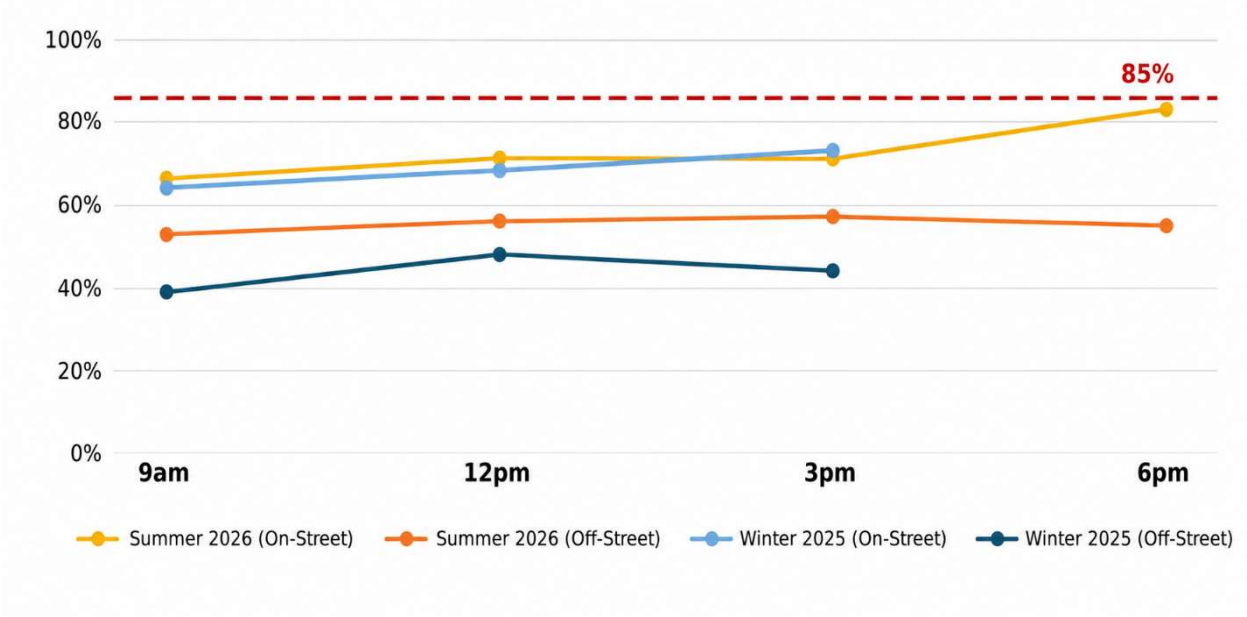
Appendix C: Parking Utilization Study

Executive Summary

Dixon Resources Unlimited (DIXON) conducted a parking utilization study to inform the City of Flagstaff's 2026 Curbside Management Action Plan. The study evaluated on- and off-street parking occupancy and length of stay throughout Downtown Flagstaff and the Southside Neighborhood using vehicle-mounted license plate recognition (LPR) data collected during both winter (non-peak) and summer (peak) conditions. Collection coverage and schedules were similar across the two seasons, however due to high demand observed during DIXON's June 2026 site visit, summer collection was expanded to include early evening.

As anticipated in a seasonal community like Flagstaff, parking demand increased from winter to summer (Figure 1). Although most of the Study Area remained below the industry-recognized 85% utilization threshold, summer conditions showed heavier demand across both on- and off-street parking areas with on-street locations regularly experiencing constrained parking availability, most notably during the 6 p.m. (evening) collection period. Additionally, parking utilization was also generally higher in areas closer to the downtown core, tapering off in locations farther from downtown.

Figure 1. Average Occupancy by Time of Day



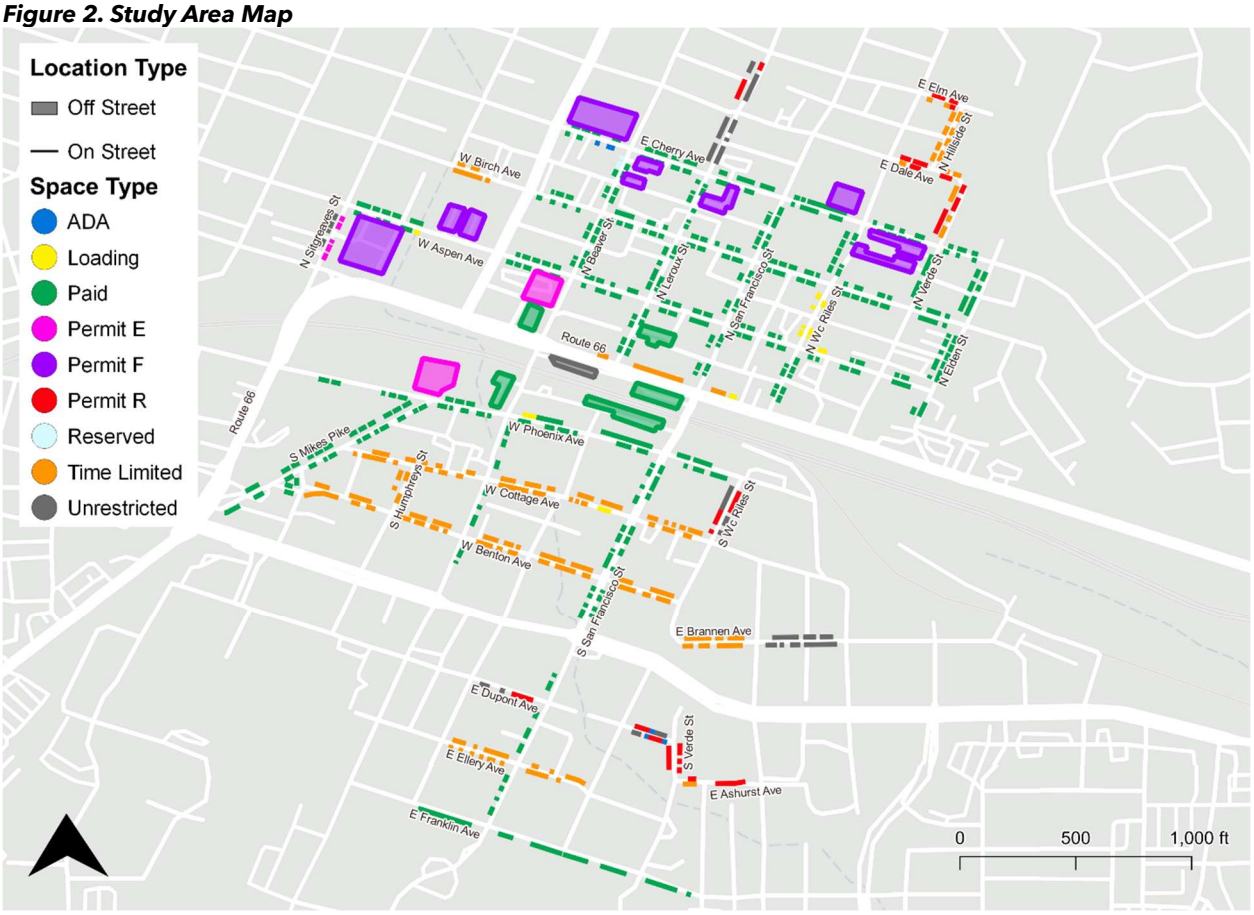
Parking demand was consistently strongest north of Route 66, where several Downtown Flagstaff streets experienced high utilization. The Southside Neighborhood was generally underutilized during winter, although E Ellery Avenue remained a consistent hotspot in part due to its free time-limited parking. By summer evenings, overutilization had expanded along portions of the W Phoenix Avenue/W Cottage Avenue/W Benton Avenue corridor, indicating that peak-period parking pressure extended beyond the downtown core.

