



Downtown Red Deer's Investment Action Plan (IAP) Parking Study

Final Report

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1. EXECUTIVE SUMMARY

Bunt & Associates was retained to complete a Greater Downtown Parking study as part of the City of Red Deer's Downtown Investment Action Plan (IAP). The intent of this Parking Study is to identify desired outcomes that the City of Red Deer can take action on to meet its parking infrastructure management and improvement goals. The key findings and corresponding recommendations are summarized below.

1.1 Key Findings

1.1.1 Existing Parking Supply & Restrictions

- The available public parking supply in the Greater Downtown area is 3,776 stalls (2,796 on-street + 980 public off-street). Within the Historic Downtown, the available parking supply is 1,524 stalls (595 on-street + 929 off-street).
- Payment is required from 9:00-17:00 on weekdays at 2,049 stalls (1,069 on-street + 980 public off-street). Existing parking rates range from \$0.80 to \$1.30 per hour at on-street stalls and \$0.80 to \$1.20 per hour at public off-street stalls.

1.1.2 Existing Demand

In September 2015, parking occupancy data was collected on a Thursday and Saturday at all public parking stalls in the Greater Downtown area. Analysis of this data found:

- The peak weekday **on-street** demand in the study area was 1,210 out of an available 2,796 stalls (43%). Within the Historic Downtown, the peak weekday on-street demand was 322 out of an available 595 stalls (54%). This observed peak demand occurred at 2:00 PM.
- The peak weekday public **off-street** demand was 554 out of an available 980 stalls (57%). Of the available 980 public stalls, 929 are provided in the Historic Downtown with the remaining provided in the South Mixed Use area.
- Within the Historic Downtown, the peak weekend **on-street** demand was 316 stalls out of an available 595 stalls (53%).
- The peak weekend public **off-street** demand was 67 out of an available 986 stalls (7%).
- The overall parking supply in the Greater Downtown area is sufficient to accommodate current parking demand. The overall peak parking demand occurs mid-day on weekdays, which is expected considering the current mix of land uses in the downtown area being primarily employee based.
- The current inventory could support additional development without the need to develop additional parking spaces. There are opportunities to introduce land uses that would utilize existing parking inventory during evenings and weekends.

1.1.3 Existing Parking Needs Assessment

While the overall parking supply is adequate for existing parking demand, there are certain streets and lots within the Greater Downtown area that experience high occupancy during the weekday and weekend period. An assessment of only these stalls indicated:

- Additional parking spaces are not required in the Greater Downtown area. That said, on weekdays, some streets and surface lot P4 would benefit from demand mitigation (increased parking rates or introduction of time limits).
- Block specific stall deficiencies in the Riverlands and Railyards area are largely related to illegal parking occurring on 54 Street in Riverlands and on the 53 Avenue bike lanes in Railyards. Increased enforcement is recommended to prevent illegal on-street parking in bike lanes. Time limit restrictions may be required on certain streets in these zones.
- No significant stall deficiencies are noted on weekends. Therefore, additional supply or demand mitigation (e.g. paid parking) is not required to accommodate current weekend parking demand.

1.1.4 Duration of Stay

License plate data was collected in high-use areas to determine duration of stay. The following key duration characteristics were observed:

- The highest observed on-street duration period was under 1 hour (72%). The average on-street duration of stay was 1.0 hour.
- The highest observed off-street duration period was 1-2 hours (17%). The average off-street duration of stay was 4.2 hours.
- The results confirm on-street parking spaces are being used extensively for short-stay parking, which is consistent with their intent. The results also confirm that most long-stay parkers are using the off-street facilities as should ideally occur. Long-stay characteristics suggest that monthly parking passes should be considered for all existing surface lots except for P4 where demand is high.

1.1.5 Stakeholder Feedback

A survey was distributed and collected from businesses in the Greater Downtown area to gauge perceptions. The following key trends were heard through the consultation process:

- Insufficient parking perception is considered to be an issue for customers at 57% of businesses.
- The most supported parking management strategies are development of new long-term parking or paid parking. The least supported parking management strategies are new time restrictions or increased parking enforcement.

1.1.6 Future Assessment

Existing C1 District

There are currently no bylaw minimum parking requirements for commercial uses in the C1 (Commercial City Centre) District. The C1 district is comprised of principally the Historic Downtown, North Mixed Use, and South Mixed Use zones. An assessment was completed to determine the level of additional development that could be accommodated in these zones utilizing existing public parking supplies. The assessment found:

- The existing residual public supply in these zones during peak periods is 787 stalls.
- Based on existing residual supplies, up to 39,350 m² of office (423,000 ft²) floor area can be accommodated without requiring any off-site parking. However, development potential assumes that existing parking supplies remain unchanged. If existing surface lots are developed, there may be a need to either provide on-site parking for those uses or reduce developable floor area.
- The residual supply during non-peak periods (evenings & weekends) is much higher. As such, there remains a large development potential for uses that have peak parking demand on evenings and weekends. This includes arenas, nightclubs, places of worship, restaurants, retail, and theatres.

Riverlands

The existing residual surplus is 61 on-street stalls with no currently available public off-street stalls. New public parking will be required to accommodate additional development in the area if no minimum commercial parking is required on-site. The Riverlands ARP indicated that new public parking will be provided through approximately 625 on-street metered stalls as well as the construction of a public parking lot at the entrance to Riverlands.

1.2 Recommended Strategy

A series of parking management solutions were developed and assessed in relation to managing existing or potential future parking issues. After assessment, the following strategy was recommended.

1.2.1 Short Term

- To account for the shared parking impacts of mixed-use sites, update the Land Use Bylaw to include parking occupancy rates by time of day (morning, afternoon, and evening).
- Within the Greater Downtown, reduce the residential bylaw minimum parking requirements to 1 stall per residential unit, as opposed to tying the requirement to the number of bedrooms. The visitor parking requirement can be lowered to 0.08 stalls per unit, especially for high density residential developments.
- Within the Railyards zone, remove ground floor commercial parking requirements for mixed-use developments when office or residential uses are located above ground.
- Update bylaw minimum parking lot design standards to match City of Calgary's reduced standards.
- Increase on-street parking rates in high demand areas (48 Avenue – 51 Street to 47 Street; Gaetz Avenue – 50 Street to 49 Street; 50 Street – Gaetz Avenue to 49 Avenue; 48 Street – Gaetz Avenue to 49 Avenue) as well as in surface lot P4. Rates would be increased to ensure an ideal on-street occupancy below 85%.
- Make on-street parking rates divisible by \$0.25 per hour to increase ease of payment.
- Allow developments to unbundle parking, where in parking spaces can be rented or sold separately from building space such that occupants only pay for spaces they actually want to use.
- Implement new time limit restrictions (2-Hour 8:00-18:00 Monday-Friday) in currently unrestricted areas near the Historic Downtown.
- Improve wayfinding to the Sorenson Station parkade entrance. Provide real-time information at the parkade entrance indicating available parking supply.
- To preserve on-street parking, encourage new developments to provide access from lanes or combined driveways.
- Consider monthly parking passes for all off-street lots except for P4.

1.2.2 Mid-Term to Long-Term

- Add off-peak parking (9:00-15:30) on curb lanes along both 49 Avenue and 49 Street. This could increase on-street parking supply by over 200 stalls while keeping curb lanes available for vehicle traffic during the busiest traffic periods.
- Consider a cash-in-lieu or benefit assessment bylaw fee to ensure parking spaces are available to meet parking demand within the Greater Downtown area, while at the same time improving development

potential and reducing development costs by removing the need to provide costly on-site parking. These fees may be especially useful in redeveloping areas such as Riverlands and Railyards.

- Replace existing on-street meters with modern payment methods. A review of other jurisdictions suggest this method would involve a pay station with either a pay & display, license plate entry, or stall number entry requirement. This method would increase user convenience by allowing for credit card payment while reducing operating costs.
- Annually monitor on-street and off-street spaces to identify locations where parking rates increases are required to achieve the occupancy thresholds. In all situations, on-street parking rates should exceed rates for adjacent off-street facilities.
- Improve walking and cycling conditions to reduce parking demand. Ensure sidewalks are provided on all roads within the Greater Downtown area. Promote walkable developments and review opportunities to provide cycling connections.
- If spillover demand grows, increase time restrictions and consider implementing a residential parking permit program.
- Identify sites where central pooled parking facilities could be developed. Future sites were central pooled parking facilities would need to be located within 2-3 blocks walking distance of areas where densification is expected.

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2. INTRODUCTION

2.1 Context

Millier Dickinson Blais was retained by the City of Red Deer to complete a City of Red Deer's Investment Action Plan (IAP) for the Greater Downtown area. The desired outcome of the plan is to provide concrete and feasible actions, in order of priority that the City should take to remove barriers for development and enhanced vibrancy in downtown. To help develop the plan, Bunt & Associates was retained as a sub-consultant to complete a Greater Downtown Parking Study as per the requirements listed below:

Phase 1, Focus Area 2: Parking Management in the Greater Downtown

Content analysis of key City of Red Deer documents (listed above in 2. Background Information) which provides direction related to investment in Red Deer's Greater Downtown Area - This should tie our vision and desired outcomes related to land use with parking needs, parking infrastructure management and policy direction. In other words, the objective will be to examine what The City of Red Deer needs to do in order to manage parking infrastructure in a way that supports The City's land-use vision. The purpose of this content analysis is to establish synergies and gaps related to The City of Red Deer's stated strategic objectives for the Greater Downtown Area related to parking infrastructure management, to set the context for subsequent components of this project, and to inform final actions/recommendations. This will include an analysis of current Land Use Bylaw provisions and requirements related to off-street parking.

1. *Working with key City of Red Deer staff, provide a statistically valid analysis of the Greater Downtown Area's public and private parking inventory, as well as an analysis of public parking usage rates including but not limited to:

 - i. *Total number of parking lots and areas*
 - ii. *Total number of daily and monthly off-street stalls*
 - iii. *Total number of on-street parking stalls*
 - iv. *Analysis of pricing structures by type and geographic location of parking*
 - v. *Approximate costs of parking infrastructure by area and type*
 - vi. *Utilization Rates for public lots/stalls during peak and non-peak times, focusing on high-use areas in the GDA etc.*
 - vii. *Other appropriate data**
2. *Provide an analysis of innovative and promising practices among similar-sized municipalities throughout Alberta, Canada, throughout North America and internationally in terms of parking infrastructure management.*
3. *Stakeholder Engagement – Building upon the information gathered, engage key stakeholders, such as developers, builders, businesses, residents, City Council and appropriate City of Red Deer departments, through one or more creative thinking workshops or direct interviews, to solicit feedback on Red Deer's competitive advantages and disadvantages in the downtown and strategies to support*

future investment of all types in the area. It is important to note that the Economic Development Strategy report contains significant stakeholder consultation data; the task here will be to identify gaps in this information related to this project and fill them in through consultation.

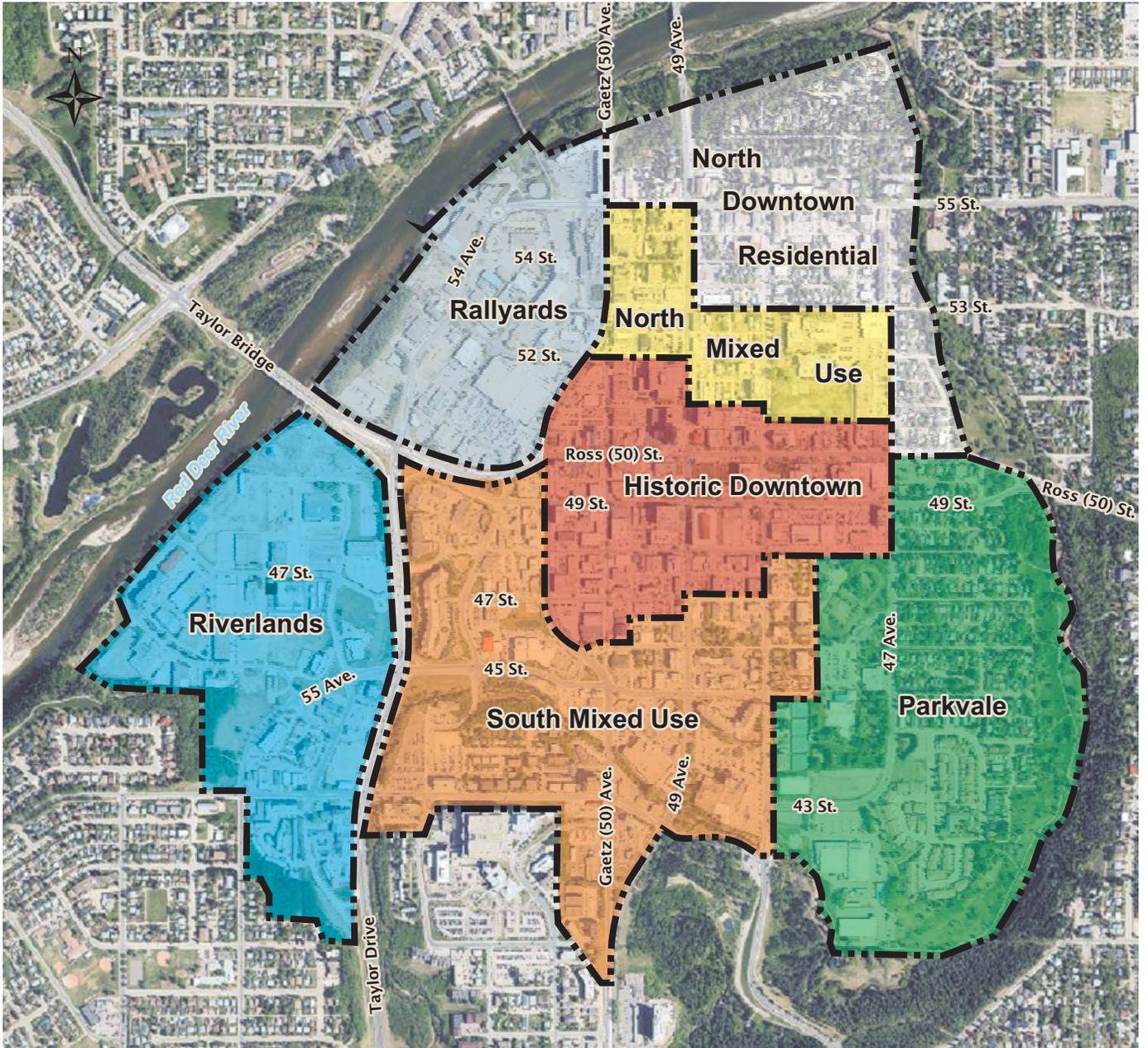
4. *Stand Alone Deliverable - Focus Area 2 Conclusions – Provide initial conclusions and identify desired outcomes that The City of Red Deer can take action on to meet our goals of improvement in how we manage parking infrastructure, in a format that would suffice to ensure that this component can act as a 'stand-alone' information.*

2.2 Study Objectives

The objective of this study is to review existing and future parking arrangements and assess the effectiveness of existing arrangement, propose new strategies to address any future shortcomings identified in the analysis, and propose a comprehensive parking strategy that is implementable. The scope of the project includes the following tasks:

- Review previously completed documents including, but not limited to municipal development plans, the land use bylaw, current engineering specifications, and other long range planning documents.
- Undertake a comprehensive field survey exercise to confirm the existing parking demand and supply of on-street and off-street parking in the study area.
- Identify emerging issues. This would include the assessment of the future parking conditions based on anticipated growth and development. The results of this assessment would identify constraints and residual capacity locations, and form the basis for determining the necessary improvements to accommodate the future parking demand.
- Develop a comprehensive parking strategy that responds to issues and opportunities identified based on the results of the emerging issues assessment.
- Develop policy recommendations and implementation strategy.

The Greater Downtown study area is illustrated in **Exhibit 2.1**.



Base Map Source: City of Red Deer, 2013 Ortho Image

LEGEND

--- Parking Study Boundaries

Exhibit 2.1
Parking Study Area

Greater Downtown Red Deer Parking Study
 November 2015 Scale NTS



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3. BACKGROUND DOCUMENTATION

A comprehensive review of available documents, as outlined below, was undertaken to identify relevant Greater Downtown parking management issues.

