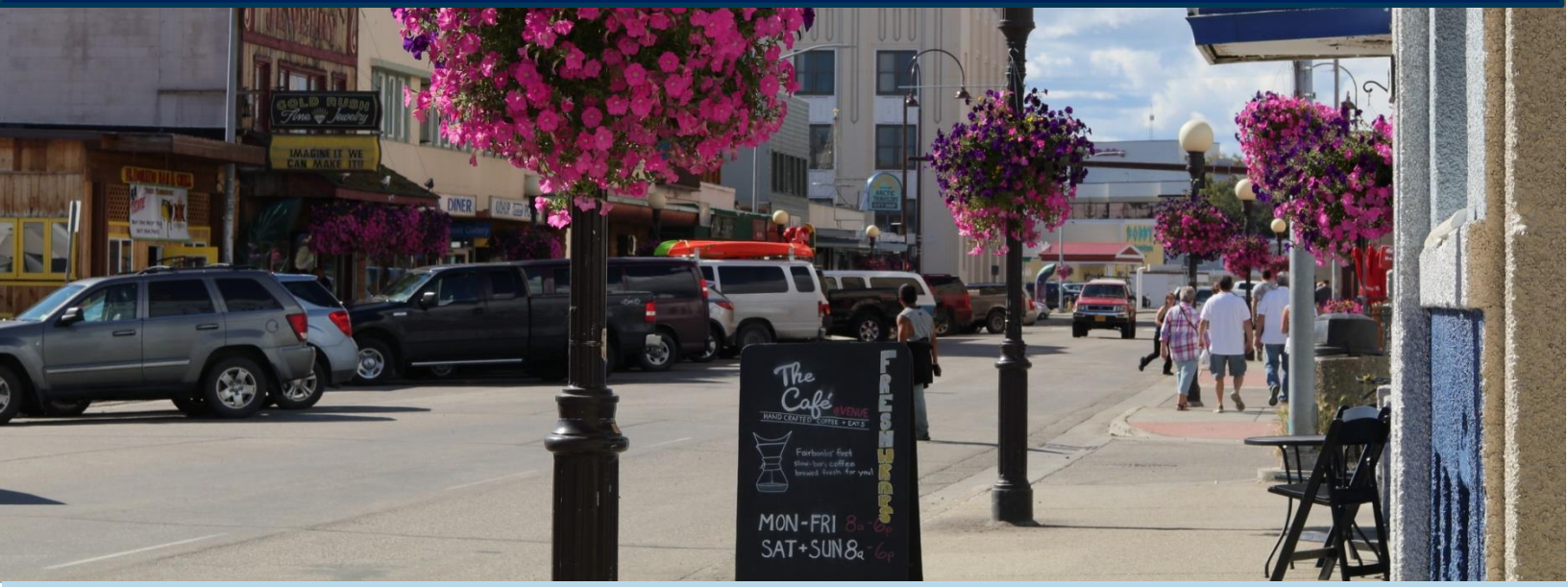
Downtown Fairbanks Parking Analysis



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Fairbanks North Star Borough
Department of Community Planning

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Introduction

The Fairbanks North Star Borough (FNSB), in cooperation with the Downtown Association, the City of Fairbanks, and Explore Fairbanks has been tasked with compiling a new downtown plan to replace the Vision Fairbanks Plan that was repealed with the FNSB Assembly in fall of 2018. One focus area of this plan is parking. To effectively gauge the existing condition of parking in the Downtown Fairbanks area a quantitative parking study was requested by the Downtown Plan Working Group.

The purpose of this stand-alone study is not to make policy recommendations, but rather be used as a tool to give accurate and measurable statistics on the supply of parking in the Downtown Fairbanks area. This study was prepared by FNSB Community Planning Staff, based on industry accepted best practices for a parking study[1][2].

Downtown areas are hubs of commerce, culture, and entertainment, attracting large numbers of visitors and workers. With the popularity of car ownership and use, parking supply and demand have become critical elements of downtown transportation planning. However, maintaining the optimal balance between parking supply and demand can be challenging. In this summary, we will explore the concept of over-parked and under-parked areas, the consequences of each, the optimal occupancy of parking in downtown areas, and then an analysis of current parking conditions in downtown Fairbanks.

Over-Parked Areas

Over-parked areas refer to locations where the supply of parking spaces exceeds the demand. This situation can lead to several negative consequences. For instance, underutilized parking facilities can result in financial losses for parking operators, reduced land use efficiency, and environmental impacts such as increasing walk distances between businesses and underutilization of utility infrastructure in this arctic region. Furthermore, over-parked areas can attract cars, leading to increased traffic congestion, air pollution, and urban sprawl.

[1] Oregon Department of Transportation, Parking Management Made Easy: A guide to Taming the Downtown Parking Beast: June, 2001

[2] Un, Kit, Metropolitan Area Planning Council (MAPC), How to Do a Parking Study: Feb. 2010

Under-Parked Areas

Under-parked areas refer to locations where there is a shortage of parking spaces to meet the demand. This situation can also lead to several negative consequences. For example, limited parking can result in traffic congestion, illegal parking, reduced accessibility, and negative impacts on local businesses. However, under-parked areas can discourage car use and promote alternative modes of transportation, such as walking, cycling, and public transit which could be seen as beneficial in the downtown area.