Study Area

The Study Area (Figure 2) encompasses Downtown Flagstaff and the Southside Neighborhood, totaling 166 on-street block faces, 18 off-street lots, and 1,898 parking spaces.

Route 66 is used throughout this report as the dividing line between Downtown Flagstaff to the north and the Southside Neighborhood to the south. Downtown includes N Beaver Street, N San Francisco Street, and N Leroux Street. The Southside Neighborhood includes S Mikes Pike, S San Francisco Street, and the W Phoenix Avenue/W Cottage Avenue/W Benton Avenue corridor.

Figure 2. Study Area Map



The pay-to-park area encompasses 102 on-street block faces and seven off-street lots, totaling 948 parking spaces. Permit parking applies to 12 off-street lots and 19 on-street block faces, representing 672 spaces assigned to Permit E, F, or R categories. The inventory also includes 88 unrestricted spaces in Lot 17 and on various on-street blocks. A detailed breakdown of parking spaces by type and location is provided in Exhibit A.

Methodology

Data Collection

The City collected parking data during two periods intended to represent non-peak and peak-season conditions. The Winter 2025 dataset includes 16 collection days between December 2, 2025, and January 3, 2026. The Summer 2026 dataset includes 23 collection days between May 22 and July 11, 2026.

City staff used vehicle-mounted LPR cameras to document parked vehicles. Winter observations were collected during morning, midday, and afternoon rounds; Summer observations included the same daytime periods plus an evening round. Collection schedules and route coverage varied by day due to staff availability, and not every location or time period was observed on every collection day. Accordingly, averages in this report reflect the available observations, and seasonal comparisons should be interpreted as broad patterns rather than identical samples.

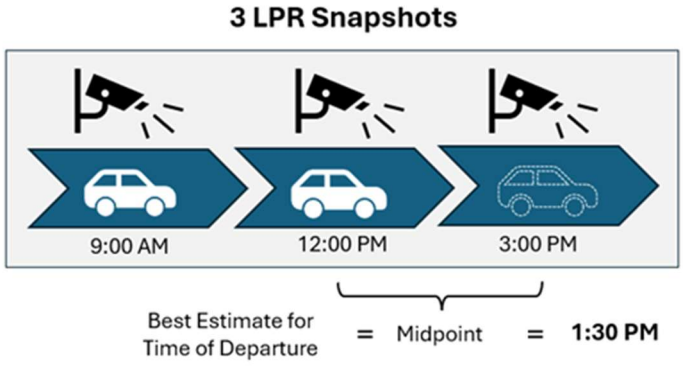
Inventory Collection

On-street parking inventory was developed using Geographic Information Systems (GIS), Google Street View, and aerial imagery. Each curb segment was mapped as parking allowed or parking prohibited. Marked spaces were counted directly. Unmarked curb was converted to estimated spaces using 20 feet per space, or 18 feet per space adjacent to driveways and other non-parking areas where additional maneuvering space is available.

Length of Stay Calculations

Length of stay for on- and off-street parking was estimated from sequential LPR observations. Length of stay was calculated only for collection days with multiple passes. Arrival was assigned to the first round in which a vehicle was observed. When the vehicle was present in one round and absent in the next, departure was estimated at the midpoint between those rounds (Figure 3). Because the estimate depends on the interval between collection rounds, results should be interpreted as approximate durations rather than exact arrival and departure times.

Figure 3. Method for Calculating Estimated Time of Departure



Figures 21 and 22 in Exhibit B show average length of stay by location for Winter 2025 and Summer 2026, respectively.

Key Considerations

An 85% occupancy level is a commonly used and industry-recognized parking management benchmark. At this level, a typical block face may have only one or two spaces available, depending on its size. Locations that repeatedly exceed 85% can feel effectively full and may generate circulation as motorists search for parking. Locations well below the benchmark generally retain available capacity.

Length of stay provides an indication of turnover: longer stays reduce the number of vehicles served by each space, while shorter stays increase turnover. In commercial areas, higher turnover can improve access for customers and visitors.

The 85% benchmark should be treated as a guide rather than a rigid threshold. Management decisions should focus on locations and time periods that repeatedly exceed the benchmark, since study-wide averages can mask localized peaks.

Definition of Terms

- Inventory: The number of spaces per on-street block face or off-street locations.
- Occupancy: The percentage of parking supply that is occupied.
- Length of Stay: The amount of time a car remains in a given parking space. Also referred to as the duration.

Parking Utilization Summary

Winter 2025 Collection

Data collected from December 2, 2025, through January 3, 2026, indicate the following on- and off-street occupancy patterns:

- **Average occupancy:** On-street spaces averaged 67% occupancy across the day, compared with 42% for off-street spaces.
- **Time of day:** On-street occupancy increased from 64% at 9 a.m. to 73% at 3 p.m.; the Winter 2025 collection did not include an evening period.
- **Day of week:** On-street occupancy ranged from 63% to 70% with no consistent weekday-to-weekend pattern. Off-street occupancy was highest on Tuesday (48%) and lowest on Saturday (29%).
- **Length of stay:** On-street vehicles averaged 2.93 hours and off-street vehicles averaged 3.10 hours. Most vehicles were parked for three hours or less (59% on-street and 57% off-street).

- **Location trends:** Downtown Flagstaff - particularly N Beaver Street, N Leroux Street, and N San Francisco Street - consistently recorded the highest occupancy, with pressure increasing from the 9 a.m. to 3 p.m. The Southside Neighborhood was generally underutilized, except E Ellery Avenue, which exceeded 85% at each observed time period.