3.1 Strategic Plan Report 2015-2018

The City's Strategic Plan (2015-2018) outlines a vision and strategy as Red Deer moves from a small City to a modern urban centre serving a region of over 320,000. The document identifies the following three themes: *Dialogue* – engaging our community and enhancing our relationships; *Community Amenities* – planning great spaces and places for community living; and *Financial Leadership* – creating a sustainable financial foundation.

3.2 Economic Development Strategy

Urbanics Consulting Ltd. prepared an Economic Development Strategy (2013) for the City of Red Deer. The document identifies a projected population for the City of Red Deer of 175,000 by 2041. The document also identified a short-term (10-Year) need for about 1,140 units of housing annually and that the City could accommodate an additional 149,000 square feet of new retail space every year. The workforce is projected to grow from 55,000 workers in 2011 to nearly double that by 2041.

The stated Downtown revitalization desired outcome is *Red Deer will have a vibrant downtown that is active day and night, all year long. Downtown will continue to be home to most of Red Deer's office space, but also to an increasing number of residents and homeowners, ranging from single university students to families to empty-nesters. The streets will be alive with activities, cafes, shopping and people just getting together. Historic Downtown will be a point of pride as century-old heritage blends seamlessly into the modern era. The Greater Downtown Action Plan will be carried out and the prime riverfront properties will be bustling with people and activity, connecting the river to the Historic Downtown and helping to drive economic activity for the entire city.*

The following relevant strategies are noted:

- **Strategy C3: Explore retail options along Gaetz Avenue, especially downtown.** About 45,000 square feet of retail growth should be placed downtown per year over the next 10 years. This includes an annual average of 30,000 square feet of "Department Store Type Merchandise".
- **Strategy C4: Continue to support downtown as the City's primary office location.** The City should guide development such that an average of 30,000 square feet of office space is added downtown per year.
- **Strategy C6: Promote greater housing stock and diversity of housing.** The City should provide incentives for more mid-high density housing in the downtown area as well as more purpose-built rental units.

- **Strategy C7: Leverage brownfields for higher-density infill developments.** Incentives may be needed to accommodate redevelopment of the Riverlands and Railyards districts.
- **Strategy F1: Create higher-density development Downtown.** Significantly higher densities of development, especially mixed-use developments, can be achieved in the Downtown area through strategic land acquisition/assembly, changes in the Planning and Development Regulations, and a variety of tax tools. One component of a more vibrant, walkable, and active downtown is to increase the number of residents, which can be done most efficiently with higher-density multi-family housing.
- **Strategy F2: Create more rental apartments in the Greater Downtown Area.** One scenario suggests 1,100 units needed annually, 400 could be apartments, with 190-260 units built downtown with an emphasis on purpose-built rental units. Provide incentives to developers to construct rental housing in the downtown area.
- **Strategy F3: Make downtown a year-round destination.** The City should examine options including expanding the successful Downtown Patio program, creating a Winter Garden, opening a skating rink, establishing a public market as well as trying out evening activities. A majority of the 98,000 square feet of Department Store Type Merchandise retail demanded annually should likely be placed downtown to foster full-time activity as well as draw interest and spending from outside the city.
- **Strategy F5: Capitalize on the Historic Downtown built environment.** Many people are drawn to the authenticity of a historic area, thus making such places ideal for pedestrians and walk-in businesses.
- **Strategy F6: Consult with the Donald School of Business.** The Donald School of Business is an important downtown tenant bringing hundreds of students, faculty and visitors downtown every day.
- **Strategy F7: Assess the needs for public services for growth populations.** As more residents live downtown there will be an increased need for public services.

3.3 Greater Downtown Action Plan

The Greater Downtown Action Plan (February 2009) identifies a vision for the future of Red Deer's Greater Downtown in which it will be a vibrant, diverse urban centre led by the emergence of the following three distinct but complementary districts:

- **Historic Downtown** – a continuously reinvigorated office and retail centre featuring major government buildings, the City's historic character, and new mixed-use residential and commercial developments;
- **Riverlands** – a special area with an emphasis on the culture of Red Deer – a district that fosters formal and informal gatherings for our community and visitors; and
- **Railyards** – the new residential lifeblood for Greater Downtown, where high-density urban living will create a new energy in the City's centre.

Key planning initiatives and recommendations from the document include:

- Historic Downtown planning features and initiatives
 - New Civic Plaza northwest of existing City Hall.
 - New Museum Site – *48 Ave & Alexander Way*.
 - Potential residential/mixed-use or possible concert hall location at the City-owned parking (and adjacent vacated Uptown Theatre) – *49 Ave & 49 St*.
 - Off-peak on-street parking pilot project on 49 Avenue, and others.
- Riverlands concept planning initiatives
 - Major signature developments at the two riverfront corner sites; hotel tower at the North and residential tower at the South, both with underground parking.
 - New convention centre and possible future performing arts centre.
 - Major community/ visitor activity centre – a significant year-round facility with multiple components.
 - Perimeter parking zone.
 - Year-round Public Market and Arts Studios in adapted Transit and Civic Garage buildings.
- Railyards concept planning initiatives
 - New signature development on two City-owned properties.
- Parking recommendation – Review parking policies and incentives with a view to encouraging (in descending order):
 - Underground parkades;
 - Above ground parkades with attractive retail or other amenities on their street faces;
 - On-street parking (include parking on major corridors during off-peak hours); and
 - Fully landscaped surface level parking.

3.4 Municipal Development Plan

The Municipal Development Plan (Approved 2008) is part of an overall set of plans used by the City to guide and manage future change within the community. A goal identified in the document is the “continued growth and intensification of Greater Downtown Red Deer.”

3.5 Mobility Playbook

The Red Deer Mobility Playbook (2013) is a user-friendly tool for action and positive change in Red Deer. The document outlines tools and “plays” to move the transportation mode choice in Red Deer from a single choice (automobile) to multiple choices including:

- Require transit oriented development.
- Remove direct and indirect driving subsidies – Parking is free almost all over Red Deer while transit requires fare payment. Make sure costs from the City reflect the long-term quality of life and commercial objectives. Short-term profits must be over-looked for long-term gains.

If the strategies identified in the document were implemented, the document suggests a potential transportation mode split shift from the existing 9.6% active modes usage (walking, cycling, transit) to 32.6% in the future.

3.6 Neighbourhood Planning & Design Standards

The City of Red Deer’s Neighbourhood Planning and Design Standards (2013) outlines standards to help achieve the City’s Strategic Plan.

3.7 Land Use Bylaw

3.7.1 Bylaw Motor Vehicle Parking Requirements

The bylaw minimum motor vehicle parking requirements are listed in **Table 3.1**. The parking requirements must be met within all districts except for C1 (City Centre District). However, within C1 districts, the residential parking standards must still be met.

Table 3.1: Existing Red Deer Bylaw Parking Requirements

USES	PARKING SPACES
Places of Worship	1.0 per 6.0 persons, based on maximum occupancy of the primary congregation/sanctuary area
Auditorium, Arena	1.0 per 10.0 seats
Health Care (excluding Hospitals)	2.5 per 93.0 m ²
³ Hospitals, Temporary Care Facility	1.0 per 93.0 m ²
⁴COMMERCIAL & INDUSTRIAL	
USES	PARKING SPACES
Adult Mini-Theater	1.0 per 3.0 seats with a minimum of 1.0 space for each individual viewing area containing 3.0 seating spaces or less
Call Centre	8.0 stalls per 93.0 m ² (gross floor area)
Commercial Recreation Facility: Racquet Sports Facility	4.0 per court
⁵ Gaming or Gambling Establishment	1.0 space per 2.3 seats
Bowling Alleys	5.0 per alley plus, 5.0 for staff
All other uses	1.0 per 2.0 participants (at maximum capacity) plus 1.0 per 20.0 m ² (gross floor area)
Commercial Entertainment Facility	1.0 per 5.0 seats
Commercial Service Facility, excluding Funeral Homes	2.5 per 93.0 m ²
Drinking Establishment	1.0 per 4.0 seats
Funeral Homes	1.0 per 5.0 seats
Hotels, Motels and Hostels	1.0 per guest room
⁶ Live Work Unit	1 additional parking space per unit
Local Convenience Shopping Centres	5.1 per 93.0 m ² (gross floor area)

Table 3.1: Existing Red Deer Bylaw Parking Requirements - Continued

COMMERCIAL & INDUSTRIAL - Continued	
USES	PARKING SPACES
² Manufacturing and Industrial Plants, Wholesale, Servicing and Repair Establishments, Research, Laboratories and Transportation, Communication or Utility Facility	3.0 per 93.0 m ² , but not less than 4.0 spaces per tenant or establishment (The Development Authority may vary this regulation to accommodate more labour intensive uses)
Warehousing, Storage Buildings and Yards	1.0 per 93.0 m ² , but not less than 4.0 spaces per tenant or establishment
Merchandise Sales and/or Rentals:	
Sales/Rental Areas	5.1 per 93.0 m ²
Office Areas	2.0 per 93.0 m ²
Warehouse	1.0 per 93 m ²
Warehouse Sales	5.1 per 93 m ²
Offices	2.0 per 93.0 m ²
Regional Shopping Centres	4.4 per 93 m ² (gross floor area)
District Shopping Centres	5.1 per 93 m ² (gross floor area)
Repair Services	2.0 per 93.0 m ²
Restaurants	1.0 per 4.0 seats
Vehicle and Equipment Sales	2.0 per 93.0 m ²
Schools	
Public or Private Elementary and Junior High Schools	1.0 space for each classroom
Public or Private Senior High Schools	1.0 per 3.3 students, based on maximum occupancy
Colleges, Business or Commercial or Technical Schools	1.0 per 10.0 seats, plus auditorium requirements where applicable

Table 3.1: Existing Red Deer Bylaw Parking Requirements - Continued

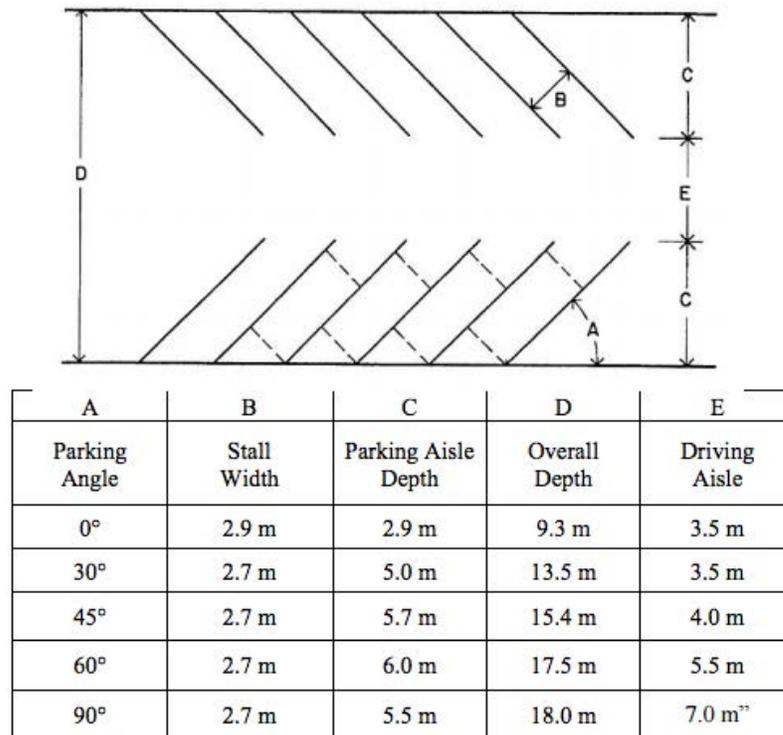
RESIDENTIAL	
USES	PARKING SPACES
¹ Carriage Home	1.0 per unit
² Detached Dwelling, Semi-detached Dwelling, Multi-attached Building fronting onto a public roadway	2.0 per unit
³ Detached Dwelling, Semi-detached Dwelling, Multi-attached Building fronting onto a private roadway	2.0 per unit plus 1.0 space for every 5.0 units which must be provided for guest parking
Multiple Family Building	1.0 per one bedroom unit; 1.5 per two bedroom unit; 2.0 per three bedroom unit plus 1.0 space for every 5.0 units which must be clearly identified as guest parking
Lodging and Boarding Houses	1.0 per 2.0 persons being accommodated
⁴ Assisted Living Facility	0.4 per unit to provide for residents, visitors and day duty staff, with a minimum of three spaces.
Secondary suite with two or fewer bedrooms	1.0 parking spaces
Secondary suite with more than two bedrooms	2.0 parking spaces

The bylaw allows the Development Authority to reduce the parking requirement where the applicant can demonstrate that there is complementary or overlapping uses of the parking facilities that would warrant a reduction in the parking requirements.

3.7.2 Bylaw Motor Vehicle Parking Standards

Bylaw parking standards are summarized in **Figure 3.1**.

Figure 3.1: Existing Red Deer Minimum Parking Lot Design Standards



3.8 Riverlands Area Redevelopment Plan

The 2011 Riverlands Area Redevelopment Plan guides the future growth and redevelopment of the Riverlands area of Downtown Red Deer. The document notes there is currently adequate parking in the area due to existing auto-oriented low-density commercial-industrial uses.

The following parking policies are noted:

- **Policy 4.7: Public Parking for Riverlands** – Adopt a comprehensive strategy for the provision of public parking for Riverlands, in consideration of the multiplicity of public facilities and open spaces in the area. Public parking will be provided through:
 - On-street parking spaces on both sides of all streets, both parallel parking and angle parking spaces. Approximately 625 public metered spaces (similar to the current downtown system) could be provided on the roadways in Riverlands.
 - The construction of a public parking lot on a site at the entrance to Riverlands – on the south side of Alexander Way, immediately west of Taylor Drive. If future needs warranted, a structured parkade, possibly with commercial uses at ground level, could be built here.

- The Hotel/Convention centre parkade providing space for several hundred cars in a parkade structure, with the numbers dependent upon the size of the facility. The City may consider a cost sharing arrangement with the hotel developer to increase the amount of parking at the time of construction in anticipation of the possible cultural/recreation facility development south of the hotel.
- Smaller surface lots in various locations, especially in the vicinity of the civic facilities and open spaces in the northern portion of Riverlands. The City could use a strategy whereby they create temporary parking lots in the early phases of development to test different parking arrangements.
- Joint use arrangements for evening use of private at-grade parking (such as that around the Cronquist buildings) for use of evening public events.
- If necessary, a small overflow parking lot for special peak load events could be provided on the park area below the escarpment on the west side of 55 Avenue.
- **Policy 4.8: Parking Assessment** – Parking requirements need to be considered as part of the zoning changes to Riverlands. It will be necessary to determine how many parking spaces will be required for the range of public uses planned, what types of parking facilities should be constructed and where should they be built. The public parking needs should be met through using a phased development plan and a combination of public and private initiatives.
- **Policy 4.10: Reduced Private Parking Requirements** – The current parking requirements of the Land Use Bylaw should be evaluated with the view to reducing the requirements given the new form of compact urban development to be achieved in Riverlands (see Policy 7.7). A combination of at-grade and underground parking will be provided by private sector developments to handle their individual requirements.
- **Policy 7.7: Reduce Parking Requirements for Riverlands** – The parking requirements for Riverlands should generally be less than the current parking requirements of the Land Use Bylaw, given the intent to develop the area as a compact, mixed-use area. The following points provide the justification to reduce Riverlands’ parking requirements:
 - The area’s city centre location;
 - Mixed uses in close proximity allowing for more pedestrian trips;
 - Close proximity to bus stops;
 - The potential for live/work residential;
 - A connected and walkable pedestrian realm;
 - Extensive on-street parking;
 - The provision of public parking lots and parkade spaces;
 - Alternatives to individual car ownership (for example, car sharing programs where several users have access to the same car, stored within easy walking distance of their home or workplace); car

share programs could be either contained to residential unit or business, or open to a wider public;

- The potential for shared parking agreements, given the different parking use times associated with different land uses (e.g. commercial office and residential uses); and
- Extensive bicycle parking.