Optimal Occupancy of Parking in Downtown

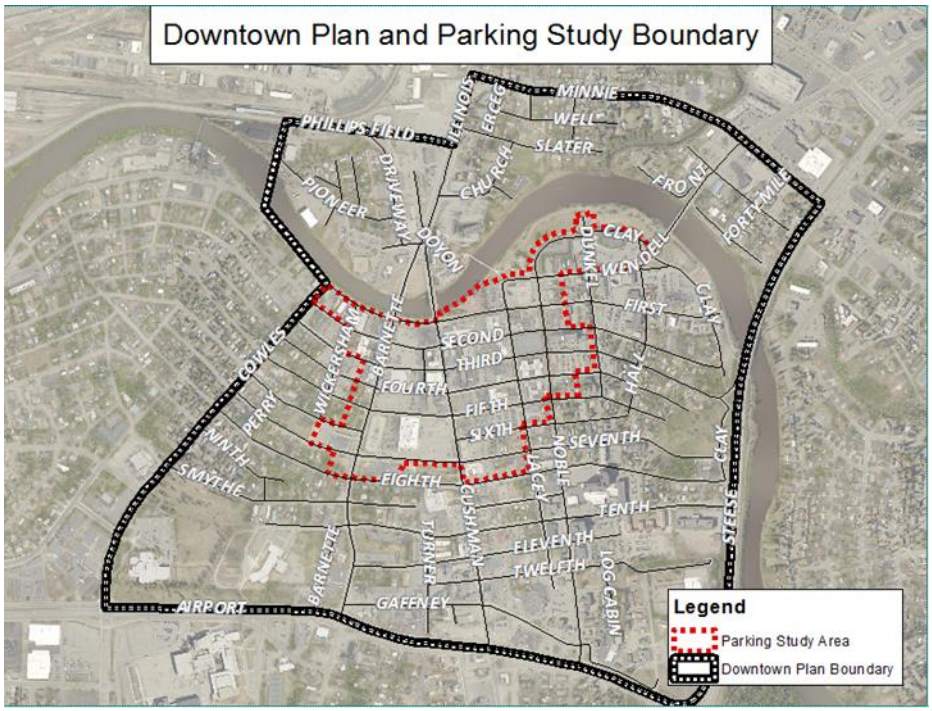
Parking occupancy is a critical issue for small and medium-sized cities that experience an influx of visitors and workers during peak hours. To ensure a balanced parking supply and demand, it is essential to identify the optimal parking utilization for these cities.
The optimal parking utilization for small and medium-sized cities depends on several factors, including the population, land use, transportation infrastructure, and economic activity. According to a study conducted by the International Parking Institute, the optimal parking utilization for small and medium-sized cities is around 85% (International Parking Institute, 2013). This rate ensures that there are enough parking spaces available to meet the demand, while also allowing for efficient land use and mobility.

Examples of Over-Parked and Under-Parked Areas

Over-parked and under-parked areas can be found in many downtown areas worldwide. For example, San Francisco's Financial District has been identified as an over-parked area, with an estimated 80% parking occupancy rate during peak hours (San Francisco Municipal Transportation Agency, 2021). In contrast, downtown Portland, Oregon, has been identified as an under-parked area, with a parking occupancy rate of around 95% during peak hours (City of Portland Bureau of Transportation, 2021).

Study Area

There is no official boundary of "Downtown Fairbanks", but the Downtown Plan Working Group has defined an area that their planning effort will cover. This area is somewhat large for an in-depth parking occupancy analysis, comprising about 460 acres (.7 square miles). As such, a secondary area was approved by the Downtown Plan Working Group, comprising the most developed area of the downtown with the most commercial uses. This area comprises a much more manageable 72 acres.



Parking Supply

There are over 3500 parking spaces both on and off street in the parking study area. It is a mix of on-street and off street parking and there are a couple of garage structures as well. Most of the parking lots in the downtown are dedicated parking for a specific business. Most of these lots also have signage that says "violators will be towed at owner's expense."

Methodology

An inventory of the physical parking spaces for both the entire Downtown Plan Area was conducted, beginning in 2018 and continuing to 2019. This inventory was initially conducted using high quality aerial photographs and corresponding orthographic images shot during the summer of 2017. Several of the parking areas within the study area had either slightly reconfigured since the 2017 aerial photos were shot or were unmarked. For these areas staff conducted field visits to develop an accurate count or enough information to estimate the approximate inventory. In several instances parking lots or on-street parking spaces were not delineated and professional assumptions needed to be made about the inventory. These assumptions were made using industry standard distance to spaces conversion.

Figure 1: Example ortho image used to establish count of parking spaces.

Distance as Measured Along Curb (feet)	Number of Parking Spaces
<15	0
15-35	1
35-60	2
60-85	3
85-110	4
110-135	5
135-160	6
160-185	7
185-210	8
210-235	9
235-260	10
260-285	11
285-310	12

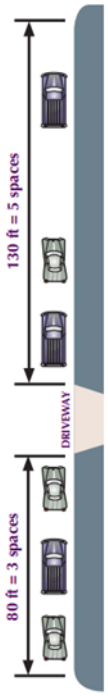


Figure 2: On-Street Parking Spaces Estimation[3]

During the inventory, additional information was gathered regarding each parking space, including location, type (off-street, on-street, or parking garage), and if there were any visual limitations to who could park there, such as a no public parking sign. All this information was input into a GIS system for spatial analysis.

Parking Inventory

An inventory was conducted for the entire Downtown Planning Area resulting in a total of 9,703 parking spaces (852 garage, 1074 on-street, and 7,777 parking lot), but the focus of this study will be within the defined Parking Study Area, or "Urban Core" set by the Downtown Working Group in the Land Use workshops.

[3] Oregon Department of Transportation, Parking Management Made Easy: A guide to Taming the Downtown Parking Beast: June, 2001

