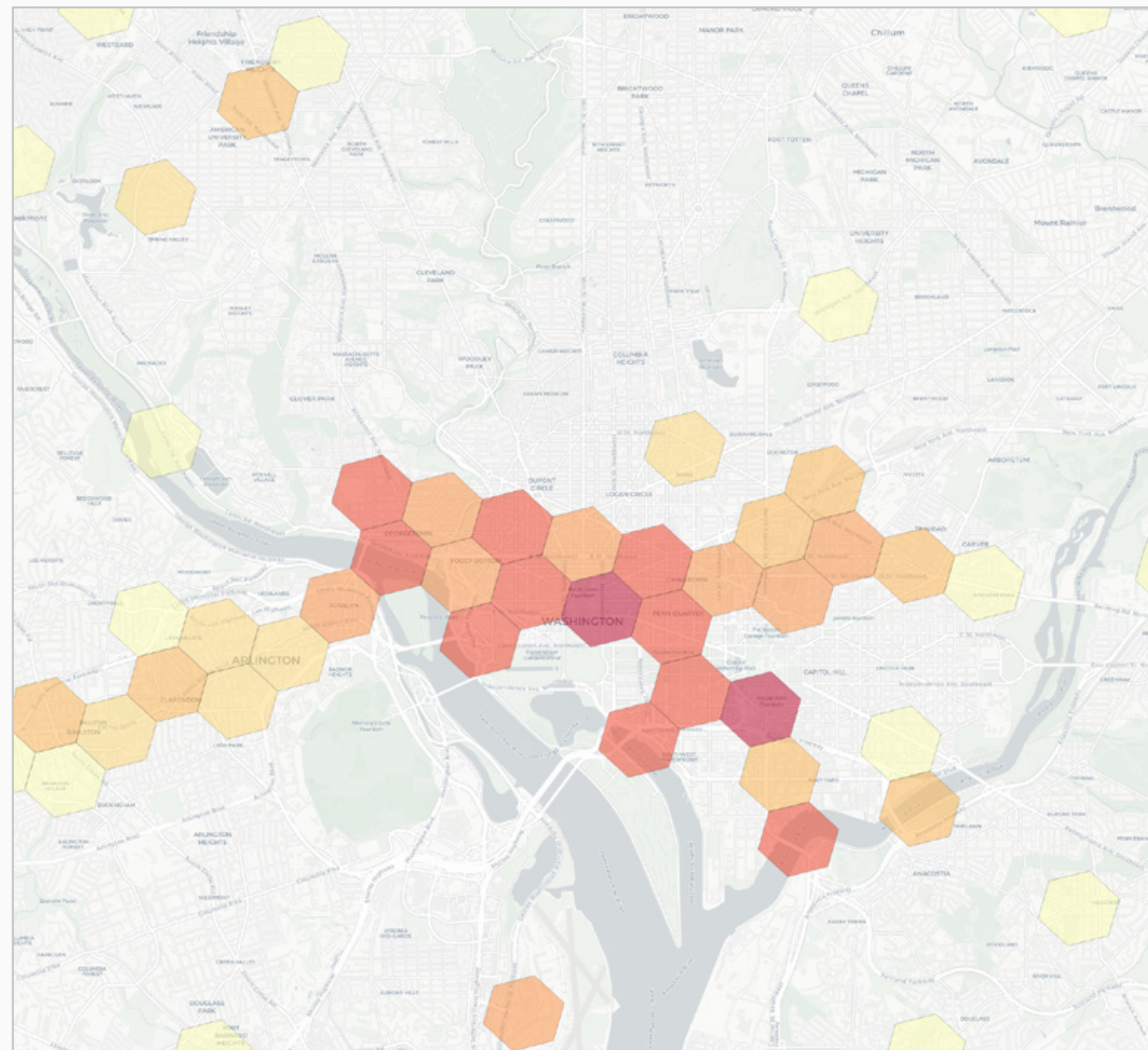


- The downtown area of Seattle, marked in the red circle, has high prices, good provision of parking and high levels of occupancy, resulting in high yield.