Set Parking Requirements for Commercial uses – It is recommended that the parking requirements for commercial uses within commercial and residential mixed use zones be the same as the C1 Commercial (City Centre) zone and subject to 3.1 and 3.2 of the Land Use Bylaw.

Allow Lower Parking Requirements for Residential Uses – It is recommended that the parking requirements for residential uses within the commercial and residential mixed use zones be less than the requirement for other residential uses in other zones in Red Deer due to the compact form of development. The recommendation is for the parking requirement to be one parking space per residential unit as per the New Urbanism SmartCode.

3.9 Environmental Master Plan

The 2013 Environmental Master Plan includes transportation actions including partnering on regional commuting resources such as carpooling and transit as well as investigating options to increase the frequency and coverage of transit services.

4. EXISTING CONDITIONS

The assessment of existing parking conditions forms the basis for understanding current parking patterns and any associated issues. In this case, the existing parking conditions refers to availability of parking for employees, residents, and patrons/visitors in the defined study area, duration of parking at each stall, location of parking spaces, the ease of finding those parking spaces, the number of available parking spaces, parking restrictions, and parking enforcement.

The study area is generally defined by Red Deer River to the north & west, Waskasoo Creek to the east, and approximately 43 Street to the south. For the purposes of this analysis, the Greater Downtown study area is divided into seven zones (Historic Downtown & Civic Centre, North Mixed Use, North Downtown Residential, Parkvale & Rotary Park, South Mixed Use, Railyards, and Riverlands).

4.1 Existing Parking Supply & Restrictions

An inventory of public on-street and off-street parking spaces was completed to gain an understanding of the number of existing spaces, the location of these spaces, and the form of parking control. Public lot locations and on-street parking rates near Historic Downtown are illustrated in **Exhibit 4.1**. Detailed parking inventories and data summaries are included in **Appendix A**.

4.1.1 On-Street Parking

The on-street parking supply in the Greater Downtown area is summarized in **Table 4.1**.

Table 4.1: On-Street Parking Supply

Zone	On-Street Parking Stalls				
	Metered	Time Restricted ¹	Unrestricted ²	Loading	Total
Historic Downtown	581	0	0	14	595
North Downtown Resident.	66	0	497	4	567
North Mixed Use	178	0	53	11	242
Parkvale	10	21	721	0	752
South Mixed Use	234	66	101	14	415
Riverlands	0	7	158	2	167
Railyards	0	0	58	0	58
Total	1,069	94	1,588	45	2,796

¹ Time restricted stalls have time limits (e.g. 2 hour limit – 8:00-6:00 Monday to Friday), but no payment requirement.

² Unrestricted stalls do not have time limits.



Base Map Source: City of Red Deer

ON STREET	
■	2 HOUR RESTRICTED \$1.30/hour
■	2 HOUR UNRESTRICTED \$1.00/hour
■	8 HOUR UNRESTRICTED \$0.80/hour
■ NEW	30 MINUTE RESTRICTED \$1.50/hour
■ NEW	4 HOUR RESTRICTED \$0.90/hour

CITY OWNED P	
■	P4 & P5 \$1.20/hour
■	P2, P3 & P6 \$1.00/hour
■	Sorensen Station Monthly rate \$110.00 - GST included \$1.00/hour
■	P1, P7, P8 & P9 \$0.80/hour

Exhibit 4.1 Parking Rates & Lot Locations

Greater Downtown Red Deer Parking Study
November 2015 Scale NTS



Payment is required for all on-street metered parking stalls from 9:00 to 17:00 on weekdays, while no payment is required outside of that period including on Saturdays, Sundays, or holidays. Existing on-street parking rates range from \$0.80 to \$1.50 per hour with coloured stickers provided on meters to identify time limits. Payments can be made with coins or a City of Red Deer parking card.

On-street parking rates and restrictions are listed in **Table 4.2**. Meter stickers and payment methods are illustrated in **Figure 4.1** and **Figure 4.2**.

Table 4.2: On-Street Parking Rates & Restrictions

Colour Sticker	Payment Limit	Restriction	Rate
Red	30 minutes	Maximum	\$0.75 per 30 min
Yellow	2 hours	Maximum	\$1.30 per hour
Orange	2 hours	Reloadable every 2 hours	\$1.00 per hour
Green	8 hours	Unrestricted	\$0.80 per hour

Figure 4.1: On-Street Parking Meter Sticker



Figure 4.2: On-Street Parking Meter



4.1.2 Public Off-Street Parking

Public off-street parking supply and rates are summarized in **Table 4.3**. Lots P1 to P9 are surface facilities while the Sorenson Station parkade is an above grade facility. Approximately 300 stalls in the Sorenson Station parkade are reserved for monthly users; no monthly parking passes are available in surface lots.

Table 4.3: Public Off-Street Parking Supply & Rates

Zone	Parking Lot	Location	Number of Parking Spaces	Rates
South Mixed Use	P1	5100 48 Street	51	\$0.80/hour
Historic Downtown	P2	5100 50 Avenue	80	\$1.00/hour
	P3	4800 51 Avenue	26	\$1.00/hour
	P4	4900 49 Avenue	95	\$1.20/hour
	P5	4800 48 Street	44	\$1.20/hour
	P6	5000 51 Avenue	49	\$1.00/hour
	P7	4700 48 Street	87	\$0.80/hour
	P8	4700 48 Avenue	56	\$0.80/hour
	P9	5000 57 Street	80	\$0.80/hour
	Sorenson Station Parkade	4900 48 Avenue	100 hourly 312 monthly	\$1.00/hour \$110/month
Total			980	-

As with on-street stalls, payment is required in all off-street public parking stalls from 9:00 to 17:00 on weekdays. No payment is required on Saturday, Sunday, or holidays. Existing off-street parking costs range from \$0.80 to \$1.20 per hour. Payment can be made with coins, a City of Red Deer parking card, or a credit card. All surface lots are open 24/7. The Sorenson Station parkade is open 24/7 for monthly users and only from 6:00-17:00 Monday to Friday for hourly users.

All surface lots operate as pay and display without having to enter vehicle or stall specific information (e.g. license plate or stall number). The Sorenson Station parkade is controlled by gate arm with a pay station provided inside the parkade for prior payment by hourly users upon leaving.

Pay station signage is illustrated in **Figure 4.3**, lot entrance wayfinding signage is illustrated in **Figure 4.4** and a pay & display ticket is illustrated in **Figure 4.5**.

Figure 4.3: Off-Street Parking Pay Station Information



Figure 4.4: Lot Entrance Sign



Figure 4.5: Proof of Payment Ticket



4.1.3 Private Off-Street Parking

In addition to City of Red Deer facilities, long-stay users are also able to park at the 378-stall Millennium Centre parkade. The parkade is managed by WestPark Services, located at 4902 48 Street, and available for hourly daily, and monthly visitors.

An inventory of private parking facilities in the C1 district was obtained from the City of Red Deer and is included in **Appendix A**. The inventory indicated that in addition the Millennium Centre Parkade, there is a minimum of 2,215 additional private stalls in the C1 district. These stalls are tied to land uses and are not available for public usage; as such, these private stalls cannot be used to support future parking demand associated with new development. As per the study requirements, the utilization analysis completed as part of this study focuses on public parking stalls as these stalls could be used to support future development/parking demand.

4.2 Existing Parking Demand

To evaluate existing parking conditions, Bunt & Associates conducted an extensive data collection program on the following dates:

- September 17, 2015 (Thursday) – 9:00 to 18:00
- September 19, 2015 (Saturday) – 10:00 to 17:00

With a defined focus on high-use areas in the Greater Downtown area, the following data collection program was undertaken:

- During the weekday count, license plate numbers were recorded at all metered on-street parking stalls and surface lots within and near the Historic Downtown. Data was collected on 1-hour increments. The recording of license plate data allows for the determination of parking space occupancy, turnover, and average duration of stay.
- As well, during the weekday count, peak period occupancy counts were conducted on all non-metered on-street parking stalls within the Greater Downtown area. Data was collected on 3 periods at 2-hour increments. The collection of occupancy data allows for an understanding of existing peak usage outside of the Historic Downtown.
- During the weekend count, hourly parking demand surveys were conducted at all on-street parking stalls and surface lots within the Historic Downtown.

The primary objective of the data collection program was to establish the peak parking demand and ascertain long stay vs. short stay characteristics within the study area. The results of the assessment are summarized in the following sub-sections with the detailed analysis attached in **Appendix B**.

4.2.1 Weekday On-Street Demand

The observed weekday on-street parking demand is summarized in **Table 4.4**. Parking demand data for non-metered locations outside of Historic Downtown was collected at 11:00, 13:00, and 15:00 and calculated otherwise based on observed patterns. Zone specific temporal variations in on-street demand are illustrated in **Figure 4.6** to **Figure 4.13**.

The maximum observed demands on a block-by-block basis are illustrated in **Exhibit 4.2** to **Exhibit 4.7**. These exhibits illustrate the maximum occupancy observed at any point on each separate block. It is noted that while these occupancies do not occur at the same time, the exhibits do indicate areas where higher parking demand was experienced during the count period.

Table 4.4: On-Street Parking Demand (Weekday)

Zone	Supply	Time of Day									Max %
		9	10	11	12	13	14	15	16	17	
Historic Downtown	595	245	313	320	309	284	322	280	254	213	54%
North Downtown Res.	567	167	204	214	226	235	223	217	192	159	41%
North Mixed Use	242	63	85	91	78	90	113	72	76	38	47%
Parkvale	752	155	191	202	204	206	201	192	168	136	27%
South Mixed Use	415	180	189	212	217	214	219	187	143	104	53%
Riverlands	167	59	73	77	79	81	80	73	65	62	49%
Railyards	58	43	53	56	53	51	52	52	46	37	97%
Total	2,796	912	1108	1172	1166	1161	1210	1073	944	739	-
		33%	40%	42%	42%	42%	43%	38%	34%	26%	-