Summer 2026 Collection

Data collected from May 22 through July 11, 2026, which expanded the study to include evening hours, indicate an increase in parking demand:

- **Average occupancy:** On-street spaces averaged 74% occupancy and off-street spaces averaged 56%. Compared with Winter 2025, off-street occupancy increased by 14 percentage points, while on-street occupancy increased by 7 percentage points.
- **Time of day:** On-street occupancy peaked at 83% at 6 p.m. Off-street occupancy was 55% at 6 p.m., slightly below its 3 p.m. peak of 57%. At 6 p.m., on-street Loading and Unrestricted spaces exceeded 85%, while on-street Reserved and off-street Permit E spaces reached 85%.
- **Day of week:** Demand generally increased toward the weekend. On-street occupancy rose from 64% on Monday to 82% on Friday and 88% on Saturday; off-street occupancy reached 63% on Friday and 64% on Saturday.
- **Length of stay:** On-street vehicles averaged 2.28 hours and off-street vehicles averaged 2.17 hours. Most vehicles were parked for three hours or less (72% on-street and 74% off-street), indicating greater turnover across both parking types despite higher occupancy.
- **Location trends:** High occupancy extended beyond Downtown Flagstaff during the summer evening period. At 6 p.m., much of the W Phoenix Avenue/W Cottage Avenue/W Benton Avenue corridor exceeded 85%, a level of saturation not observed in the Southside Neighborhood during Winter 2025.

Conclusion

Across the available observations, parking demand was higher in Summer 2026 than in Winter 2025, with the strongest pressure occurring on Friday and Saturday and during the summer evening period. Average occupancy remained below 85% at the study-wide level, but multiple downtown block faces and selected Southside corridors exceeded the benchmark, indicating localized and time-specific constraints rather than a uniform shortage. At the same time, shorter summer lengths of stay for both on- and off-street parking indicate that higher demand was accompanied by greater turnover. These findings support targeted curb-management strategies focused on recurring hotspots and peak periods, while lower-demand in off-street facilities and some Southside locations may provide opportunities to redistribute parking activity.

Exhibit A: Tables

Figure 4. Parking Inventory by Space Type and Location

Space Category	On-Street	Off-Street	Total
ADA	3	0	3
ADA, Employee N, Paid	3	0	3
Employee N, Paid	90	0	90
Employee N, Reserved	3	0	3
Loading	29	0	29
Paid	604	144	748
Paid, Permit E	95	99	194
Permit F	10	393	403
Permit R	42	0	42
Permit R, Time Limited	33	0	33
Time Limited	262	0	262
Unrestricted	76	12	88
Total	**1,250**	**648**	**1,898**

Note: Space categories listing multiple restrictions represent overlapping regulations applied to the same spaces, not additional inventory. For example, Paid, Permit E spaces require payment or a valid Permit E.

Figure 5. Occupancy by Space Type – On-Street

Season	Space Type	9 a.m.	12 p.m.	3 p.m.	6 p.m.	Average
Winter 2025	ADA	53%	89%	84%		70%
	Employee N	68%	77%	77%		73%
	Loading	72%	77%	77%		74%
	Paid	67%	73%	78%		71%
	Permit E	28%		47%		34%
	Permit R	50%	49%	58%		52%
	Reserved	55%	56%	76%		59%
	Time Limited	57%	56%	61%		58%
	Unrestricted	66%	73%	71%		69%
	Average	**64%**	**68%**	**73%**		**67%**
Summer 2026	ADA	76%	42%	59%	76%	67%
	Employee N	74%	76%	77%	80%	77%
	Loading	68%	64%	82%	95%	79%
	Paid	67%	73%	73%	83%	75%
	Permit E	22%	34%	34%	40%	34%
	Permit R	27%	36%	29%	42%	37%
	Reserved	42%	76%	76%	85%	78%
	Time Limited	63%	62%	63%	81%	69%
	Unrestricted	62%	88%	83%	86%	82%
	Average	**66%**	**71%**	**71%**	**83%**	**74%**

Figure 6. Occupancy by Space Type – Off-Street

Season	Space Type	9 a.m.	12 p.m.	3 p.m.	6 p.m.	Average
Winter 2025	Paid	39%	45%	43%		41%
	Permit E	39%	46%	41%		41%
	Permit F	39%	51%	45%		43%
	Average	**39%**	**48%**	**44%**		**42%**
Summer 2026	Paid	70%	75%	75%	84%	77%
	Permit E	73%	79%	78%	85%	79%
	Permit F	30%	31%	34%	32%	32%
	Average	**53%**	**56%**	**57%**	**55%**	**56%**

Figure 7. Occupancy by Day of Week – On-Street (Winter 2025)

Day of the Week	9 a.m.	12 p.m.	3 p.m.	Average
Monday	68%	69%	72%	**69%**
Tuesday	69%	69%	70%	**69%**
Wednesday	60%	67%	56%	**63%**
Thursday	64%	74%	73%	**70%**
Friday	64%		77%	**69%**
Saturday	62%	67%		**63%**
Average	**64%**	**68%**	**73%**	**67%**

Figure 8. Occupancy by Day of Week – Off-Street (Winter 2025)

Day of the Week	9 a.m.	12 p.m.	3 p.m.	Average
Monday	40%	46%	42%	**42%**
Tuesday	46%	53%	48%	**48%**
Wednesday	39%	45%	19%	**42%**
Thursday	32%	63%	46%	**42%**
Friday	37%		43%	**40%**
Saturday	28%	38%		**29%**
Average	**39%**	**48%**	**44%**	**42%**

Figure 9. Occupancy by Day of Week – On-Street (Summer 2026)

Day of the Week	9 a.m.	12 p.m.	3 p.m.	6 p.m.	Average
Monday	69%	67%	58%		**64%**
Tuesday	67%	66%	62%	71%	**67%**
Wednesday	71%	71%	67%	82%	**73%**
Thursday	63%	73%	71%	81%	**72%**
Friday	56%	76%	85%	87%	**82%**
Saturday				88%	**88%**
Average	**66%**	**71%**	**71%**	**83%**	**74%**

Figure 10. Occupancy by Day of Week – Off-Street (Summer 2026)

Day of the Week	9 a.m.	12 p.m.	3 p.m.	6 p.m.	Average
Monday	48%	58%	42%		**51%**
Tuesday	51%	58%	53%	42%	**50%**
Wednesday	56%	56%	57%	54%	**55%**
Thursday	53%	53%	53%	52%	**53%**
Friday	54%	56%	69%	64%	**63%**
Saturday				64%	**64%**
Average	**53%**	**56%**	**57%**	**55%**	**56%**

Figure 11. Average Length of Stay by Street Type

Season	Street Type	0-3 hrs	3-6 hrs	6-9 hrs	Average Length of Stay
Winter 2025	On-Street	59%	35%	6%	2.93 hrs
	Off-Street	57%	32%	11%	3.10 hrs
Summer 2026	On-Street	72%	25%	2%	2.28 hrs
	Off-Street	74%	23%	3%	2.17 hrs