Maps Key




-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield

4.10 Washington DC



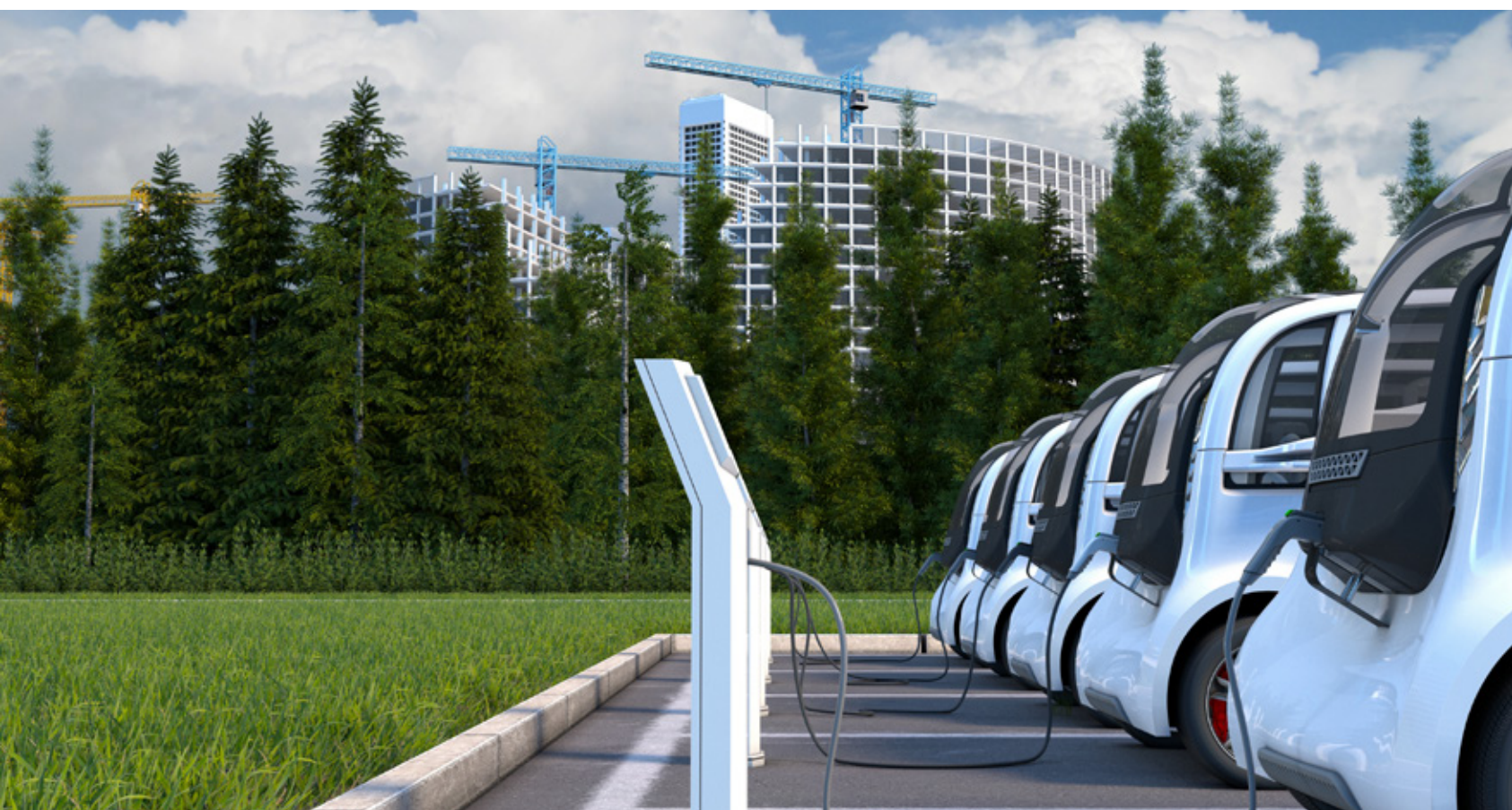
- The best yield in Washington DC comes from the area in the red circle around the White House, Freedom Plaza and Ford's Theatre, which also houses several of the top hotel brands, which helps to drive up pricing and occupancy.
- Good yield also comes from the Downtown/Dupont Circle/Logan Circle area (blue circle), where prices and occupancy are again high, with good provision of parking.

Maps Key

-  Average 2-hour off-street price
-  Parking provision density
-  Estimated yield



5.0 About Parkopedia



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Parkopedia is the world's leading parking services provider used by millions of drivers and organizations such as Audi, Apple, BMW, Coyote, Daimler (Mercedes-Benz), Ford, Garmin, GM, Jaguar, Land Rover, Peugeot, Sygic, TomTom, Toyota, Volkswagen, Volvo and many others.

Parkopedia is available in 15,000 cities across 89 countries globally, covering over 70 million parking spaces, helping drivers take the pain out of parking. Parkopedia helps drivers find the closest, cheapest or available parking to their destination, pay in selected locations, and navigate directly to the parking space.

Parkopedia is also a founding member of the Autonomous Valet Parking consortium, developing highly detailed parking maps and corresponding algorithms to help self-driving vehicles navigate to an open parking place and park autonomously.

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