Figure 4.6: On-Street Parking Demand (Weekday) - Entire Study Area

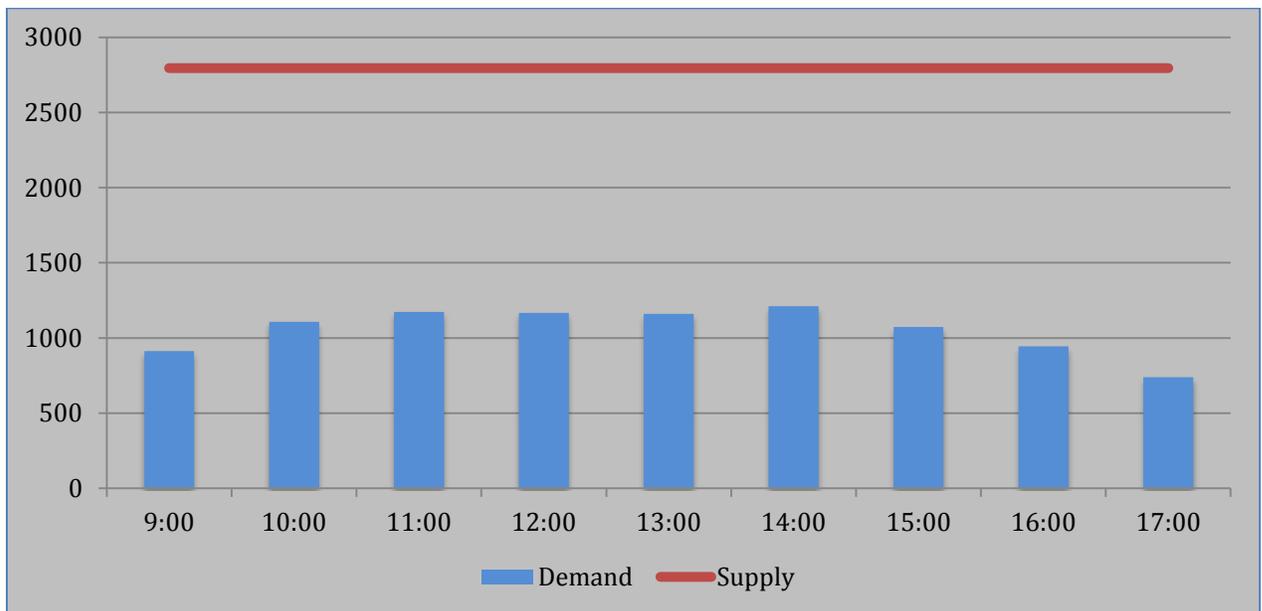


Figure 4.7: On-Street Parking Demand (Weekday) - Historic Downtown

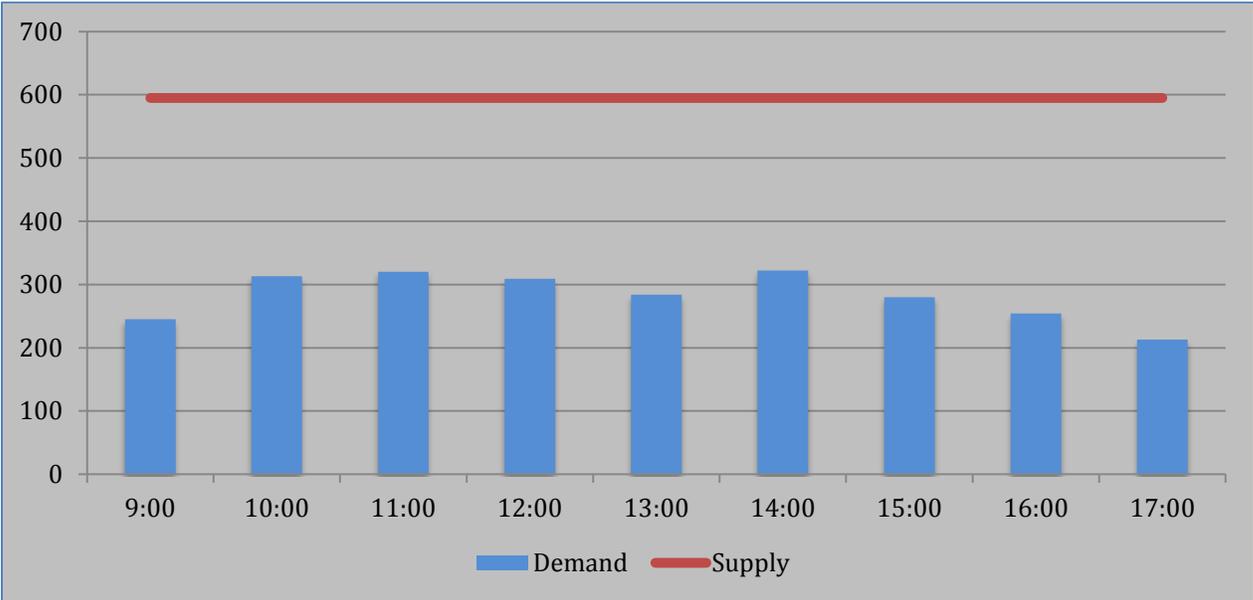


Figure 4.8: On-Street Parking Demand (Weekday) - North Downtown Residential

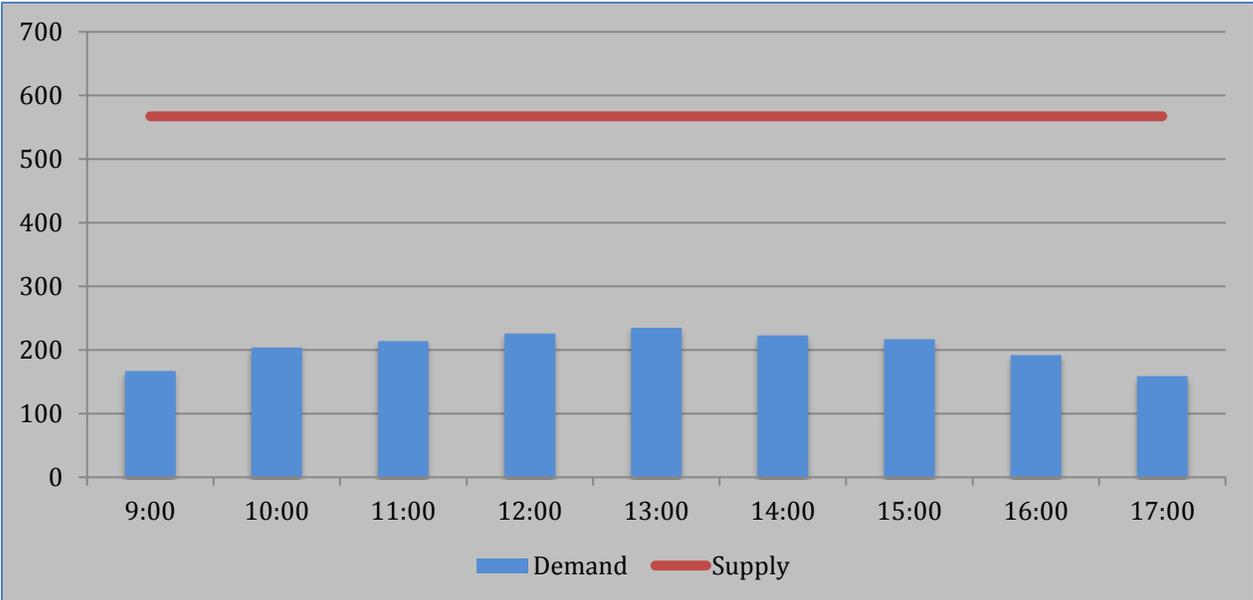


Figure 4.9: On-Street Parking Demand (Weekday) – North Mixed Use

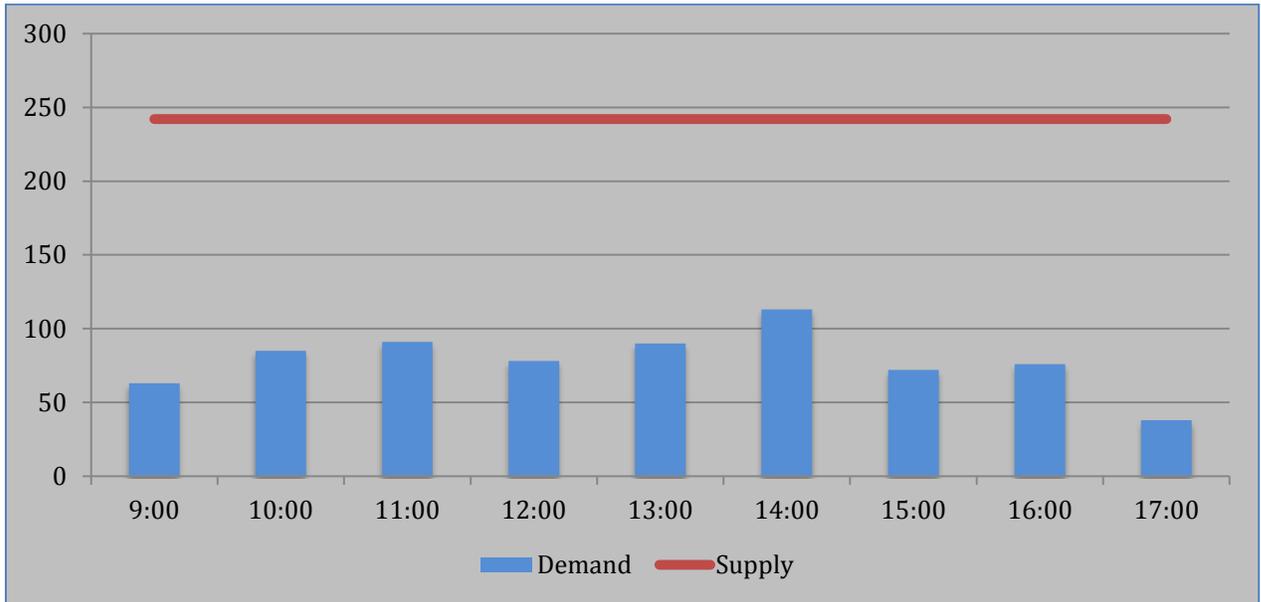


Figure 4.10: On-Street Parking Demand (Weekday) – Parkvale

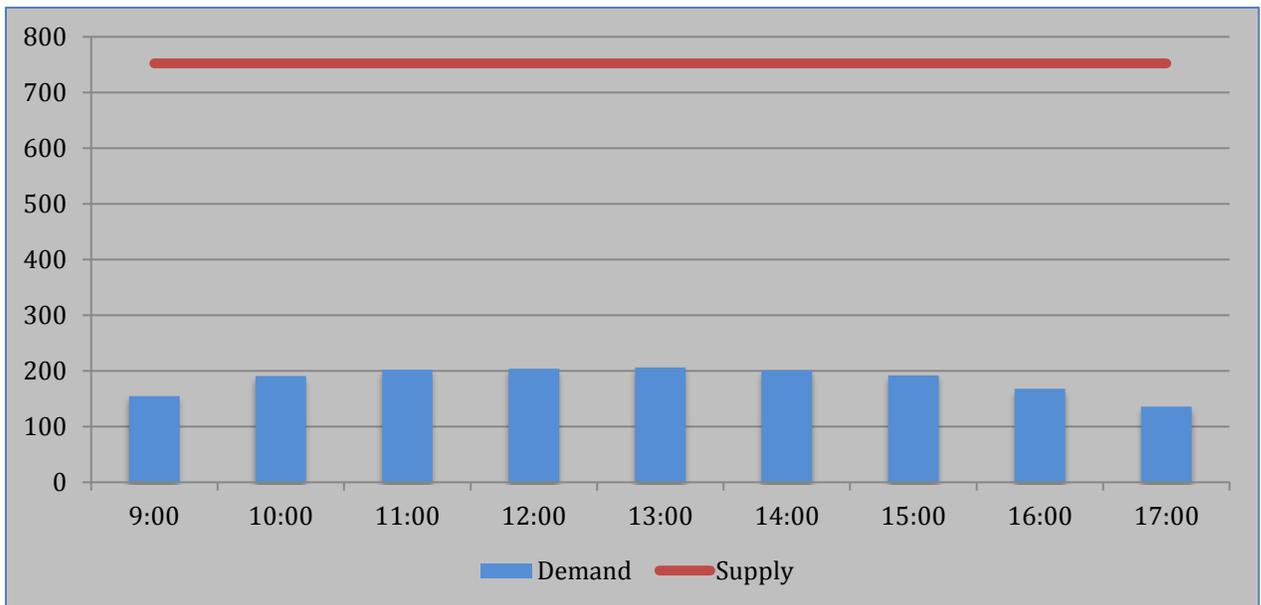


Figure 4.11: On-Street Parking Demand (Weekday) - South Mixed Use

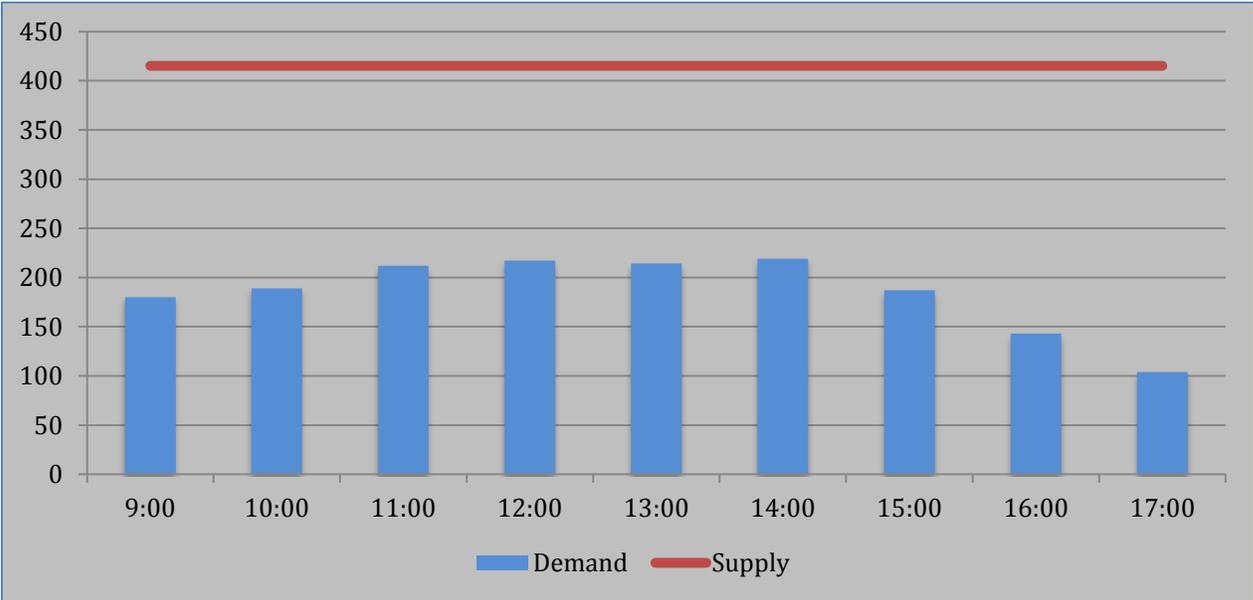


Figure 4.12: On-Street Parking Demand (Weekday) - Riverlands

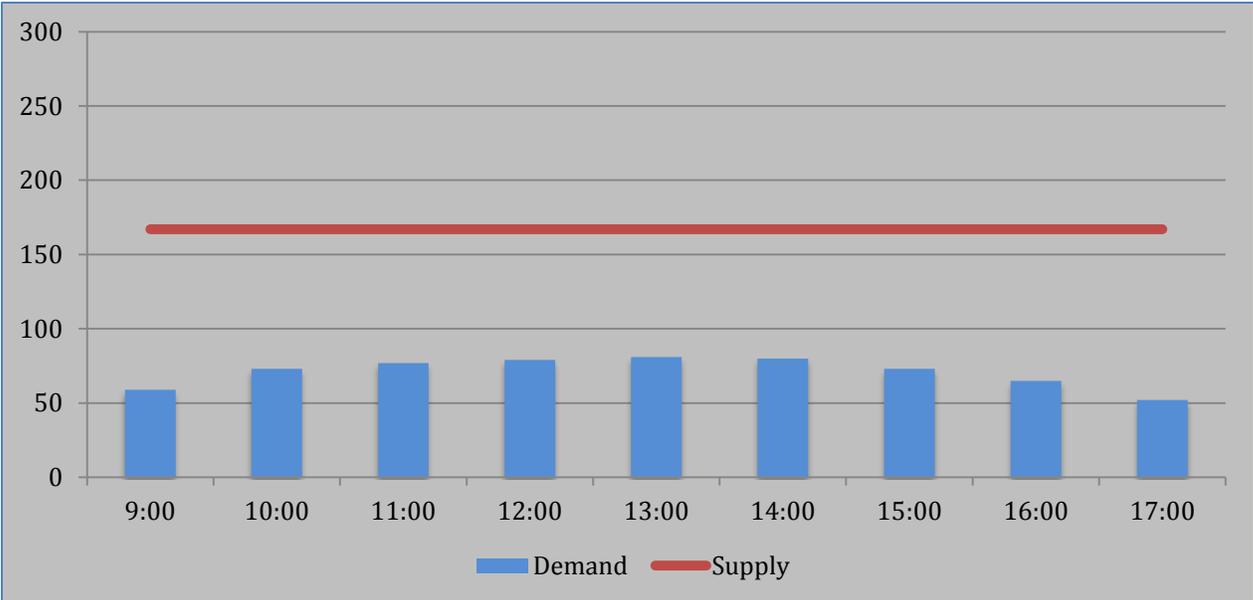
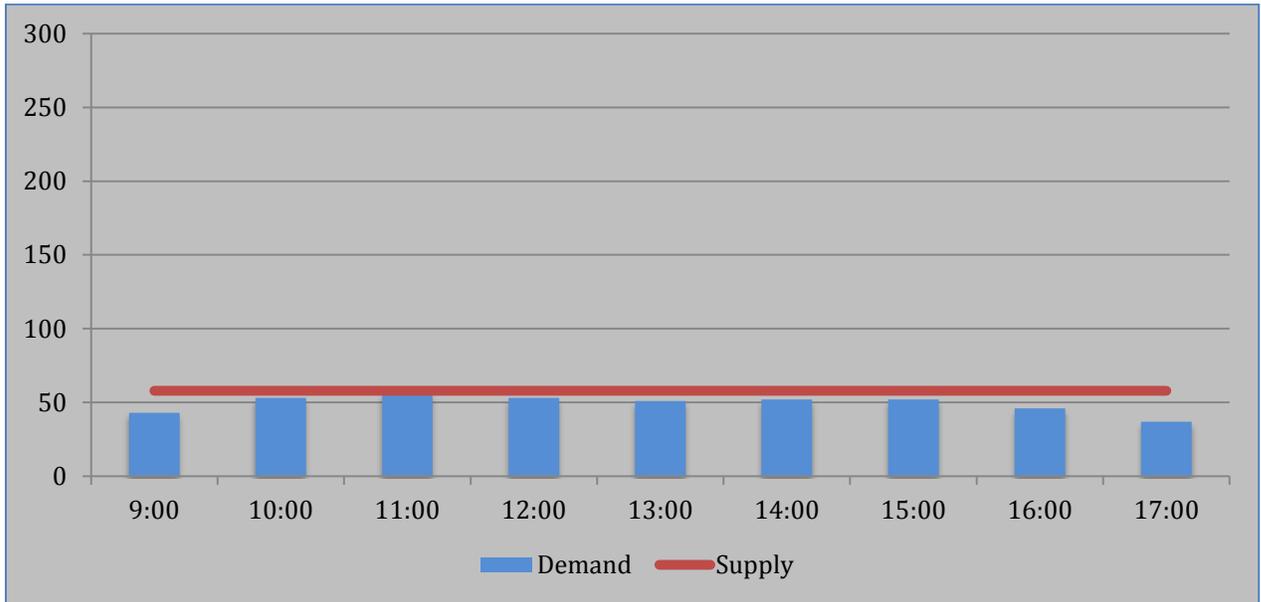
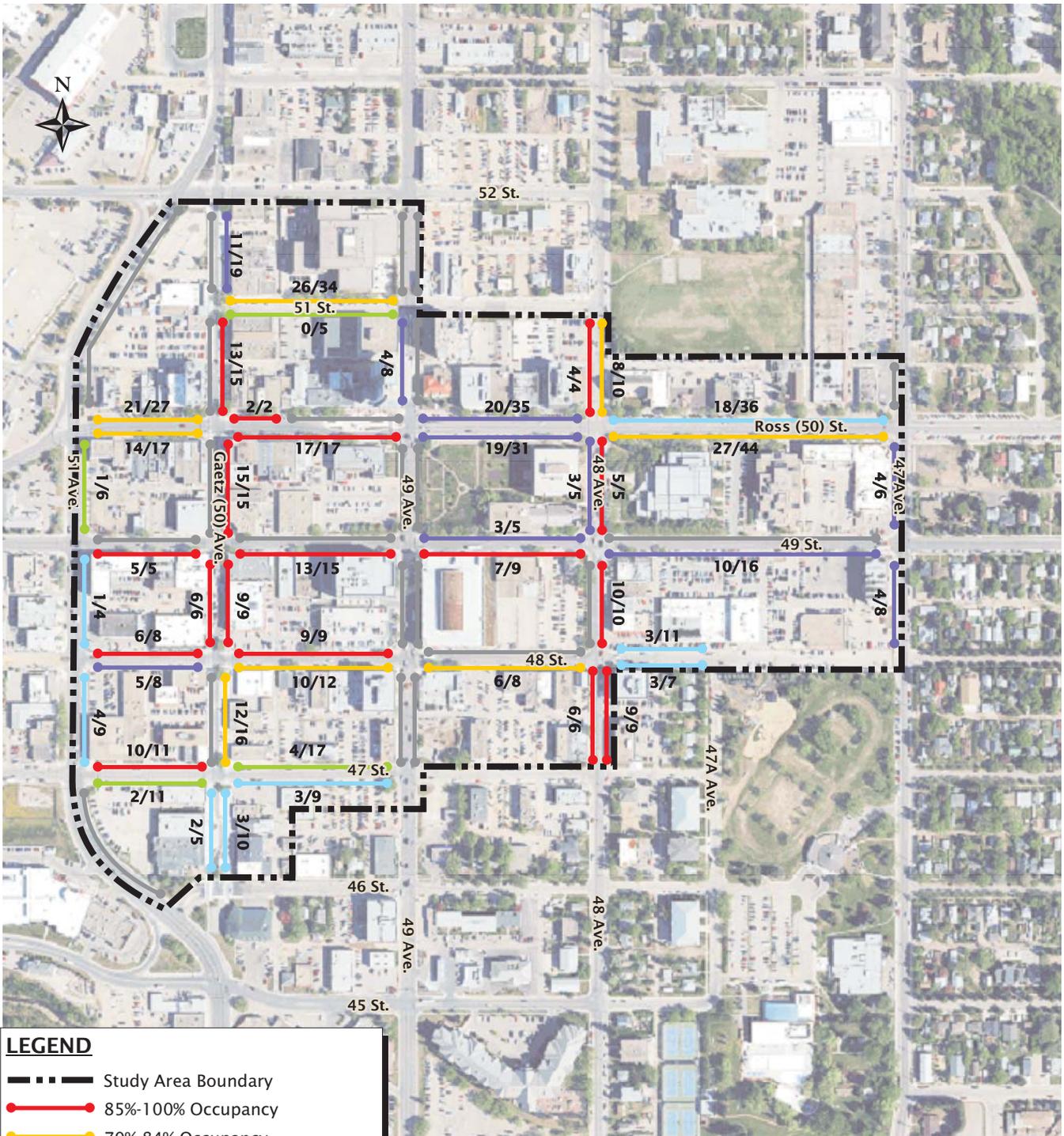