Exhibit B: Occupancy Maps

Figure 12. Winter 2025 Average Occupancy - All Times

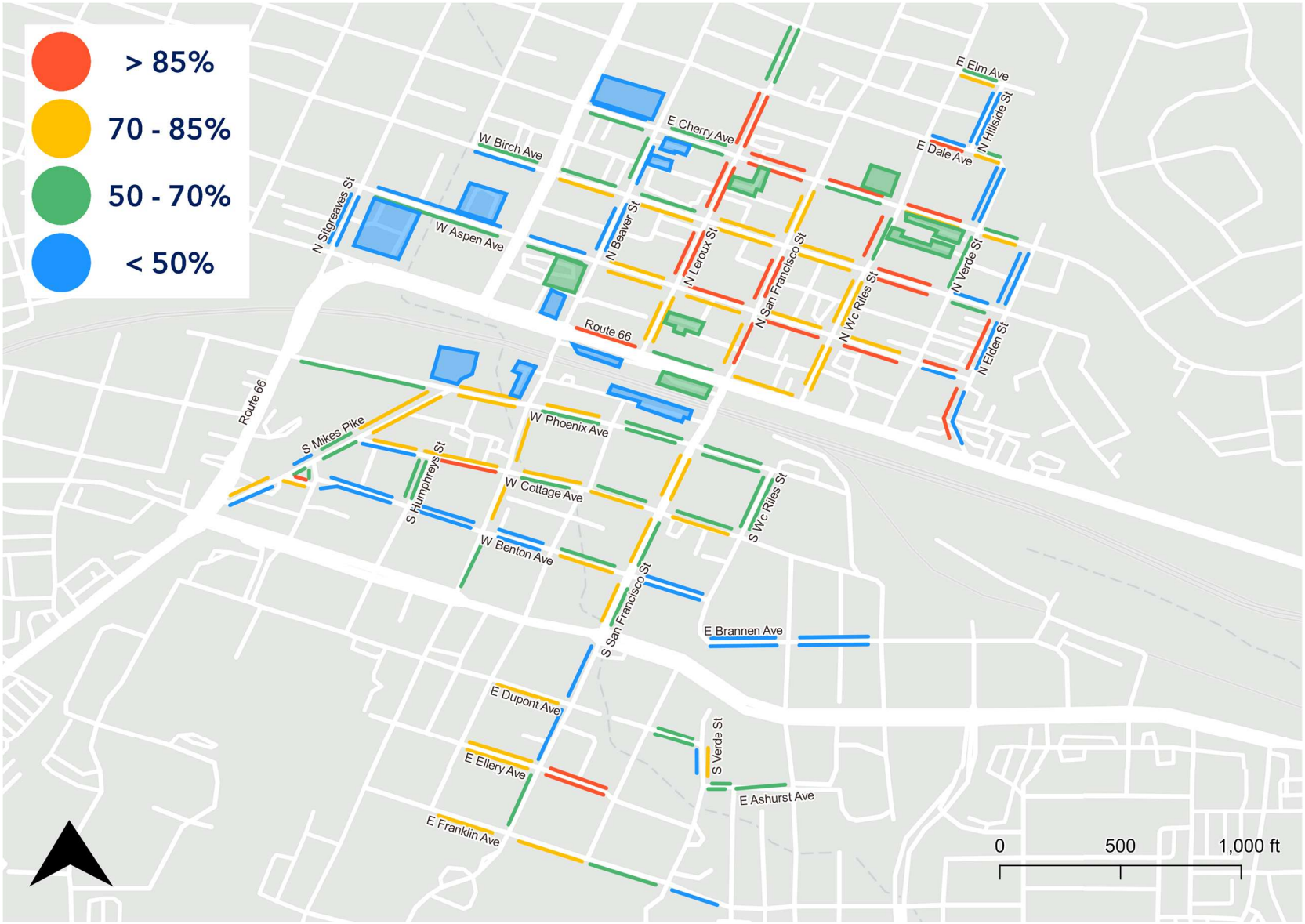


Figure 13. Winter 2025 Average Occupancy - 9 a.m.

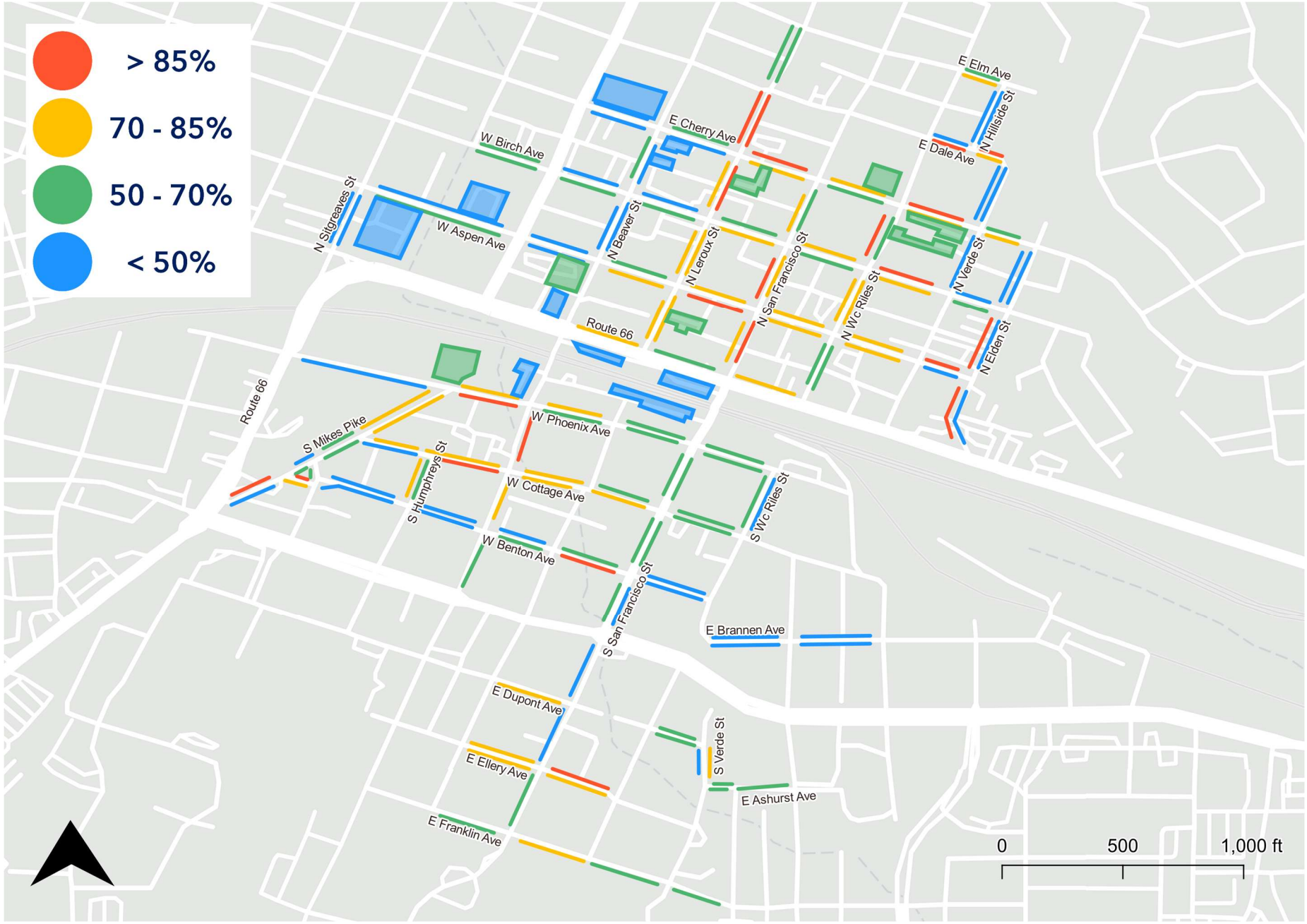


Figure 14. Winter 2025 Average Occupancy - 12 p.m.