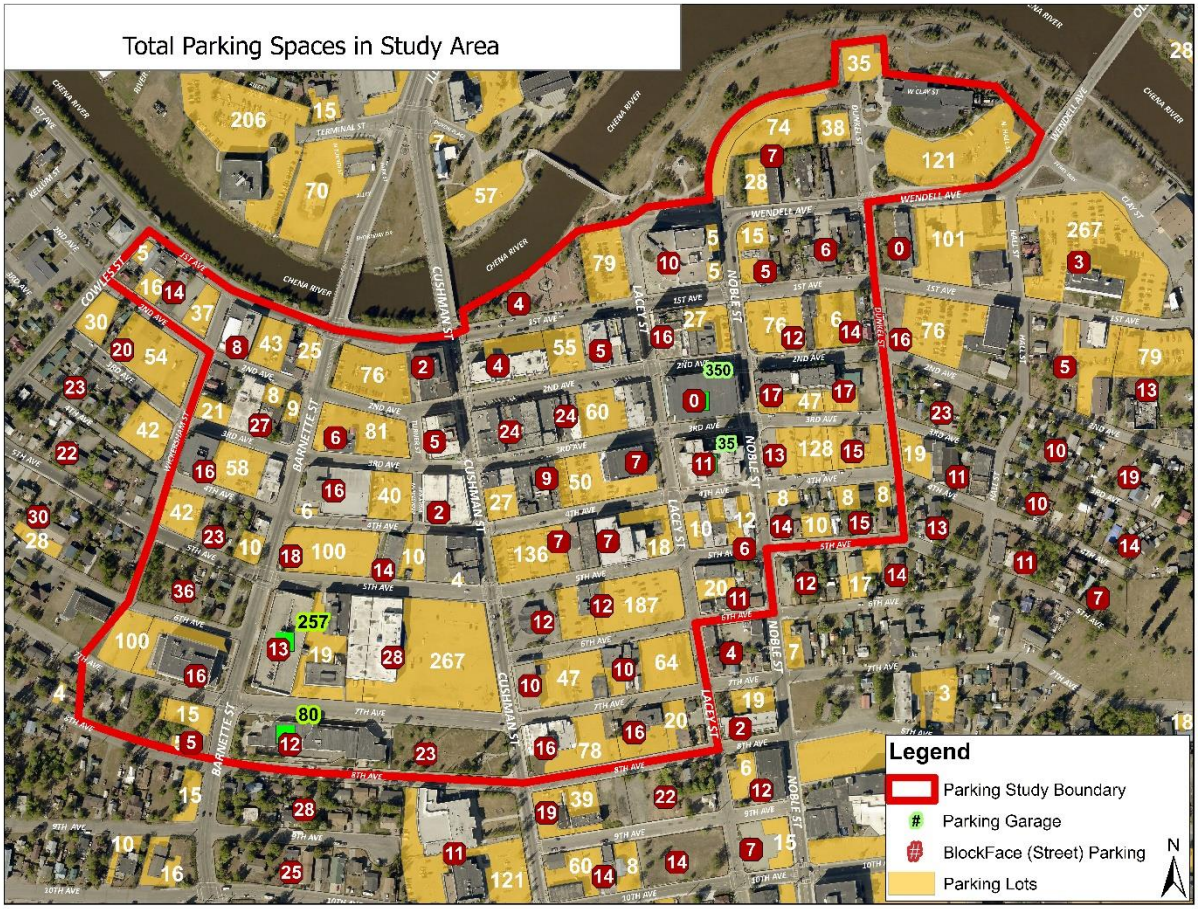
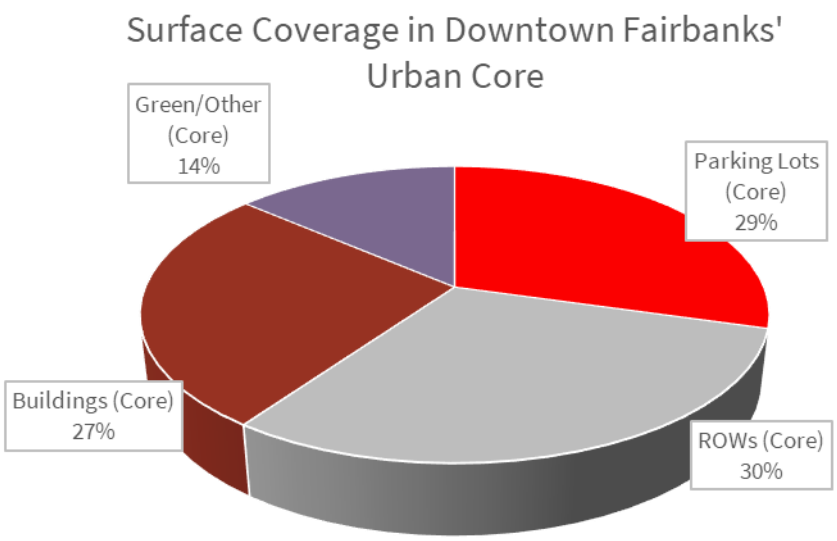


Figure 3: Total Parking Spaces

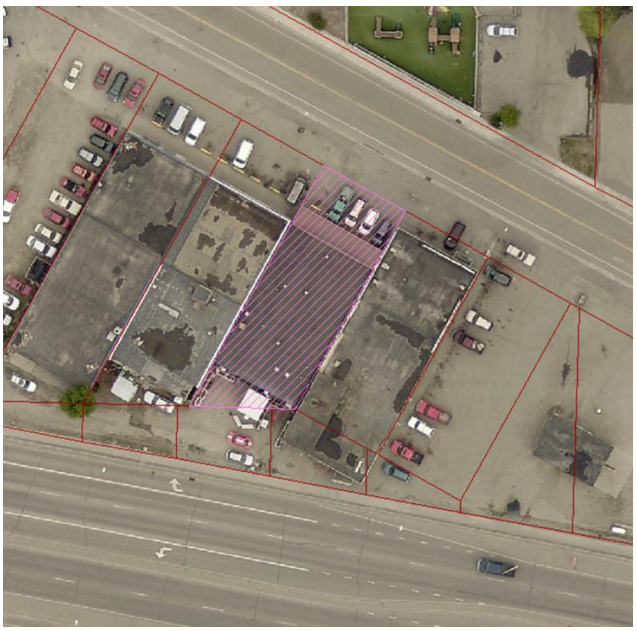
The total results from the study area are available in Figure 3 and Table 1

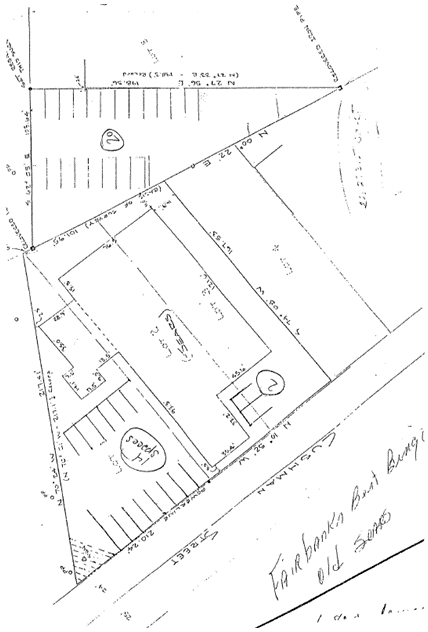
Downtown Parking Spaces by Type		
Structure Parking Spaces	722	18.7%
On-Street Parking Spaces	640	16.5%
Off-Street Parking Spaces (Surface)	2,509	64.8%
Total	3,871	100%

Table 1: Downtown Parking Spaces by Type



Parking Demand Specific





Downtown Fairbanks has vast amounts of parking, and there may be some institutional barriers to counteracting this low-end use of land resources in the downtown. Take for example the case of Stone Soup Cafe, a soup kitchen in Fairbanks that serves free meals weekdays from 7:30-9:30am. The Borough parking code says that for a "restaurant" one parking space per every 3 seats is required. Stone Soup has over 100 seats, and the calculation was made that they needed 36 parking spaces.