Figure 4.13: On-Street Parking Demand (Weekday) – Railyards



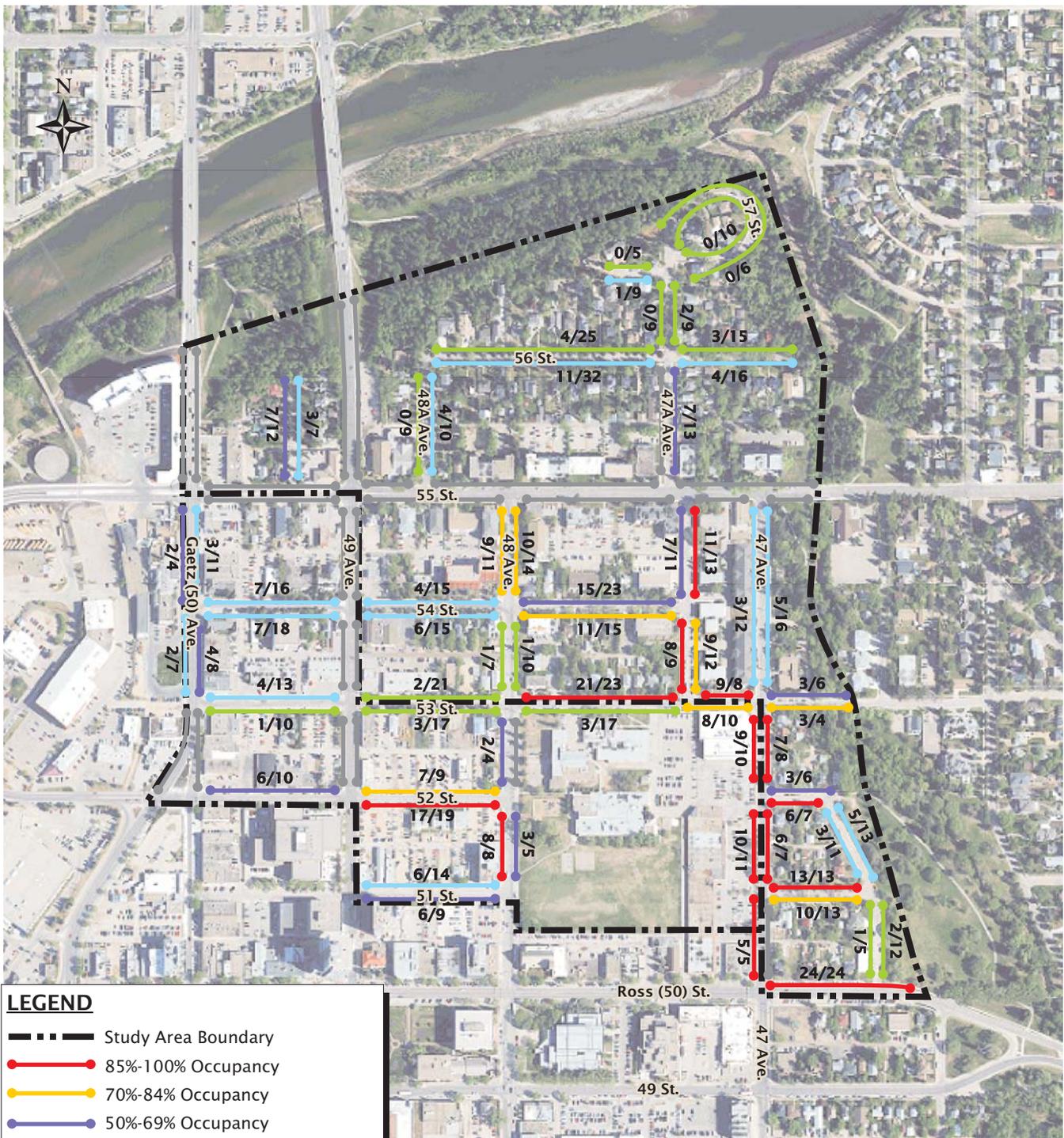


Base Map Source: City of Red Deer, 2013 Ortho Image

Exhibit 4.2 Historic Downtown Maximum On-Street Demand (Weekday)

Greater Downtown Red Deer Parking Study
November 2015 Scale NTS





Base Map Source: City of Red Deer, 2013 Ortho Image

LEGEND

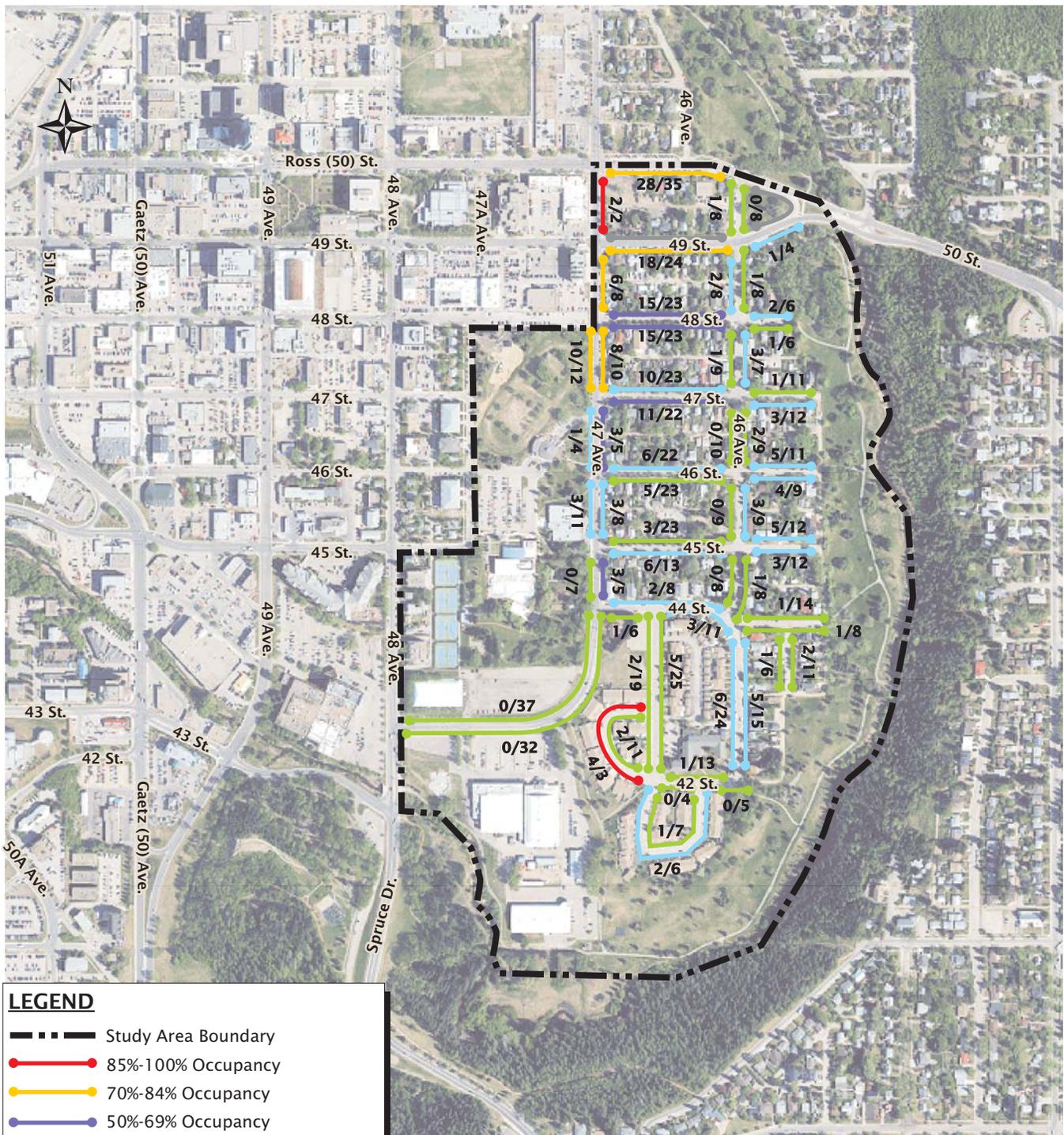
- Study Area Boundary
- 85%-100% Occupancy
- 70%-84% Occupancy
- 50%-69% Occupancy
- 25%-49% Occupancy
- 0%-24% Occupancy
- No Parking Allowed on Block
- 2/11** Demand/Supply

Exhibit 4.3

North Mixed Use & North Downtown Residential Maximum On-Street Demand (Weekday)

Greater Downtown Red Deer Parking Study
November 2015 Scale NTS





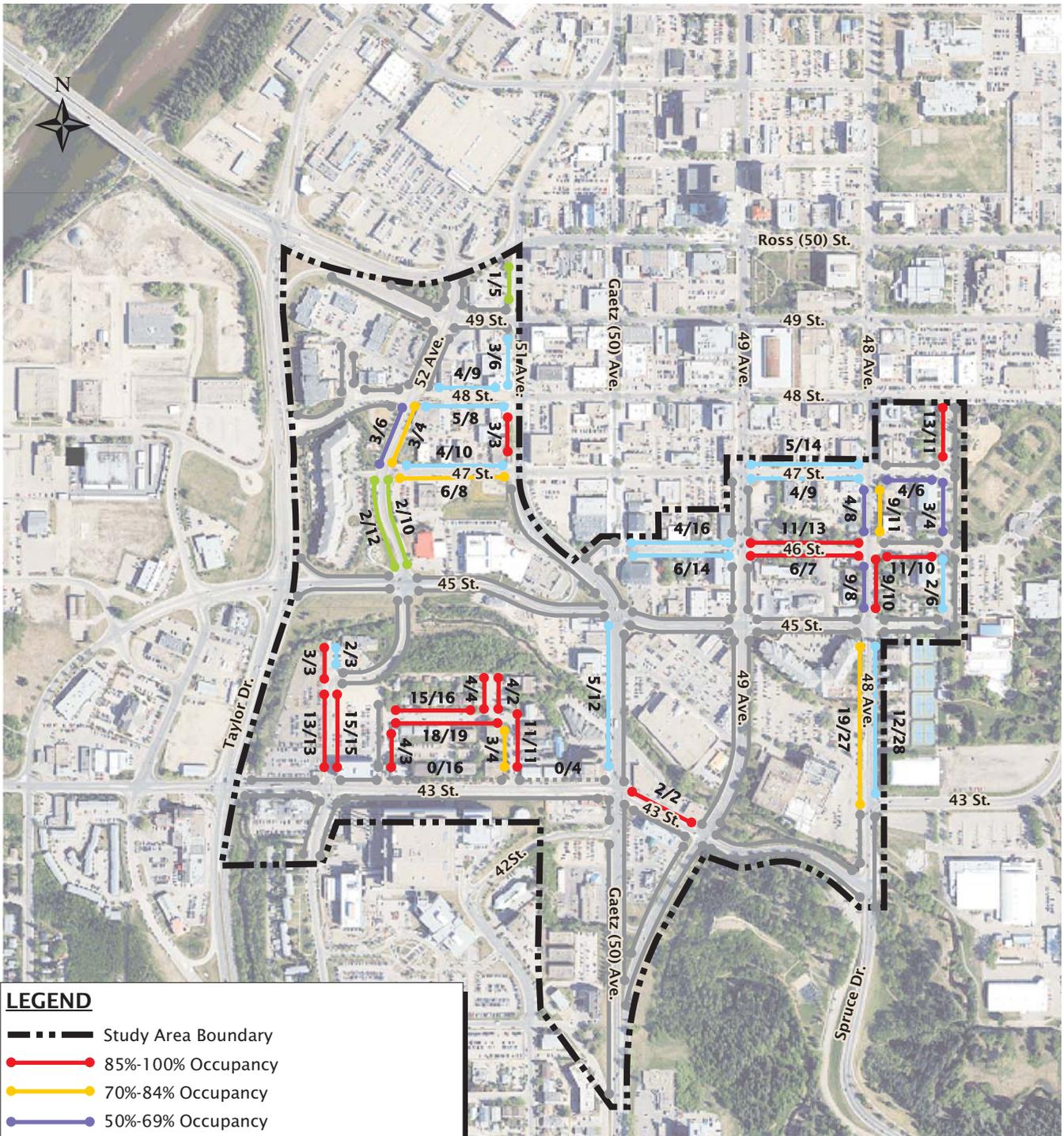
Base Map Source: City of Red Deer, 2013 Ortho Image

Exhibit 4.4

Parkvale Maximum On-Street Demand (Weekday)

Greater Downtown Red Deer Parking Study
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Base Map Source: City of Red Deer, 2013 Ortho Image

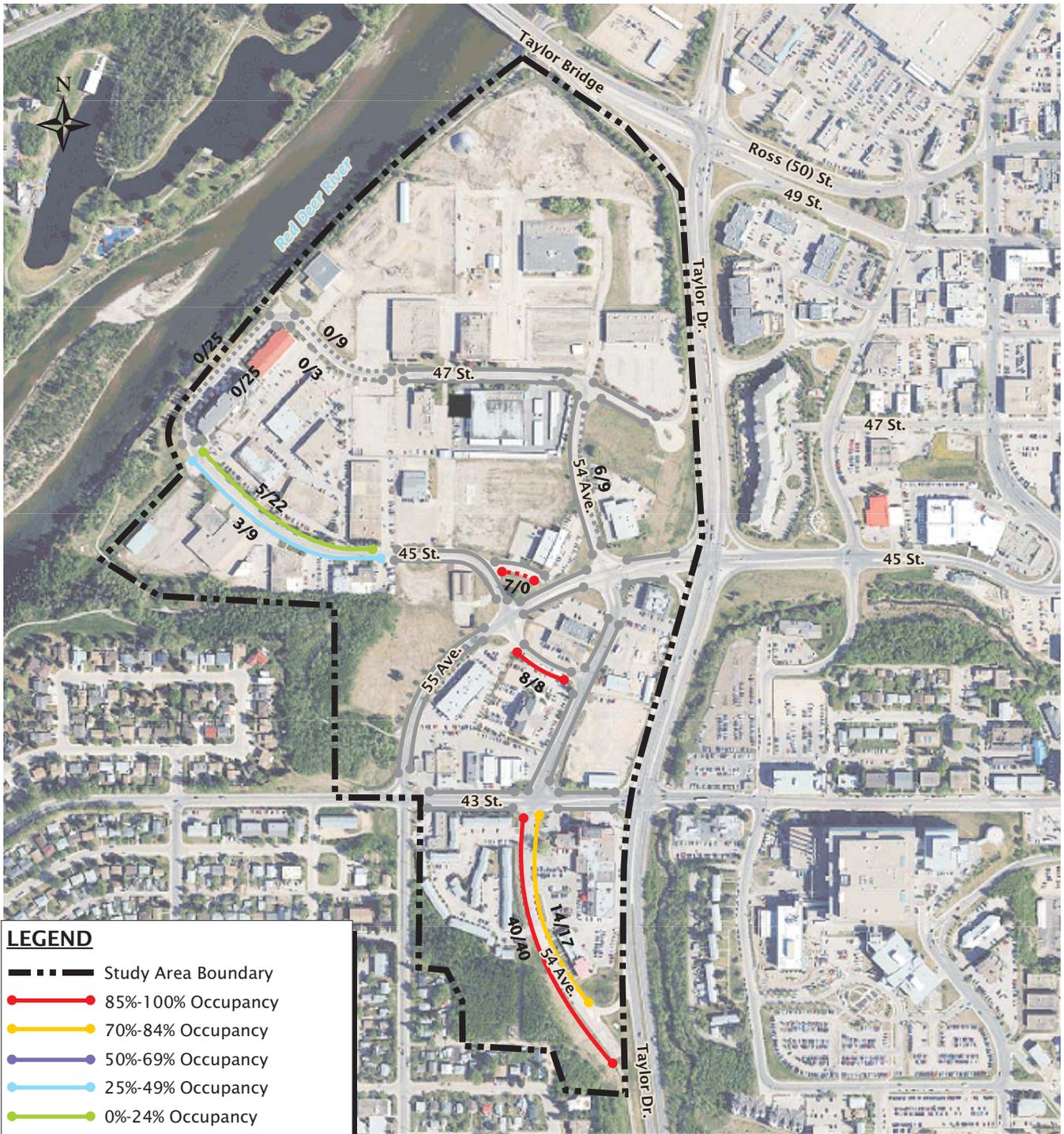
LEGEND

- Study Area Boundary
- 85%-100% Occupancy
- 70%-84% Occupancy
- 50%-69% Occupancy
- 25%-49% Occupancy
- 0%-24% Occupancy
- No Parking Allowed on Block
- ⋯ Temporary No Parking Due to Construction
- 2/11 Demand/Supply