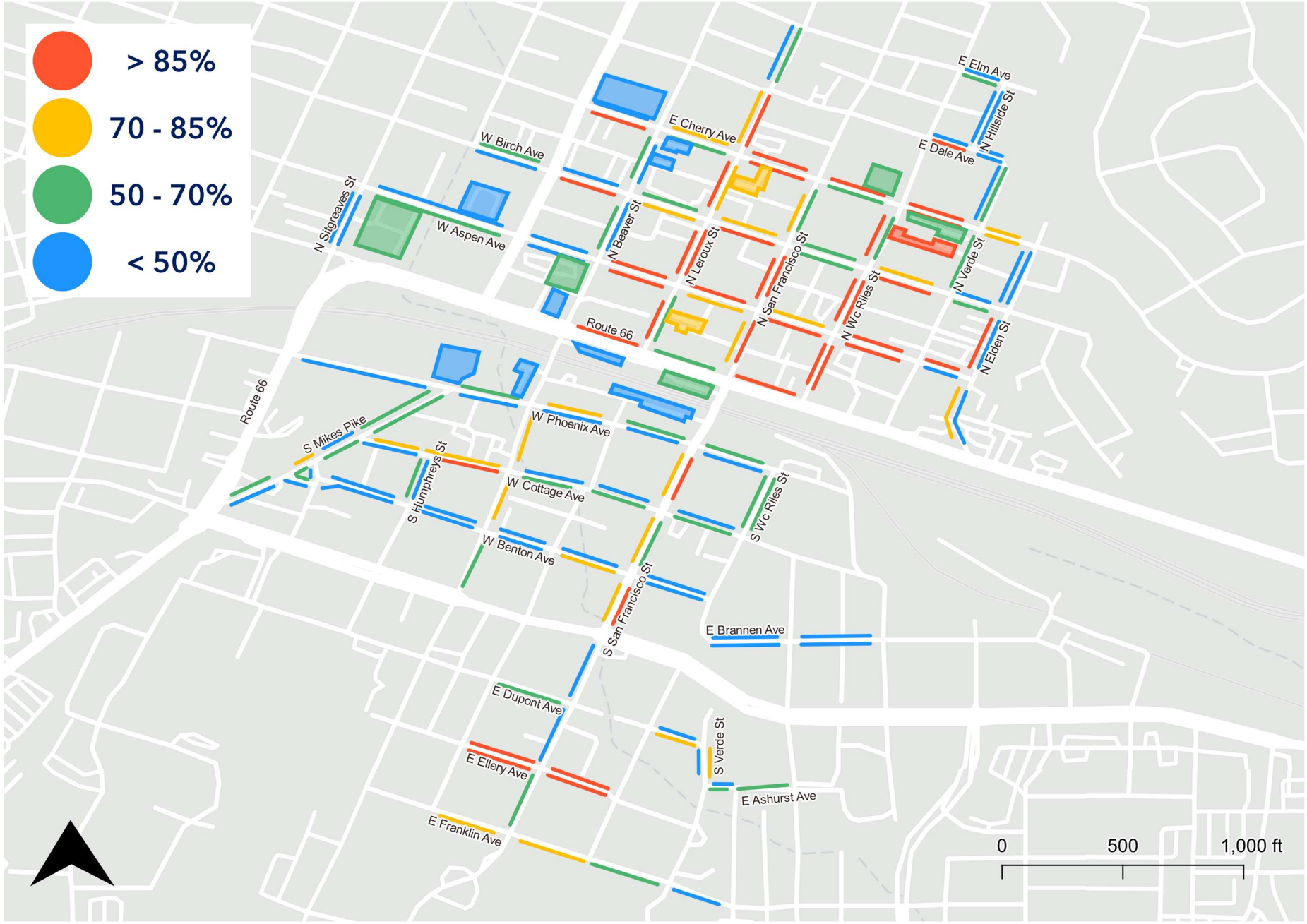


Figure 15. Winter 2025 Average Occupancy - 3 p.m.