This amount of parking is not necessary for a program like stone soup where most of their clientele have no vehicle, and either walk or take the bus to the soup kitchen. In this case, Stone Soup was able to work with neighboring tenants to accumulate the amount of parking required by code. This points out a flaw in the borough's parking code, there is no flexibility that code grants for unique situations. Clearly a free food kitchen which serves the hungry and homeless for 2 hours a day does not need 36 parking spaces, however borough code required they demonstrate that they could accommodate 36 vehicles based on their seating capacity.

Parking Demand General

Supply of parking in the downtown seems to surpass demand for parking in all but a couple of localized areas, and at specific times. The following are a series of aerial photos that demonstrate the levels of available parking throughout a typical week, and during special events.

The aerial below shows one of the largest surface parking lots in the downtown. This is off Cushman Street in front of Sadler's Furniture store. This first photo shows a time when the lot is busy. As you can see, the lot isn't even approaching half full.

Figure 4: Sadler's Furniture Store on Wednesday, May 24, 2017.

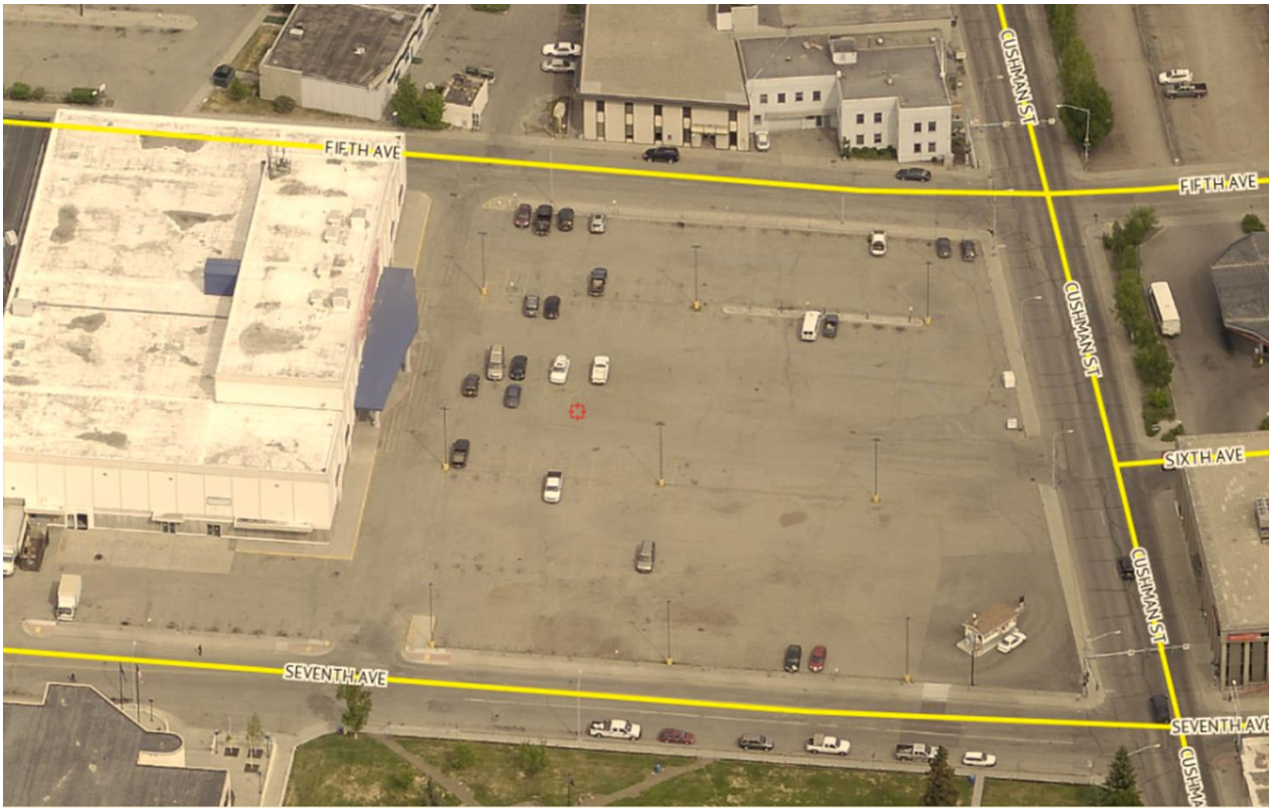


Figure 5: Sadler's Furniture Store on Sunday June 16, 2013.

The way our parking code is constructed, it only allows up to 50% of the required parking to be shared between property owners. The following photo demonstrates that there are opportunities that are not being taken advantage of between businesses in the downtown.

The first photo shows a daytime view of parking lots across second avenue from one another. The Upper parking lot that is circled in red is for a couple of local restaurants. Notice that the parking at the hotel in the foreground is completely empty. The next photo shows nighttime at the same location and the hotel lot is completely full, but the restaurant lot is empty.

These businesses could take advantage of a shared parking lot, as there is very little overlap between the two uses and the time where parking is in demand. This would give more land resources back to the downtown for infill development.

Figure 6: Daytime Parking Swap May 24, 2017

Figure 7: Nighttime Parking Swap 6/20/2012.

This is an aerial view of the parking lot at the Federal Courthouse in Downtown Fairbanks. It is quite busy during regular business hours, and that is reflected in the parking availability. Oftentimes this lot is completely full, and people have to park on the street or on the next block behind the courthouse. However, the same lot on the weekend is virtually empty.

This points out another issue with parking in downtown. The majority of lots in downtown are single use, and are signed in a very threatening manner that vehicles will be ticketed and/or towed for parking violation (i.e. not parked for the use for which the lot is associated). This creates two problems, first it leads to an inefficient use of parking resources where lots are crowded one day and empty the next. Also, it detracts from the "parker" becoming a "pedestrian" in downtown. Downtown Fairbanks is the most pedestrian friendly part of our community with many sidewalks, business frontage on the sidewalk and relatively compact land uses which facilitates walking between businesses to run errands or go shopping. By placing threatening signage, and in many lots, it forces people who may otherwise walk between locations to get into their cars and drive to the next proprietary parking lot. This creates an auto-centric downtown and reduces people's willingness to walk, and subsequently impedes the vibrancy of the downtown.