Exhibit 4.5
South Mixed Use Maximum On-Street Demand (Weekday)

Greater Downtown Red Deer Parking Study
 November 2015 Scale NTS





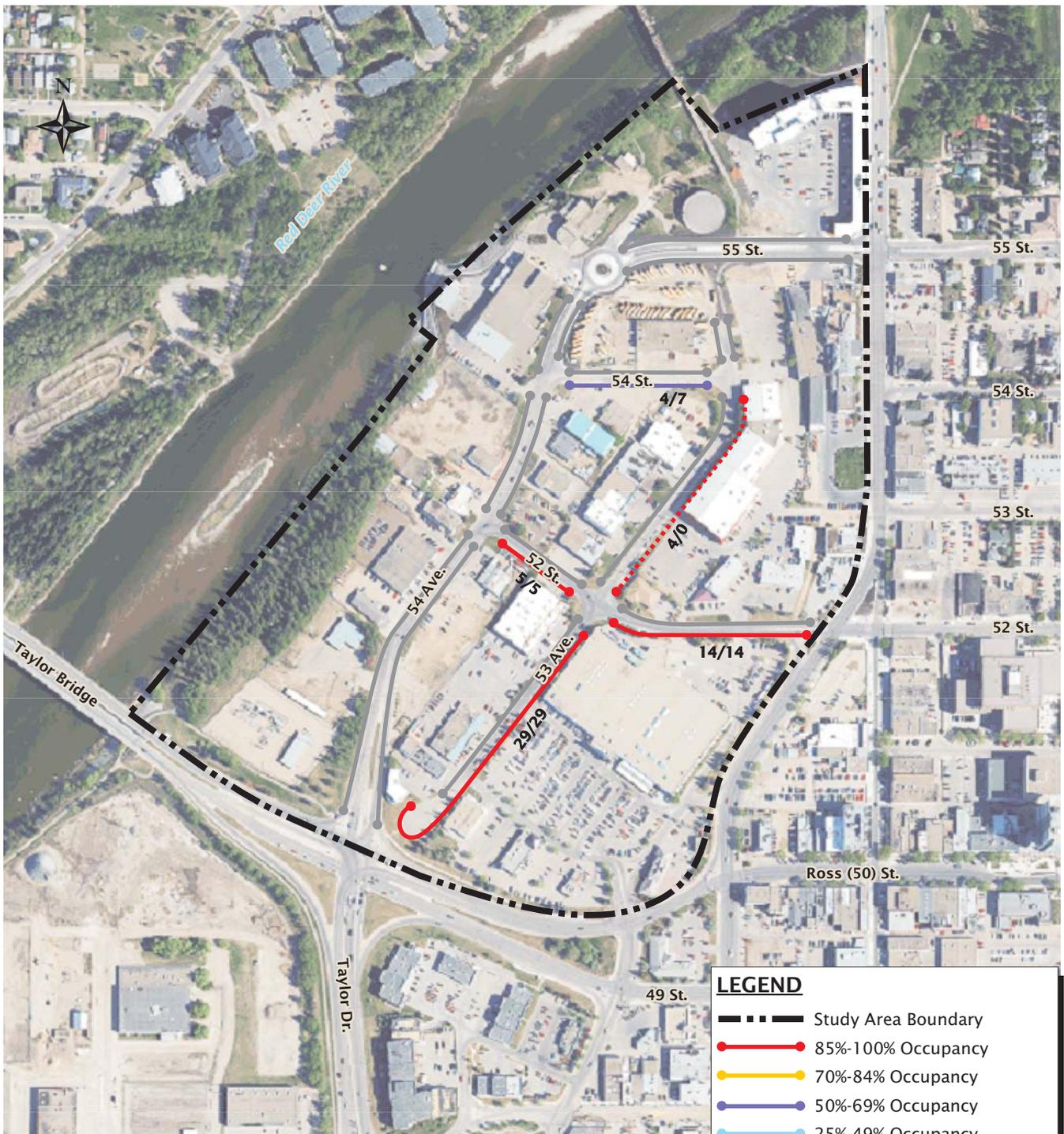
Base Map Source: City of Red Deer, 2013 Ortho Image

Exhibit 4.6

Riverlands Maximum On-Street Demand (Weekday)

Greater Downtown Red Deer Parking Study
November 2015 Scale NTS





Base Map Source: City of Red Deer, 2013 Ortho Image

Note: Orthophoto does not show improvements on Taylor Drive. However, on-street parking supply was not impacted.

LEGEND

- Study Area Boundary
- 85-100% Occupancy
- 70-84% Occupancy
- 50-69% Occupancy
- 25-49% Occupancy
- 0-24% Occupancy
- No Parking Allowed on Block
- Illegal Parking Observed
- 2/11** Demand/Supply

Exhibit 4.7

Rallyards Maximum On-Street Demand (Weekday)

Greater Downtown Red Deer Parking Study
November 2015 Scale NTS



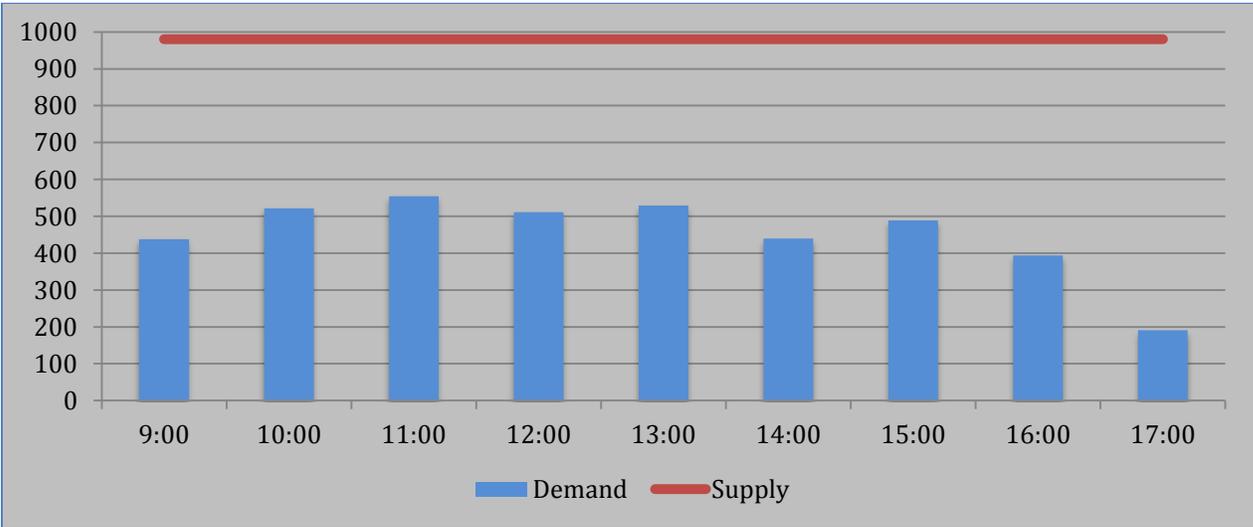
4.2.2 Weekday Public Off-Street Demand

The observed weekday public off-street parking demand is summarized in **Table 4.5** and **Figure 4.15**.

Table 4.5: Public Off-Street Parking Demand (Weekday)

Zone	Lot #	Supply	Time of Day									Max %
			9	10	11	12	13	14	15	16	17	
South	P1	51	16	17	26	29	30	25	23	22	32	63%
Historic Downtown	P2	80	34	39	35	23	27	28	30	12	7	49%
	P3	26	17	22	24	20	20	20	20	21	15	92%
	P4	95	78	95	94	91	93	81	77	61	29	100%
	P5	44	12	18	19	16	20	19	19	12	4	45%
	P6	49	24	24	25	24	29	34	26	18	13	69%
	P7	87	14	13	17	13	15	17	17	14	0	20%
	P8	56	7	20	22	16	19	19	15	10	2	39%
	P9	80	19	14	13	12	12	16	11	13	3	24%
	Parkade	412	217	260	279	267	264	181	251	211	86	68%
	Total		980	438	522	554	511	529	440	489	394	191
45%				53%	57%	52%	54%	45%	50%	40%	19%	-

Figure 4.14: Public Off-Street Parking Demand (Weekend) - All Lots



The number of new monthly parking passes sold for the parkade are summarized in **Table 4.6**. The data indicates most new passes are sold in January and September corresponding to the start of term for the Donald School of Business.

Table 4.6: New Parkade Monthly Passes Sold

Month	# of New Monthly Passes Sold
January	42
February	5
March	4
April	7
May	9
June	10
July	8
August	14
September	83
October	18
November	8

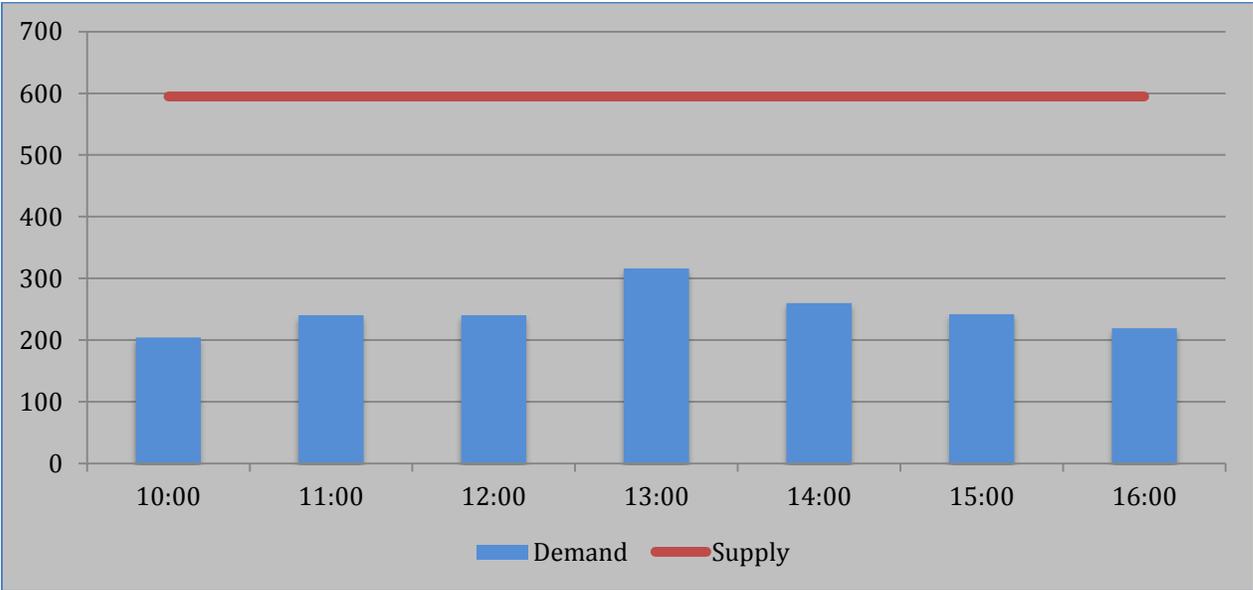
4.2.3 Weekend On-Street Demand

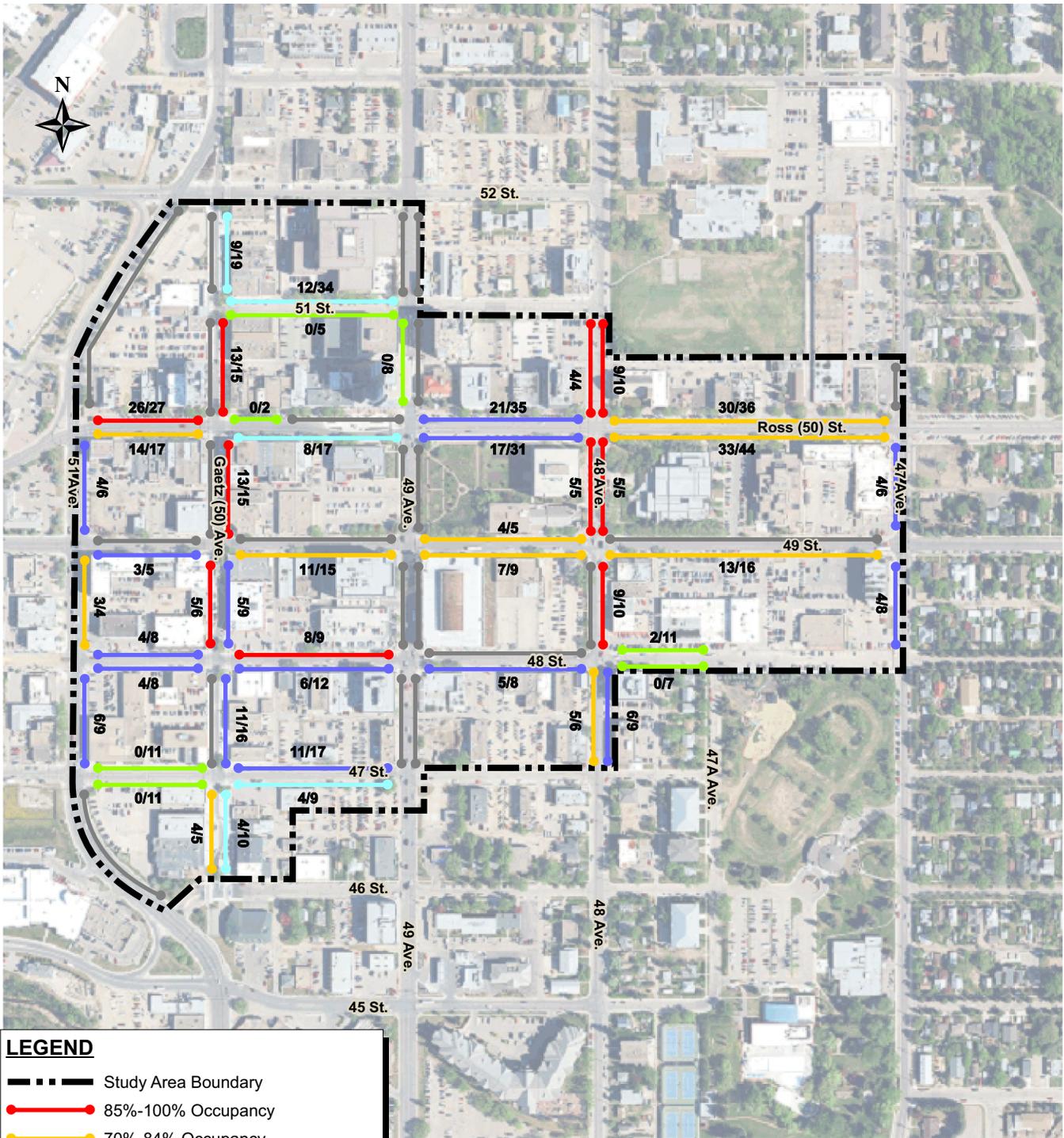
Observed weekend on-street parking demand in the Historic Downtown zone is summarized in **Table 4.7** and illustrated in **Figure 4.15**. Maximum observed weekend demand on a block-by-block basis in the Historic Downtown is illustrated in **Exhibit 4.8**.