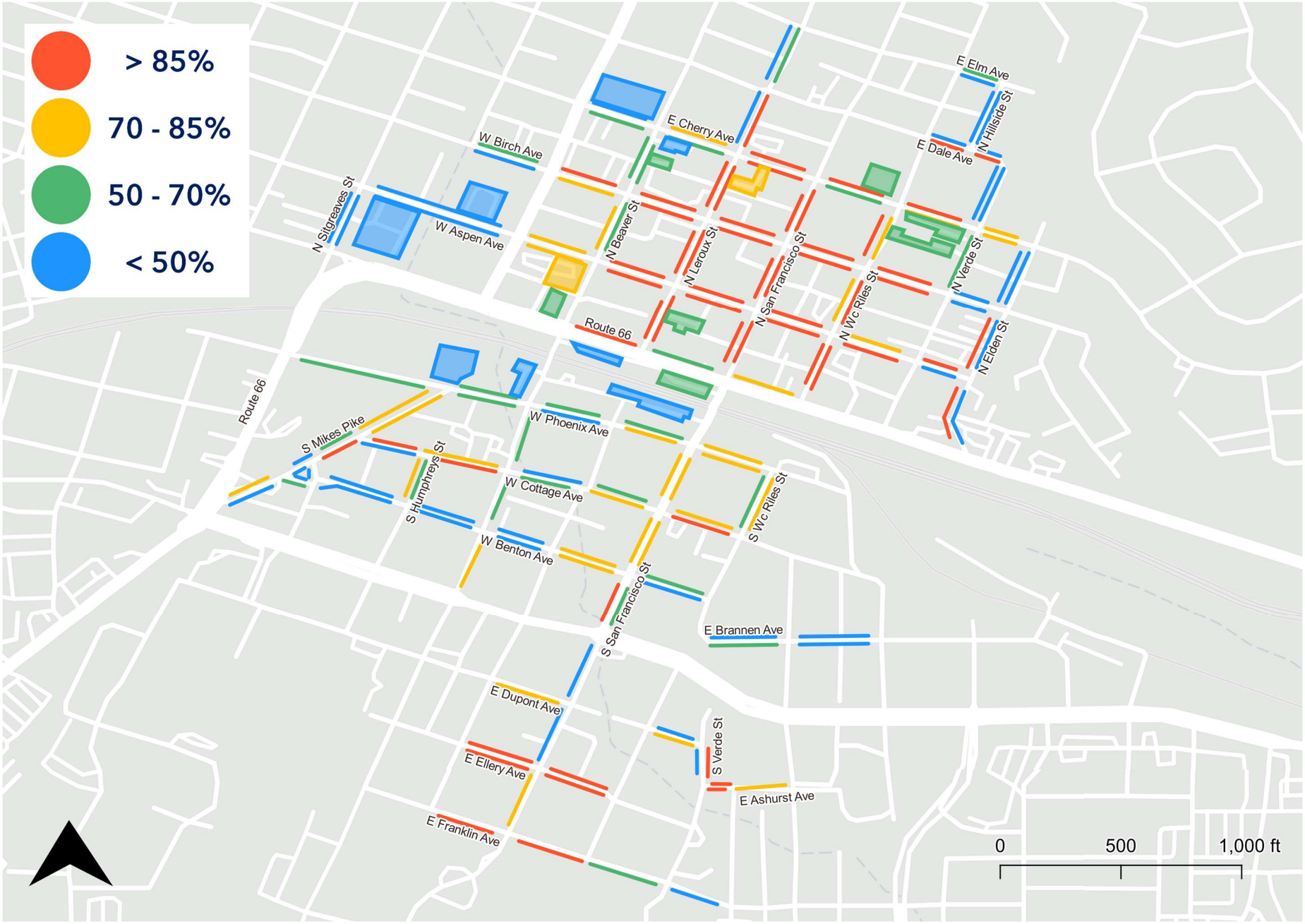


Figure 16. Summer 2026 Average Occupancy - All Times

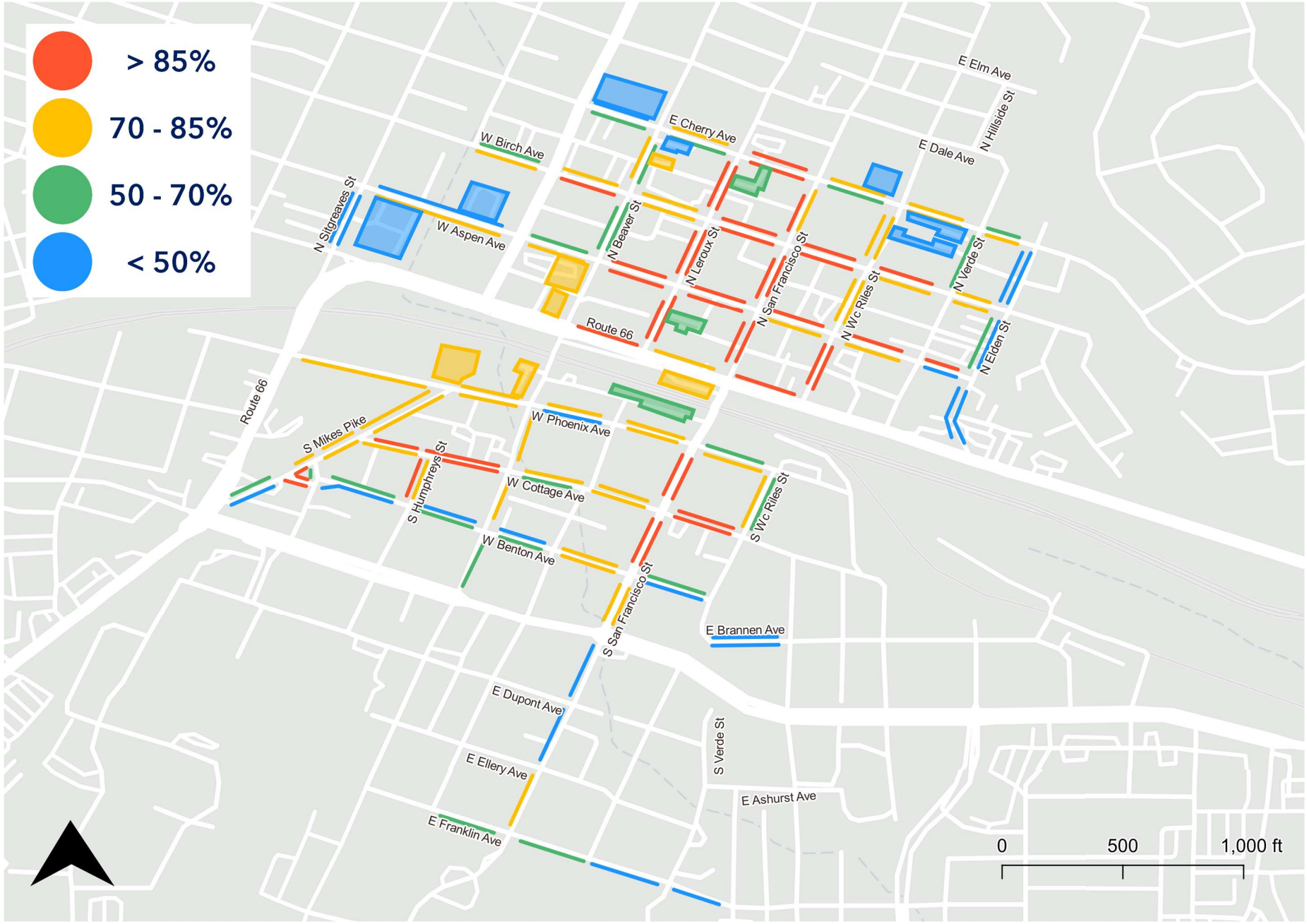


Figure 17. Summer 2026 Average Occupancy - 9 a.m.