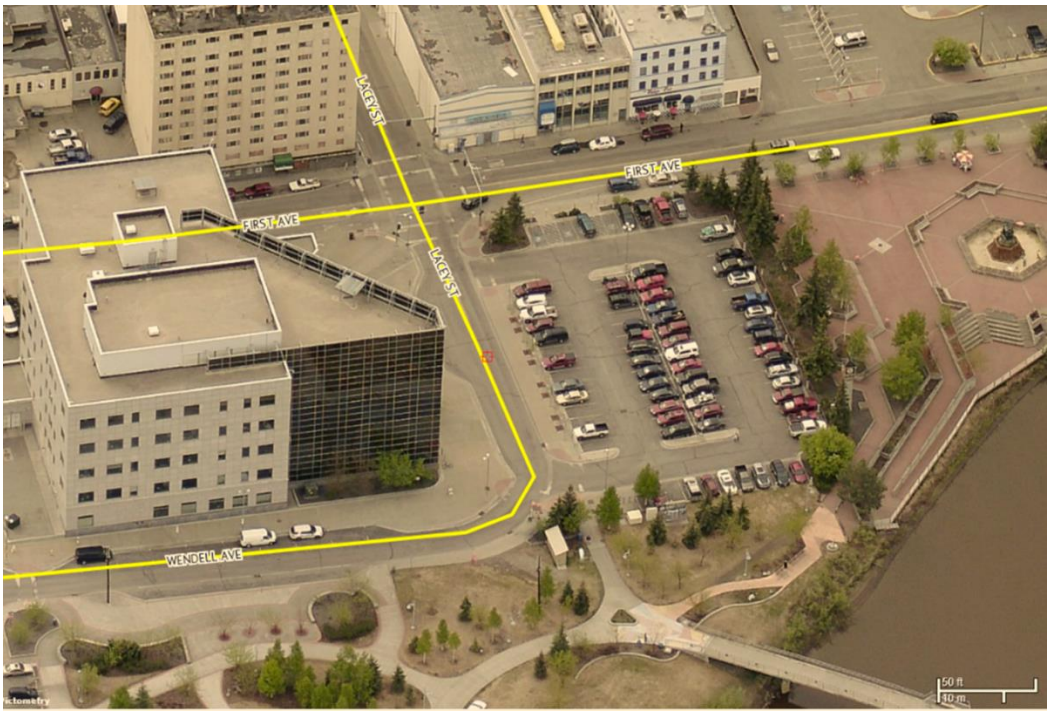


Figure 8: Courthouse Parking Daytime, 5/24/2017.

This lot could be full on the weekends were it not for the dunning signage and people's fear of their vehicle being ticketed or towed.

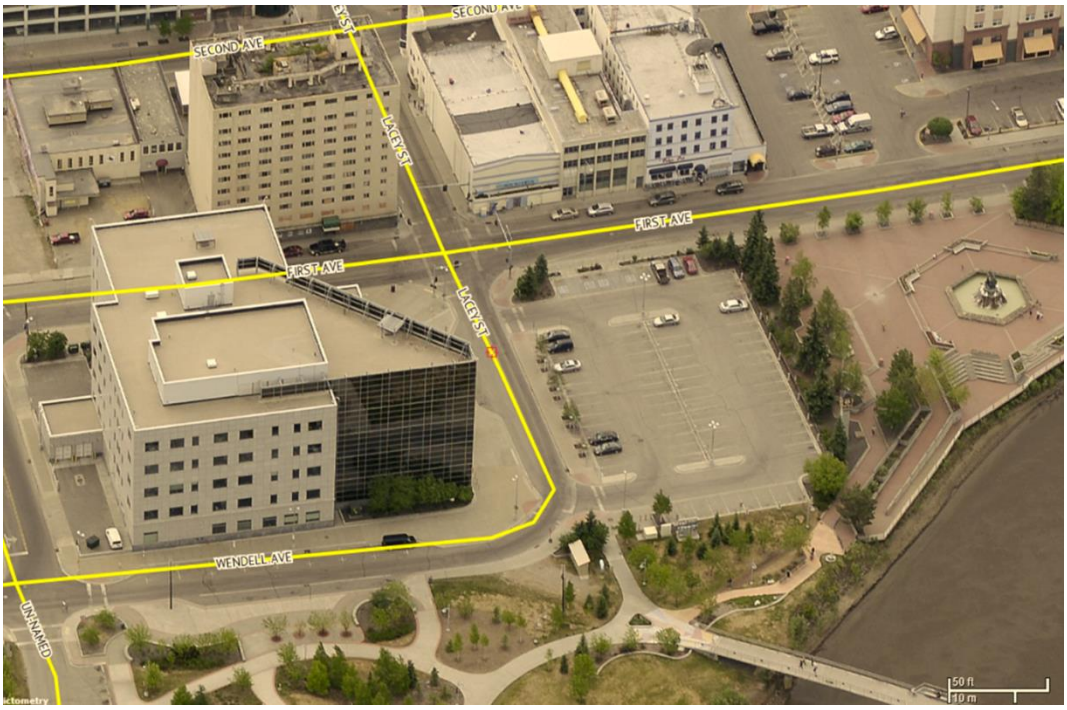


Figure 9: Courthouse parking lot during weekend

Parking Demand for Special Events

In the summertime, and sometimes during winter the community holds special events in downtown. These include the Midnight Sun Festival on the Summer Solstice, Golden Days which celebrates the city's heritage, and Bi-annually the start of the Yukon Quest Dog Mushing race between Fairbanks and Whitehorse, Canada. These are perhaps the busiest times for parking in downtown Fairbanks. The aerial photo below shows the center of the Midnight Sun Festival and at first glance, indeed it looks like parking is at a premium.

Figure 10: Aerial view of Downtown Fairbanks during the Midnight Sun Festival

However, upon closer examination there is still plenty of parking available if you are willing to walk a block or two. This is a view of the parking lot at the Tanana Chiefs building. It is largely empty and about three blocks away from the festival.

Figure 11: Tanana Chiefs Parking Lot during the Midnight Sun Festival

This photo shows the parking lot of the Key Bank Building, the old courthouse, and the Post Office parking lot. These buildings are all within a couple of blocks of the festival and sit largely empty.