Table 4.7: On-Street Parking Demand (Weekend)

Zone	Supply	Time of Day									Max %
		9	10	11	12	13	14	15	16	17	
Historic Downtown	595	-	204	240	240	316	260	242	219	-	53%
		-	34%	40%	40%	53%	44%	41%	37%	-	-

Figure 4.15: On-Street Parking Demand (Weekend) – Historic Downtown





Base Map Source: City of Red Deer, 2013 Ortho Image

Exhibit 4.8

Historic Downtown Maximum On-Street Demand by Block (Weekend)

Greater Downtown Red Deer Parking Study
January 2016 Scale NTS



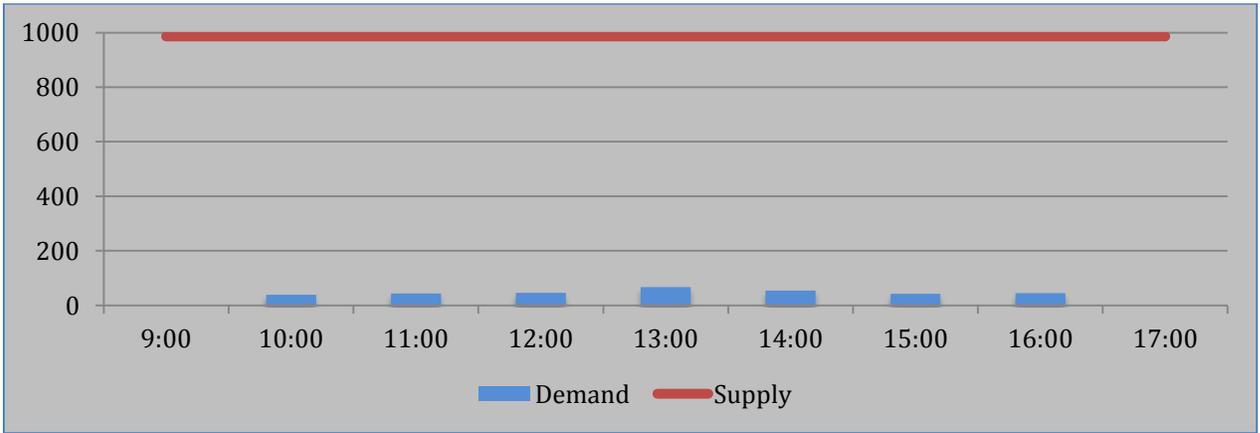
4.2.4 Weekend Public Off-Street Demand

Observed weekend public off-street parking demand at all public lots is summarized in **Table 4.8** and **Figure 4.16**. It is noted that the Sorenson Station parkade is closed on weekends with no access permitted for hourly users and therefore had no observed demand.

Table 4.8: Public Off-Street Parking Demand (Weekend)

Zone	Lot #	Supply	Time of Day									Max %	
			9	10	11	12	13	14	15	16	17		
South	P1	51	-	6	6	5	4	7	5	8	-	16%	
Historic Downtown	P2	80	-	0	0	0	1	0	0	0	-	1%	
	P3	26	-	20	17	21	17	16	11	11	-	81%	
	P4	95	-	3	7	6	7	4	4	3	-	7%	
	P5	44	-	1	3	2	5	7	6	6	-	16%	
	P6	49	-	0	3	4	5	4	9	12	-	24%	
	P7	87	-	0	1	0	0	0	0	0	-	1%	
	P8	56	-	1	2	2	22	13	3	2	-	39%	
	P9	80	-	8	5	6	6	4	5	3	-	10%	
	Parkade	412	-	-	-	-	-	-	-	-	-	-	0%
	Total		980	-	39	44	46	67	55	43	45	-	-
		-		4%	4%	5%	7%	6%	4%	5%	-	-	

Figure 4.16: Public Off-Street Parking Demand (Weekend) - All Lots



4.2.5 Parking Demand Summary

The key findings of the existing parking demand analysis are:

- The overall peak parking demand occurs mid-day on weekdays, which is expected considering the current mix of land uses in the downtown area being primarily employee based. With this in mind, there are opportunities to introduce land uses that would utilize existing parking inventory during evenings and weekends.
- The peak weekday on-street demand in the study area was 1,210 out of an available 2,796 stalls (43%). The peak demand in the Historic Downtown was 322 out of an available 595 stalls (54%). The highest occupancy occurred in the Railyards zone due to the limited 58 on-street stall supply.
- The peak weekday public off-street demand was 554 out of an available 980 stalls (57%). The highest lot usage was 100% at the P4 surface lot adjacent to City Hall Park. However, the Sorenson Station parkade located immediately across the street from P4 only had an observed maximum usage of 68% during this period. The only other lot with a maximum usage above 70% was P3 (51 Ave south of 49 Street). However, parking remained available in lot P6 located a half block north of P3.
- The peak weekend on-street demand in the Historic Downtown was 316 stalls out of an available 595 stalls (53%).
- The peak weekend public off-street demand was 67 out of an available 986 stalls (7%).

The analysis confirms the overall parking supply in the Greater Downtown area is sufficient to accommodate current parking demand. The current inventory could support additional development without the need to develop additional parking spaces.

4.2.6 Existing Parking Needs Assessment

While the overall parking supply is adequate for existing parking demand, there are certain streets and lots within the Greater Downtown area that experience high occupancy during the weekday and weekend period. To get an understanding of the scale of block specific deficiency in these locations, a parking need assessment was completed. Block specific this analysis is completed based on 3-hour peak occupancy, which represents the average occupancy values over the highest consecutive 3 one-hour periods.

In assessing the existing parking supply and associated demand as they related to potential block specific deficiencies of stalls, a practical capacity threshold was established. For short-stay parking (under 2 hours), which typically occurs on-street, the practical occupancy threshold is set at approximately 85% of available supply. This threshold value takes into consideration spaces that are not useable due to improper parking, the affects of snow clearing, and potential frustration for visitors having difficulties easily finding an available stall when trip durations are short. For long-stay parking (greater than 2 hours), which typically occurs off-street, the practical occupancy threshold is set at 95%. The resulting on-street and off-street parking deficiencies are summarized in **Table 4.9**, **Table 4.10**, and **Table 4.11**. It is noted that on-street metered stalls on 43 Street were closed due to construction on the count data, which results in an overestimation of parking needs in the South Mixed Use zone.

Table 4.9: Weekday On-Street Parking Needs Assessment

Zone	Street	Block	Side	Parking Supply	Practical Supply	3-hr Peak Demand	Stall Deficiency	
Historic Downtown	Gaetz Ave	50 St to 49 St	East	15	12.8	14.0	1.2	
	48 Ave	51 St to 50 St	West	4	3.4	3.7	0.3	
		50 St to 49 St	East	5	4.3	5.0	0.7	
		49 St to 48 St	East	10	8.5	10.0	1.5	
		48 St to 47 St	West	6	5.1	5.7	0.6	
		48 St to 47 St	East	9	7.7	8.0	0.3	
		50 Street	Gaetz to 49 Ave	South	17	14.5	15.3	0.8
	48 Street	Gaetz to 49 Ave	North	9	7.7	8.0	0.3	
	<i>Total</i>							5.7
North Downtown Residential	51 Street	47 to 46 Ave	North	13	11.1	12.3	1.2	
	50 Street	47 to 46 Ave	North	24	20.4	23.0	2.6	
	<i>Total</i>							3.8
North Mixed Use	47 Ave	51 St to 50 St	West	5	4.3	4.7	0.4	
	<i>Total</i>							0.4
Parkvale	<i>Total</i>							0.0
South Mixed Use	52 Ave	52 Ave to 43 St	West	13	11.1	13.0	1.9	
		52 Ave to 43 St	East	15	12.8	15.0	2.2	
	51A Ave	44 St to 43 St	East	3	2.6	3.3	0.7	
		45 St to 44 St	West	4	3.4	3.7	0.3	
		45 St to 44 St	East	2	1.7	3.3	1.6	
	47A Ave	48 St to 47 St	West	11	9.4	10.0	0.6	
	44 Street	51A to 51 Ave	South	19	16.2	16.3	0.1	
	<i>Total</i>							7.4
Riverlands	54 Ave	43 St to Taylor Dr	West	40	34.0	38.0	4.0	
	44 St Cr	55 to 54 Ave	South	8	6.8	8.0	1.2	
	45 Street	5420	South	0	0.0	7.0	7.0	
	<i>Total</i>							12.2
Railyards	53 Ave	54 St to 52 St	East	0	0	3.3	3.3	
		52 St to 50 St	East	29	24.7	27.3	2.6	
	52 Street	54 to 52 Ave	South	5	4.3	4.7	0.4	
		52 Ave to 51 Ave	South	14	11.9	14.0	2.1	
	<i>Total</i>							8.4
Total Block Specific Deficiency in Study Area							38	

Table 4.10: Weekday Public Off-Street Parking Needs Assessment

Zone	Lot	Address	Parking Supply	Practical Supply	3-hr Peak Demand	Stall Deficiency
Historic Downtown	P4	4900 49 Ave	95	90.3	93.3	3.0
	Total					

Table 4.11: Weekend On-Street Parking Needs Assessment

Zone	Street	Block	Side	Parking Supply	Practical Supply	3-hr Peak Demand	Stall Deficiency
Historic Downtown	50 Street	51 to Gaetz Ave	North	27	23.0	25.3	2.3
	Total						

The key findings of the existing parking needs assessment are:

- Existing parking is sufficient for the current land use mixture when zones are considered as a whole. Therefore, additional parking spaces are not required in the Greater Downtown area. That said, on weekdays, some streets and lot P4 would benefit from demand mitigation (increased parking rates or introduction of time limits). This demand mitigation would result in a shift of some demand to adjacent underutilized blocks and therefore ensure that parking is available in the most sought after locations.
- Stall deficiencies in the Riverlands and Railyards area are largely related to illegal parking occurring at 5420 54 Street in Riverlands and the 53 Avenue bike lanes in Railyards. Increased enforcement is recommended in 53 Avenue to prevent illegal on-street parking in bike lanes. Time limit restrictions may be required on certain streets.
- No significant deficiencies are noted on weekends. Therefore, additional supply or demand mitigation (e.g. paid parking) is not required to accommodate current weekend parking demand.

4.3 Duration of Stay

In order to determine the proportion of short-stay and long-stay users, a duration analysis was performed on observed parking demand data. On-street duration data was collected for all metered parking stalls (except 46 Street, 47 Street, and stalls adjacent to the hospital). Off-street duration data was collected for all surface lots.

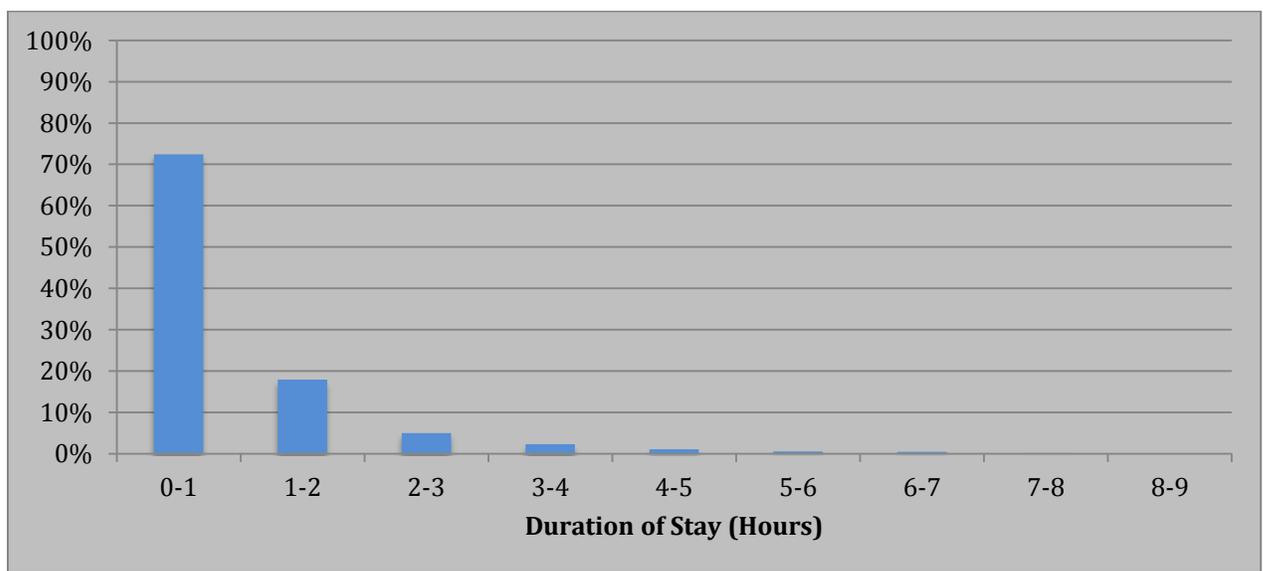
4.3.1 Weekday On-Street Duration

On-street duration data is summarized in **Table 4.12** and **Figure 4.17**.

Table 4.12: On-Street Metered Stall Weekday Duration

Zone	Duration (Hours)									Total
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8+	
Historic Downtown	1252	306	86	29	12	6	6	3	1	1701
North Downtown Res.	43	4	0	2	0	0	0	0	0	49
North Mixed Use	169	51	16	13	8	4	3	1	0	265
Parkvale & Rotary Park	3	2	0	0	0	0	0	0	0	5
South Mixed Use	90	23	6	5	3	1	1	0	1	130
Riverlands	-	-	-	-	-	-	-	-	-	-
Railyards	-	-	-	-	-	-	-	-	-	-
Total	1557	386	108	49	23	11	10	4	2	2150
	72%	18%	5%	2%	1%	1%	0%	0%	0%	100%

Figure 4.17: On-Street Metered Stall Weekday Duration



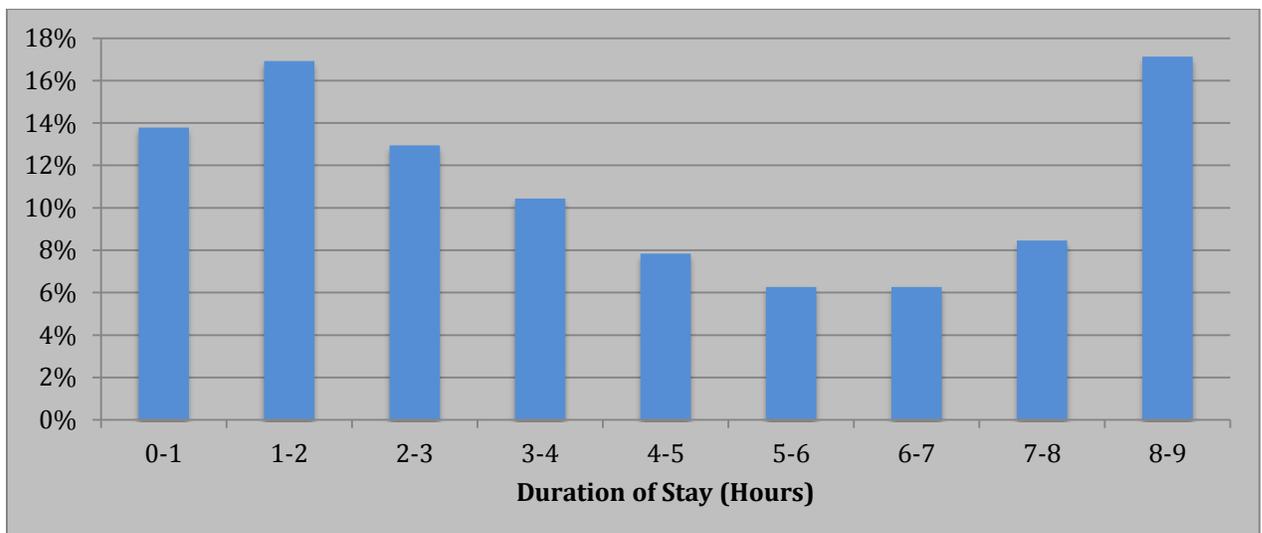
4.3.2 Weekday Public Off-Street Duration

Off-street public lot duration data is summarized in **Table 4.13** and **Figure 4.18**. The presented duration data specifies the time spent between a vehicles first entry to a lot and that vehicles last exist. Surface lot duration is based on license plate surveys, while parkade duration is based on in/out parkade data obtained from the City.