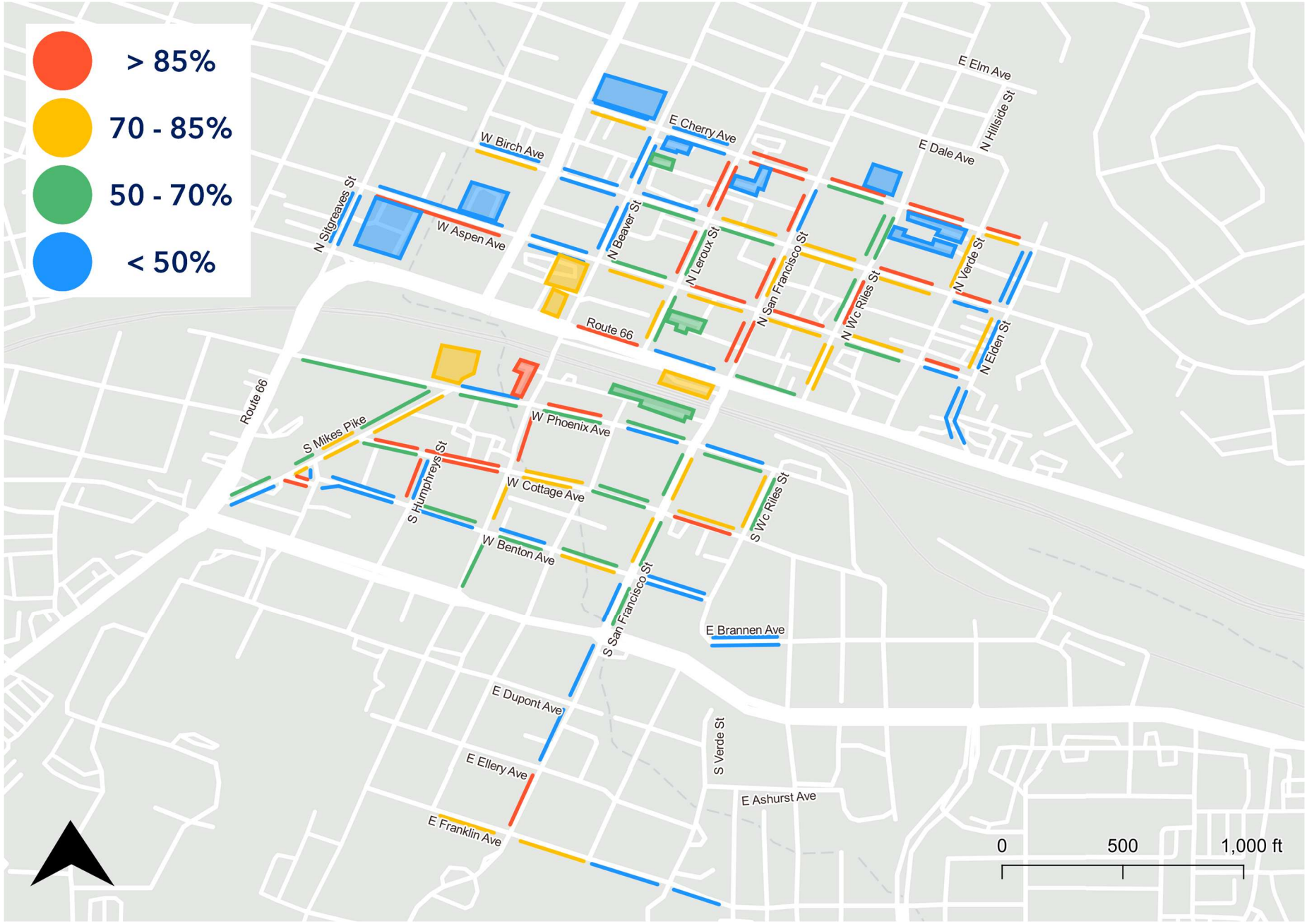


Figure 18. Summer 2026 Average Occupancy - 12 p.m.

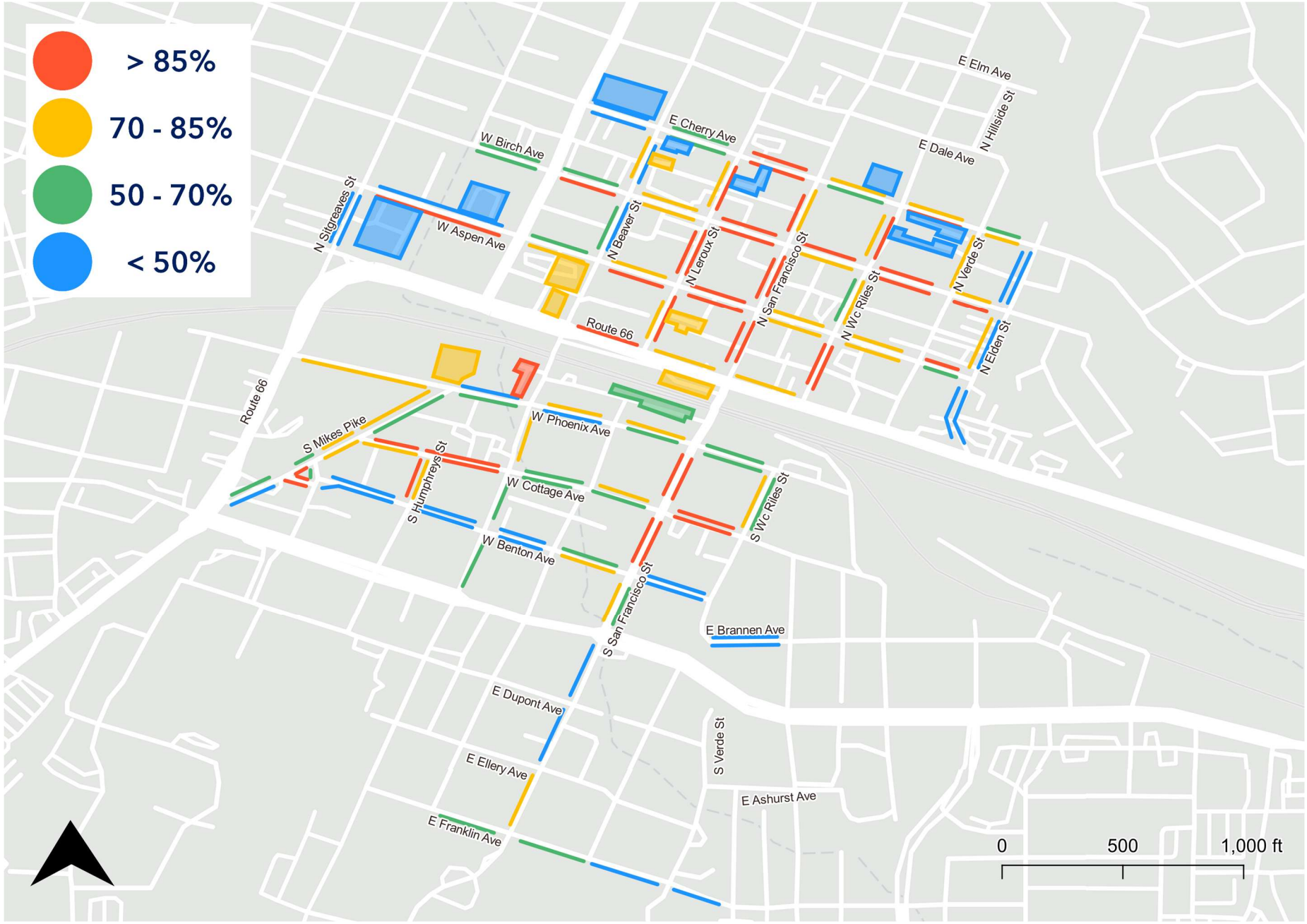


Figure 19. Summer 2026 Average Occupancy - 3 p.m.