Based on this analysis and the anecdotal evidence that supports it the planning department staff concluded that:

1. There was a much greater supply than demand for parking in the core area of downtown,
2. Parking rarely serves "duel purposes"
3. There is a good amount of on-street parking, but more could be utilized.

While the aerial photos show that perhaps the demand for parking is out of sync with the supply of parking in downtown Fairbanks, the downtown working group wanted quantitative evidence that indeed there was too much parking, so staff developed a methodology and did an occupancy study.

Parking Occupancy Methodology

To determine the existing demand of the parking supply, observations were taken over four days during the spring of 2019. The occupancy rate methodology is to count parking use in selected time periods throughout the day, including on-street, off-street, and parking structures. The dates chosen were to represent average parking days in the downtown and not specific high trip generating events, such as "Black Friday". Parking counts took place on

two different weekdays in early spring (Tuesday, April 2 and Wednesday, April 10), one weekend day (Saturday, April 27), and one weekday in later spring (Wednesday, May 8).

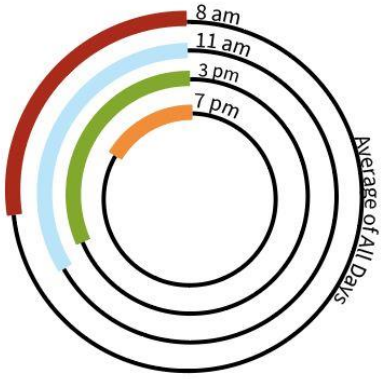
Each day, every parking space within the study area was observed once during four time periods (8:00-10:00, 11:00-13:00, 15:00-17:00, and 19:00-21:00). These four time periods were chosen consistent with recommended best practices[4] to represent different use demands throughout the day. For example, it would be expected that more parking spaces would be occupied proximate to commercial uses during the mid-point in the day and more parking spaces would be occupied proximate to residential uses during the late evening.

In the field, there were four FNSB Community Planning Staff Members conducting the count and it would take approximately 60 – 90 minutes to observe and document the occupancy of the project area. For the field visit the number of occupied spaces were annotated on a hard-copy map. When the four field visits concluded, the results were input into a GIS system for spatial analysis.

Parking Occupancy Results

Across time days and timeslots that were observed, the average occupancy rate for parking downtown was 26.94%. This tends to be on the very low side for parking demand in a smaller to mid-sized community. An ideal occupancy rate would be closer to 75% for a community to begin to consider other options, such as a parking garage[5].

1) Across the four observed days and four observed times per day of the parking study the average occupancy rate was 26.94%

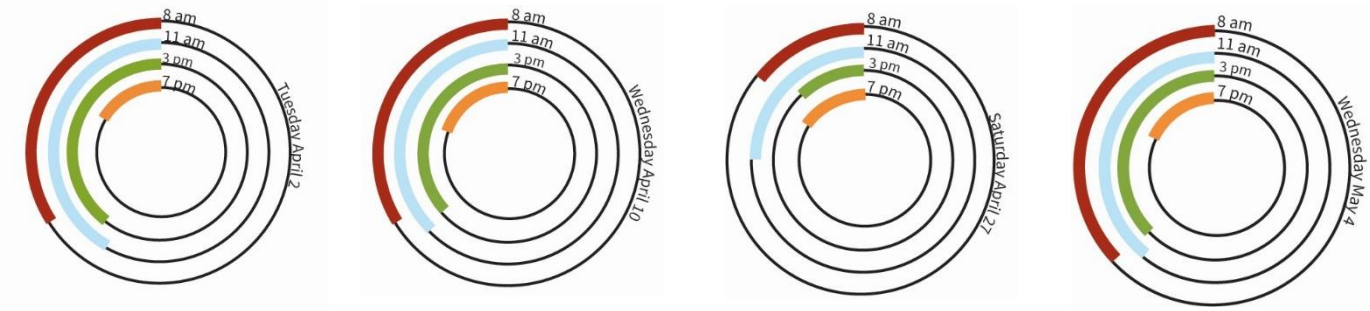


2) Overall occupancy rate by weekday and timeslot (busier during day, weekend, etc.) The peak for downtown parking demand was during weekdays, approximately mid-day. In the observed counts the highest occupancy rate was 35% on weekdays during the 11:00 am to 1:00 pm timeslot. Weekday morning

[4] Oregon Department of Transportation, Parking Management Made Easy: A guide to Taming the Downtown Parking Beast: June, 2001

[5] Walker, Philip L., Downtown Planning for Smaller and Midsized Communities (2009), American Planning Association Planners Press. Chapter 3, Parking

and afternoons had a comparatively similar demand rates ranging between 30% and 34%.



The downtown parking demand dropped off significantly during weekday evenings and weekends with demand rates ranging between 13% and 24%.

The total results are available in Table 2.

Total Occupancy rate by time and weekday/weekend								
	Weekday 8:00am	Weekday 11:00am	Weekday 3:00pm	Weekday 7:00pm	Weekend 8:00am	Weekend 11:00am	Weekend 3:00pm	Weekend 7:00pm
Total Cars parked	3,245	3,927	3,653	1,886	413	740	438	472
Total Spaces Counted	10,623	10,973	10,938	9,888	3,039	3,039	3,296	3,039
Total Occupancy Rate	**30.55%**	**35.79%**	**33.40%**	**19.07%**	**13.59%**	**24.35%**	**13.29%**	**15.53%**

Table 2: Total Occupancy rate by time and weekday/weekend

- This number fluctuates between time periods because some lots close periodically, thus they couldn't be counted.

3) Overall occupancy rate by type (garage, on street, parking lot). There was no significant difference in downtown parking demand by the type of parking. All demand rates ranging between 25% and 27%.

Total Occupancy rate by Parking Type			
	On Street Parking	Off Street Parking (Parking Lots)	Structure Parking (Parking Garages)
Total Cars parked	2117	10611	1919
Total Spaces Counted	7710	39120	7491
Total Occupancy Rate	**27.46%**	**27.12%**	**25.62%**

Table 3: Total Occupancy rate by Parking Type

4) Surface Parking Lot Occupancy—There are approximately 2500 surface lot parking spaces in our downtown Fairbanks study area. These are distributed over 51 surface lots that were counted for four days, at 4 distinct times each day.

   Below are maps showing the occupancy of the parking lots in our downtown study area. There are two maps for each day data were collected. The first map is an average occupancy for that day, and the second map is the highest occupancy time counted for that same day.

   On Tuesday April 2nd, 2019, the average for the day only saw 5 lots with 60% or greater occupancy, the remainder were all between 0 and 60% occupied, thus leaving ample room for parking in the downtown core.

   However, the average tends to underestimate parking needs throughout the day, so to get a feel for this, the busiest time observed for that day was also included. On Tuesday April 2nd, 2019, the busiest time that was observed was 8-10 am. During this time there were 8 lots that were 60% filled or greater, with the remainder between 0 and 60% occupied.

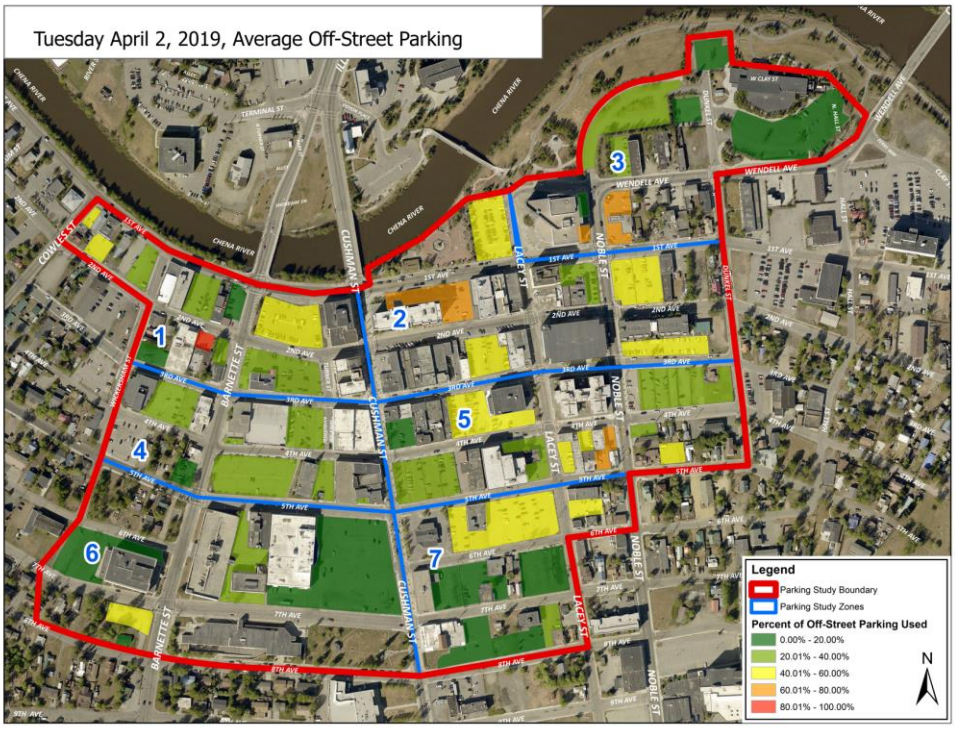


Figure 12: Tuesday 4/2/2019 Average Off-Street Parking Utilization

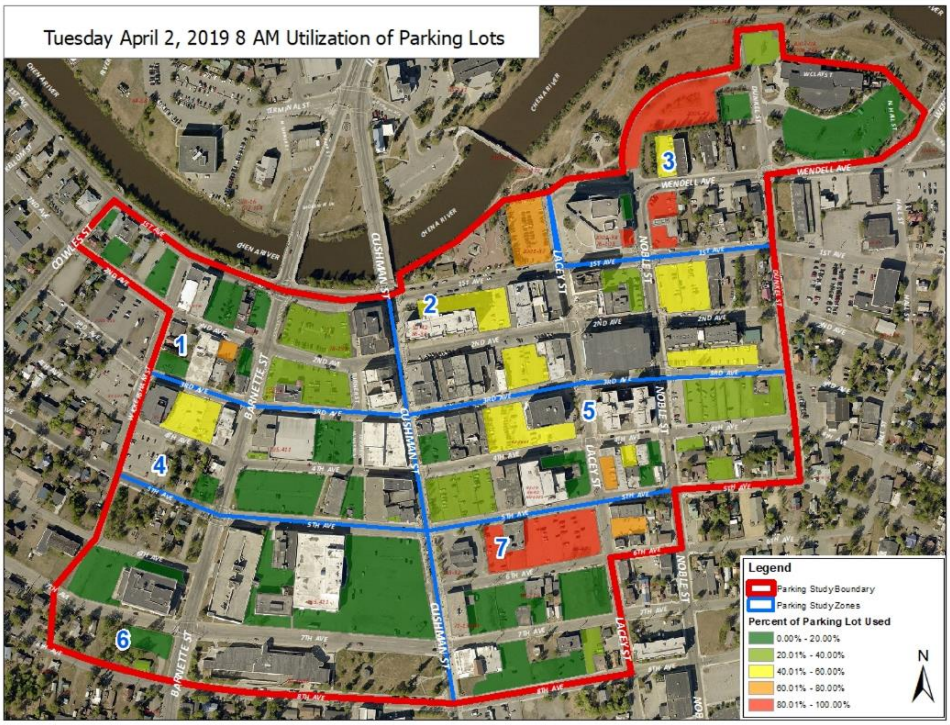


Figure 13: Tuesday 4/2/2019 8:00 AM Parking Lot Utilization

On Tuesday April 2, 2019, there were only 3 lots that were filled at 60% or greater. The majority of surface parking lots were less than 60% full on average.

The busiest time for parking on Tuesday April 2nd, 2019, was between 8 and 10 am.

5) To assist in analyzing the data, staff broke the study area into seven different zones to gauge specific parking supply and demand amongst very small areas of the downtown. These zones were only about 10 acres in size comprising between four and seven city blocks, depending on block size. A map of the parking analysis zones is available in Figure 3.