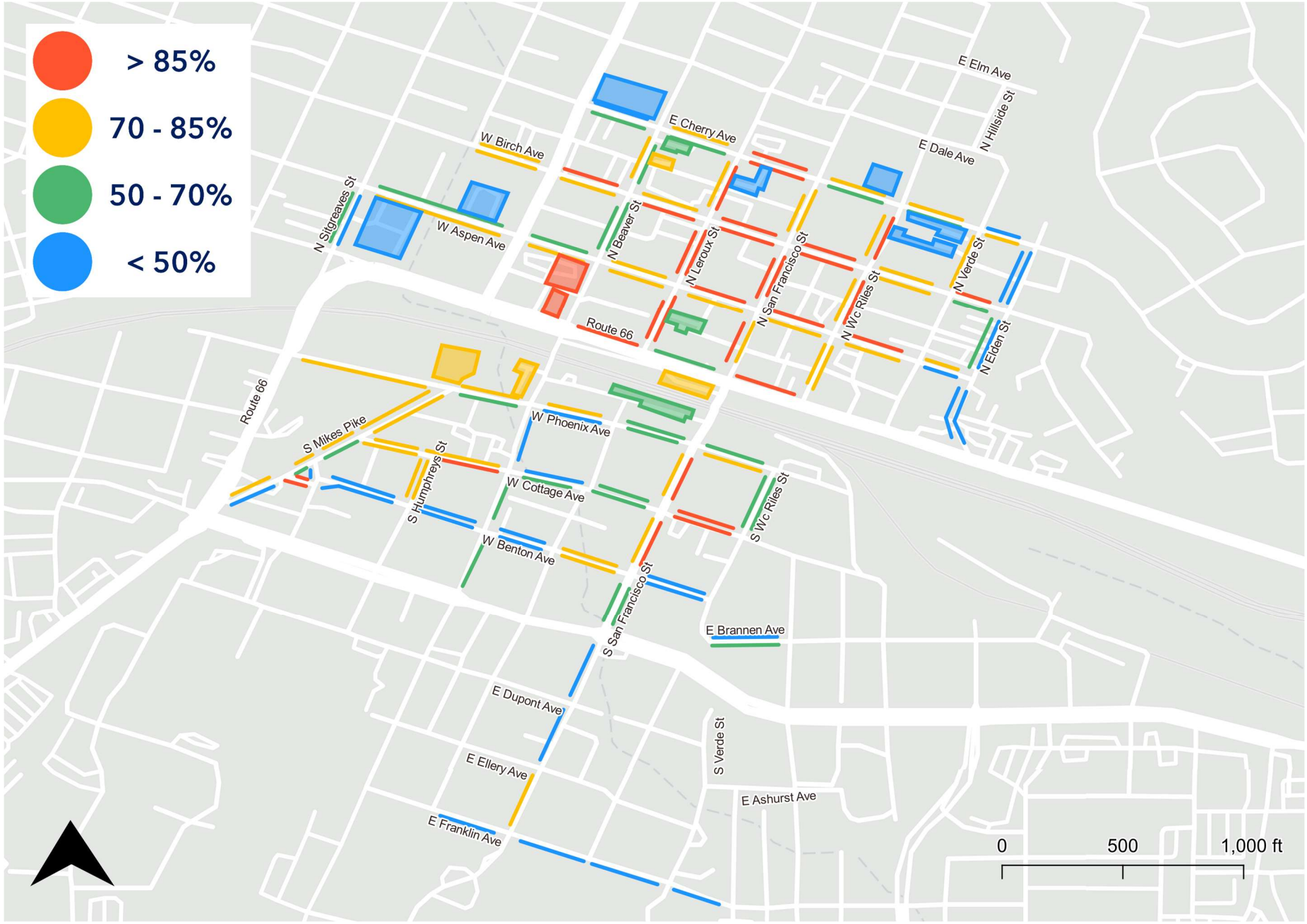


Figure 20. Summer 2026 Average Occupancy - 6 p.m.

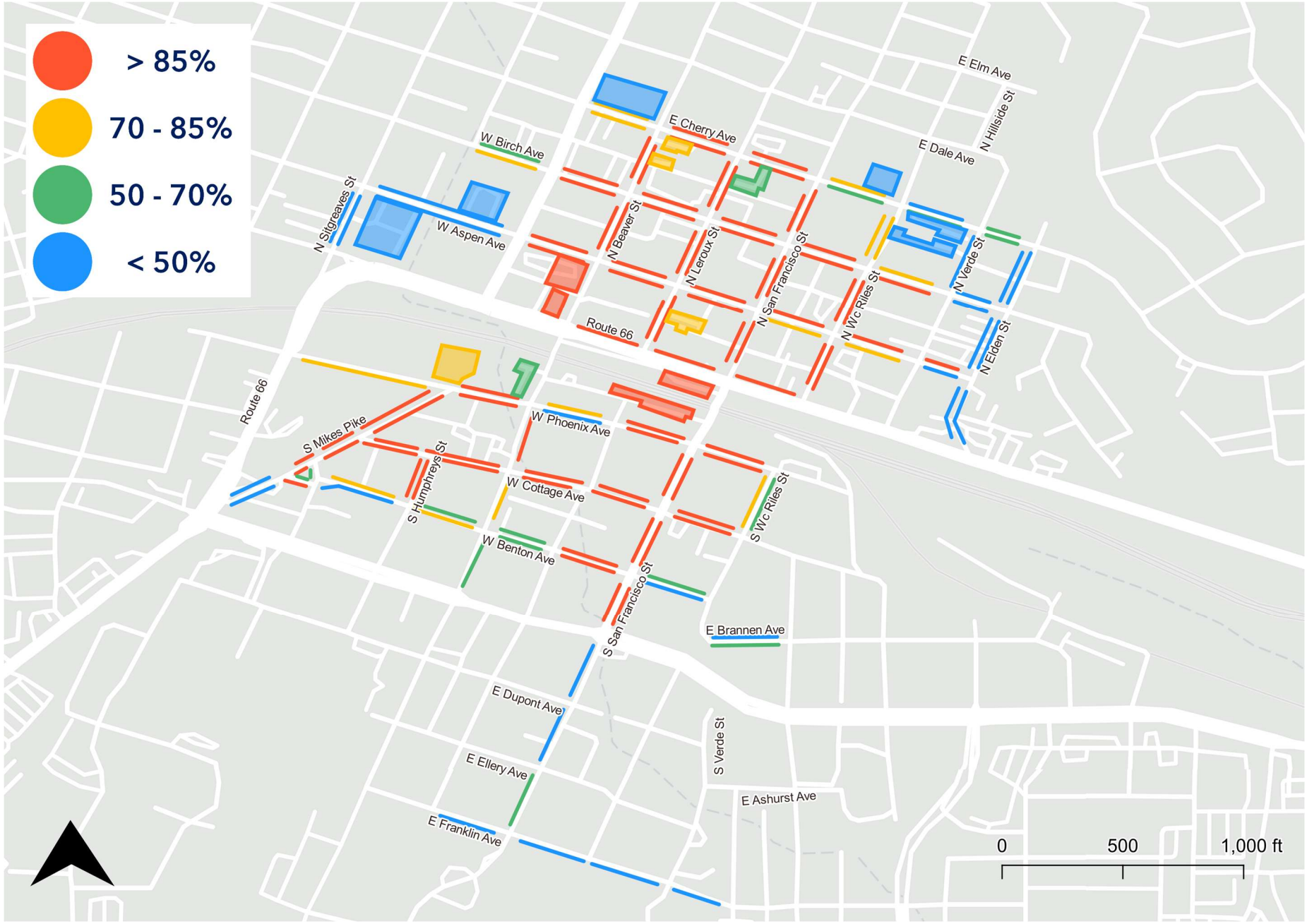


Figure 21. Winter 2025 Average Length of Stay

Figure 22. Summer 2026 Average Length of Stay