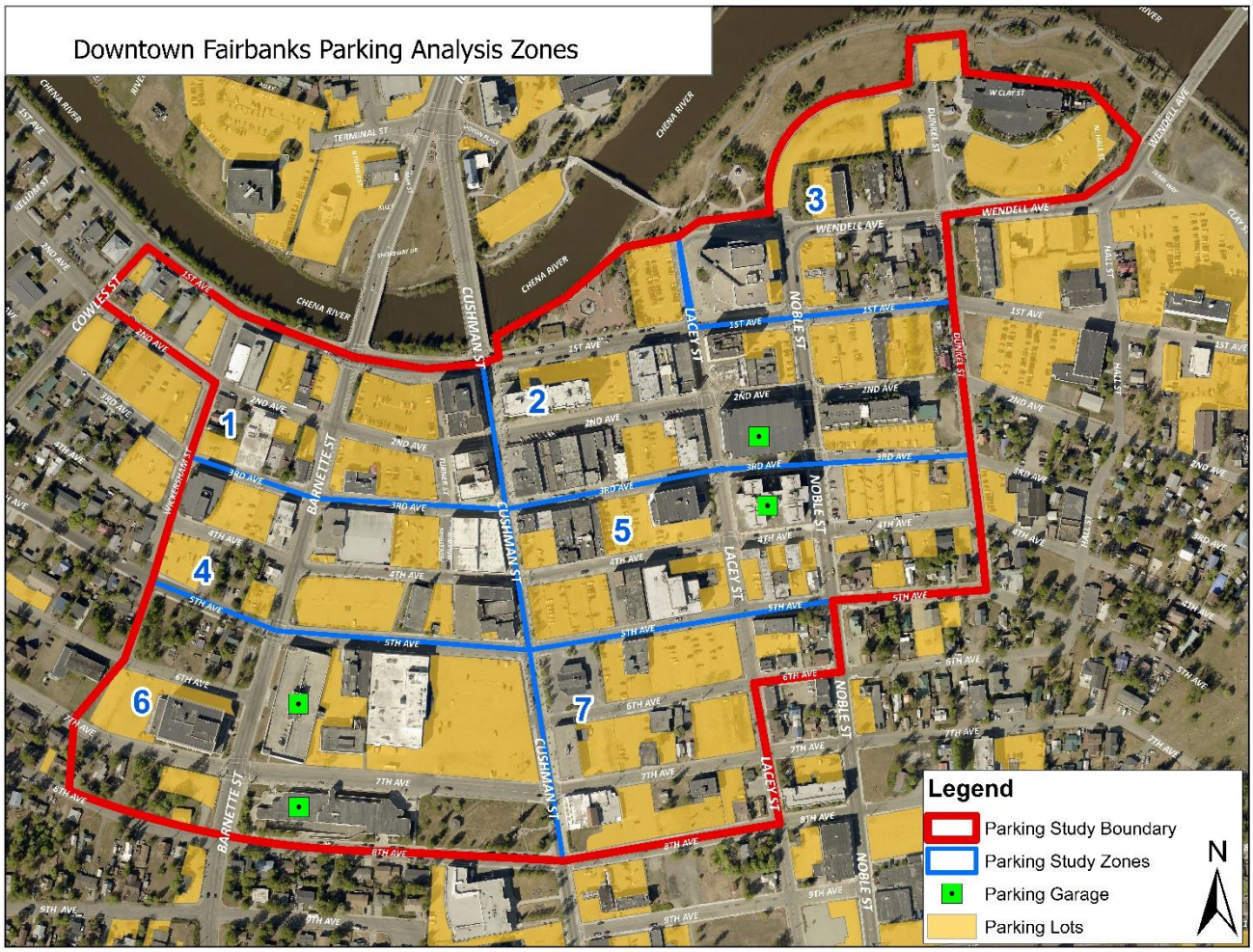


Figure 14: Parking Analysis Zones

These seven parking zones varied in the amount of parking spaces occupied across the study time. Parking in the downtown is very localized. Consistently zone 2 was the busiest parking zone, and zone 6 was typically the least busy. Zone 2 has most downtown retail shops. Second Avenue in zone 2 has on-street parking that is mostly full at many times of the day due to its proximity to the downtown retail cluster of businesses.

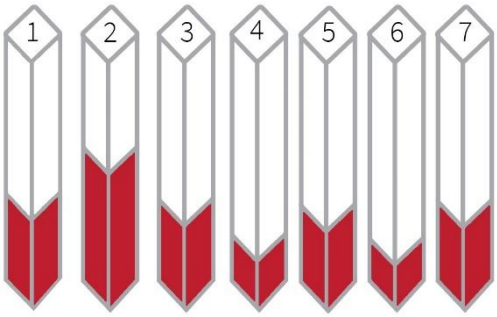


Figure 15: Total On-street and Off-street Parking Occupancy by Zone

Area 2		
Time Slot	Total Occupied Spaces	Occupied Percent
Total Spaces	450	
8:00 - 10:00	213	47.33%
11:00 - 1:00	257	57.11%
3:00 - 5:00	260	57.78%
7:00 - 9:00	198	44.00%

And if we solely look at 2nd avenue on-street parking the percentages increase to what could be considered as high demand:

Area 2 - On-Street 2nd Ave Block Only		
Time Slot	Total Occupied Spaces	Occupied Percent
Total Spaces	**48**	
8:00 - 10:00	21	43.75%
11:00 - 1:00	38	79.17%
3:00 - 5:00	33	68.75%
7:00 - 9:00	39	81.25%

Zone 6 conversely has Sadler's furniture store that is a low intensity use but has the largest surface lot in downtown. You can see from the table that the 267 spaces on the lot are very sparsely used.

Saddlers Lot		
Time Slot	Total Occupied Spaces	Occupied Percent
Total Spaces	**267**	
8:00 - 10:00	20	7.49%
11:00 - 1:00	48	17.98%
3:00 - 5:00	50	18.73%
7:00 - 9:00	26	9.74%

Conclusion

In conclusion, parking supply and demand play a crucial role in downtown transportation planning. Over-parked and under-parked areas can have significant impacts on urban mobility, local businesses, and the environment. The optimal occupancy of parking in downtown areas depends on several factors, including location, demand, supply, time of day, day of the week, and type of parking facility. To ensure a balanced parking supply and demand, it is essential to conduct comprehensive studies that consider these factors and the specific context of the downtown area.

The average overall occupancy of parking in the downtown is just over 25% occupied. This suggests that at any given time there are 3 vacant parking spaces for every space that is occupied. This creates an environment with many gaps in buildings, potentially making walk distances greater. Pedestrians are very important to the retail environment in Downtown Fairbanks, so making things more convenient for them has the potential to improve the overall economy of the downtown.

Single use parking lots, imposing signage and the notion that plentiful parking is good for business have all played a role in Downtown Fairbank's urban form. Large gaps in land use with parking lots as a major part of the landscape encourages auto use rather than creating a comfortable pedestrian environment.