Table 4.13: Off-Street Weekday Duration (Discrete)

Zone	Lot #	Duration (Hours)									Total
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8+	
South Mixed	P1	26	8	6	1	2	3	5	6	6	63
Historic Downtown	P2	2	8	21	4	0	2	10	1	6	54
	P3	1	2	5	2	0	2	2	7	8	29
	P4	60	44	30	13	17	11	13	17	5	210
	P5	2	2	5	4	1	1	6	5	1	27
	P6	10	4	4	6	3	2	4	6	7	46
	P7	6	7	5	1	1	5	2	4	0	31
	P8	5	11	7	7	1	2	1	4	0	38
	P9	11	2	2	2	3	2	0	6	1	29
	Parkade	9	74	39	60	47	30	17	25	130	431
Total		132	162	124	100	75	60	60	81	164	958
		14%	17%	13%	10%	8%	6%	6%	8%	17%	100%

Figure 4.18: Off-Street Weekday Duration



4.3.3 Duration Summary

The following key duration characteristics were observed:

- The highest observed on-street duration period was under 1 hour (72%).
- The average on-street duration of stay was 1.0 hour.
- The highest observed off-street duration period was 1-2 hours (17%).
- The average off-street duration of stay was 4.2 hours.

The results confirm on-street parking spaces are being used extensively for short-stay parking, which is consistent with their intent. While overall on-street usage is largely short-stay, certain sections of the Greater Downtown area have 8-hour unrestricted stalls, which are currently underutilized. In the future, as development density increases result in increased parking demand, there will be a need to implement time limit restrictions in these areas to ensure on-street spaces are available for short-stay users.

The results also confirm that most long-stay parkers are using the off-street facilities as should ideally occur. The long-stay characteristics suggest a large number of users at these facilities are employees of nearby office and commercial locations. Currently monthly parking passes are only provided in the Sorenson Station parkade. Long-stay characteristics suggest that monthly parking passes should be considered for all existing surface lots except for P4.

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5. STAKEHOLDER FEEDBACK

As part of the overall program for this parking study, a survey was distributed and collected from businesses in the Greater Downtown Area. As well, a workshop between the consultant team and city council was completed to discuss in part the initial parking data collection results and future parking supply options. The intention of the consultation process was to seek input from stakeholders regarding potential parking condition concerns and possible solutions to mitigate these concerns.

5.1 Business Survey

A total of 124 people participated in the survey sent to 1,000 Business Investment Area and broader Downtown area members, representing a 12% response rate. The survey questions and results are summarized in **Figure 5.1** to **Figure 5.6**.

Figure 5.1: Survey Question 1

1. Do your customers frequently complain about insufficient parking?	
Answer	Response Percent
Yes	57%
No	43%
<i>Total Responses</i>	<i>100%</i>

An on-street parking availability issue was the most common response from respondents answering yes to hearing complaints about insufficient parking.

Figure 5.2: Survey Question 1 (Follow-up)

How would you rate the following parking management strategies if they were considered to manage parking problems?			
Strategy	Good Idea	No Opinion	Poor Idea
Paid parking (if applicable)	55%	21%	25%
New parking time restrictions	29%	26%	45%
Increased parking enforcement	24%	28%	48%
Development of long-term parking (parkade)	67%	17%	16%
Enhanced sidewalks, multi-use pathways, and bike lanes	45%	18%	37%

Figure 5.3: Survey Question 2

2. Do you provide designated parking spaces for employees?	
Answer	Response Percent
Yes	54%
No	46%
<i>Total Responses</i>	<i>100%</i>

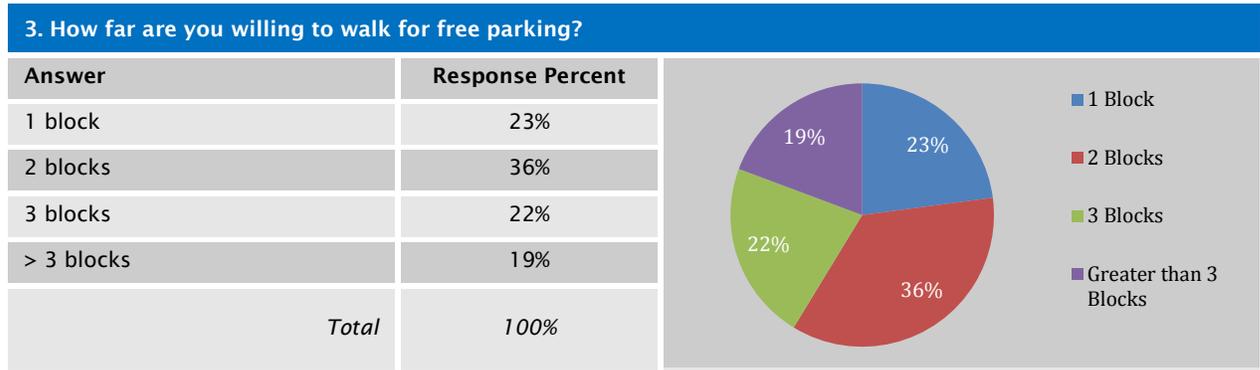
Figure 5.4: Survey Question 2 (Follow-up)

If answered yes to #2, where are spaces provided?	
Answer	Response Percent
Lot	63%
Back Lane	21%
Off-Site	16%
<i>Total Responses</i>	<i>100%</i>

Figure 5.5: Survey Question 2 (Follow-up)

If answered no to #2, where do employees park?	
Answer	Response Percent
On-Street	26%
In Lot	14%
Back Lane	11%
Off-Site	39%
Other	10%
<i>Total Responses</i>	<i>100%</i>

Figure 5.6: Survey Question 3



5.2 Summary of Survey

The following key trends were heard through the consultation process:

- Insufficient parking perception is considered to be an issue for customers at 57% of businesses.
- The most supported parking management strategies are development of new long-term parking or paid parking. The least supported parking management strategies are new time restrictions or increased parking enforcement.
- 77% of survey respondents were willing to walk 2 blocks to find parking, while 41% were willing to walk 3 blocks.

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6. FUTURE ASSESSMENT

6.1 Existing Residual Supply

To determine future development potential, it was first required to determine existing residual public supply. Residual supply is calculated by subtracting existing demand from existing practical supply as summarized in **Table 6.1**.

Table 6.1: Existing Residual Supply

Zone	Existing Practical Supply			Existing Demand			Residual Supply		
	On-Street	Off-Street	Total	On-Street	Off-Street	Total	On-Street	Off-Street	Total
Historic Downtown	506	888	1,394	322	528	850	184	360	544
North Downtown Res.	482	-	482	235	-	235	247	-	247
North Mixed Use	206	-	206	113	-	113	93	-	93
Parkvale	639	-	639	206	-	206	433	-	433
South Mixed Use	353	48	401	219	32	251	134	16	150
Riverlands	142	-	142	81	-	81	61	-	61
Railyards	49	-	49	56	-	56	-7	-	-7
Total	2,377	936	3,313	1,232	560	1,792	1,145	376	1,521

6.2 Existing C1 District Areas

There are currently no bylaw minimum parking requirements for commercial uses in the C1 (Commercial City Centre) District. The C1 district is comprised principally of the Historic Downtown, North Mixed Use, and South Mixed Use zones. Therefore, an assessment was completed to determine the level of additional development that could be accommodated in these zones utilizing existing public parking supplies.

The analysis found that the Historic Downtown, North Mixed Use, and South Mixed Use zones have a total residual supply of 787 stalls (544 + 93 + 150 = 787).

6.2.1 Development Potential (Peak Uses)

Peak parking demand occurs mid-day on weekdays, however there remains residual supply even during this period. Uses that peak mid-day on weekdays are office and medical office. The potential development that could be accommodated with this residual supply is summarized in **Table 6.2**. The analysis assumes an office demand of 2 per 100 m² GFA and a medical office demand of 3.5 per 100 m² GFA.

Table 6.2: Development Potential Scenarios (Peak)

Zone	Residual Supply	Potential Use Scenarios		
		Office (100%)	Medical Office (100%)	Office (75%) + Medical Office (25%)
Historic Downtown	544	27,200 m ²	15,440 m ²	22,900 m ²
North Mixed Use	93	4,650 m ²	2,670 m ²	3,915 m ²
South Mixed Use	150	7,500 m ²	4,280 m ²	6,315 m ²
Total	787	39,350 m²	22,390 m²	33,130 m²

The analysis suggests there remains potential to develop up to 39,350 m² of office (423,000 ft²) in the existing C1 district without providing private on-site parking. However, development potential assumes that existing parking supplies remain unchanged. If existing surface lots are developed, there may be a need to either provide on-site parking for those uses or reduce developable floor area.

6.2.2 Development Potential (Non-Peak Uses)

Parking counts completed in the Greater Downtown as part of this study as well as part of previous studies found that parking demand is considerably lower on evenings and weekends. The residual supply on weekends in the Historic Downtown is 970 stalls (1,349 practical supply – 379 demand = 970). The residual supply at 6PM just in the Sorenson Station parkade itself is 364 stalls (391 practical supply – 27 demand = 364). As such, there remains a large development potential for uses that have their peak parking demand on evenings and weekends.

The following are a number of uses that peak on evenings and weekends:

- Arena
- Nightclubs
- Places of worship (dependant on religion)
- Restaurants
- Retail
- Theatres

Arenas, nightclubs, places of worship, and theatres typically have little or no parking demand mid-day on weekdays. Restaurant demand during lunch periods is generally 50% of dinner service demand. However, in areas such as the Greater Downtown, mid-day demand is largely related to nearby employees and therefore parking is not as significantly impacted.

Development of non-peak uses should continue to be supported with no parking requirements when located in areas within walking distance of available public parking.

6.3 Riverlands

The City of Red Deer's administration indicated that they are planning to recommend amending the DC21 (Riverlands) district parking requirements to match the C1 district parking requirements. As a result, no bylaw parking requirement will be required for commercial uses in the Riverlands zone. The existing residual surplus is 61 on-street stalls. As the current residual surplus cannot accommodate future development, new public parking will be required to accommodate additional development in the area if no minimum commercial parking is required on-site.

The Riverlands ARP indicated that new public parking will be provided through approximately 625 on-street metered stalls as well as the construction of a public parking lot at the entrance to Riverlands. This public parking lot would initially be a surface lot with the potential to develop into a structured facility. As such, there is a large development potential if new public parking is provided.

If the proposed amendment proceeds and no new public parking is added, demand management strategies will be required. This will include the following:

- Transit service in the area will need to be reviewed to confirm if increased headways or new routes are required.
- Time limit restrictions and/or paid parking will need to be considered in Riverlands to increase the availability of public parking.
- Time limit or residential parking permits will be required in West Park to prevent spillover demand from impacting residential neighbourhoods.

6.4 Other Zones

Existing residual supply also exists in the North Downtown residential and Parkvale zones. However, these zones are primarily residential in nature with minimum parking supplies still required for all uses. Therefore, opportunity to use residual supply is limited or non-existent. Similarly, limited public parking supply exists in the Railyards zones. Therefore, no additional development could be accommodated in those zones without either providing private off-site parking or new public parking. As such, no analysis is completed for these zones.

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7. PARKING MANAGEMENT

As a result of the data collection exercise and analysis of potential future conditions, Bunt & Associates was able to gain a thorough insight into current conditions as well as limitations/opportunities related to future conditions. With this in mind, a series of parking management solutions were developed and are assessed below in relation to managing existing or potential future parking issues.

7.1 Increasing Parking Efficiency

7.1.1 Off-Peak Parking

Downtown traffic volumes peak on weekdays from 6:30-9:00 and 15:30-18:00, whereas parking demand peaks on weekdays from 9:00-15:30. As such, using a curb traffic lane for parking during off-peak periods could increase parking supply without negatively impacting traffic operations. Parking counts indicated existing parking supply is adequate to accommodate current parking demand. In the future, when parking demand increases, off-peak parking could be considered at the following locations:

- **49 Avenue** – The roadway has a 4-lane northbound only cross-section through the Greater Downtown area. Currently on-street parking is only provided on the west side of 1 block between 50 Street and 51 Street. Opportunity exists to add parking to both sides of the street from 45 Street to 55 Street during off-peak periods while maintaining 2 off-peak driving lanes. This could increase on-street supply by up to 128 stalls.
- **49 Street** – Through the Greater Downtown area, the roadway has a 3-lane eastbound only cross-section with parking provided on the south side. Parking is only provided on the north side in a lay-by between 48 Avenue and 49 Avenue. Opportunity exists to add parking to the north side of the street from 51 Avenue to 46 Avenue during off-peak periods while maintaining 2 off-peak driving lanes. This could increase on-street supply by up to 85 stalls.
- **55 Street** – In the North Downtown Residential zone, the roadway has a 4-lane cross-section with no on-street parking permitted except for on Sunday (between 48A Avenue and 47A Avenue) to accommodate parking demand associated with the adjacent Sacred Heart Catholic Church. Off-peak parking could be expanded to include weekdays after 18:00 and all day Saturday. This would provide increased supply during the busiest parking period for residential areas.

7.1.2 Shared Parking

Shared parking is the concept of using pooled parking spaces to serve two or more individual uses whose peak parking demand do not occur at the same time of the day. The ability to share parking spaces is the result of variations in parking demand by hour of day and day of week.

Outside of the C1 District, the land use bylaw requires a site meets the minimum parking requirements. Shared parking is currently accepted in the land use bylaw as a rationale for parking relaxation, but only if

the applicant can demonstrate that there is a complementary or overlapping use of the parking facility which would warrant a reduction in parking requirements.

Other jurisdictions, such as the City of Toronto³, include shared parking occupancy rates by time of day as part of bylaw parking calculation. The parking requirement for a mixed-use development is then calculated for each period with the minimum requirement being the largest number of parking spaces required for any parking period. An example of bylaw parking occupancy rates is illustrated in **Figure 7.1**.

Figure 7.1: City of Toronto Parking Space Rates & Occupancy

Land Use	Parking Rate	Parking Occupancy Rate		
		AM	PM	Eve
Adult Education School	<p>Parking spaces must be provided:</p> <p>(A) in Policy Area 1 (PA1), Policy Area 2 (PA2) and Policy Area 3 (PA3) at a minimum rate of 1.0 for each 100 square metres of gross floor area;</p> <p>(B) in Policy Area 4 (PA4) at a minimum rate of 1.5 for each 100 square metres of gross floor area; and</p> <p>(C) in all other areas of the City, at a minimum rate of 2.0 for each 100 square metres of gross floor area.</p>	100%	100%	25%

Bylaw parking occupancy rates provide a more consistent and simpler approach for applicants. Therefore, Bunt & Associates recommends that the land use bylaw be updated to include parking occupancy by period in addition to parking rates for each use. As these occupancy rates are general in nature, the Development Authority should retain the ability to further reduce parking requirements if an applicant is able to demonstrate that the parking needs for the site will be lower than the bylaw requirements.

7.1.3 Cash in Lieu

Cash-in-lieu (or fee-in-lieu as it is generally known in the USA) is a system whereby a developer or a business owner is allowed or required to provide some of the Bylaw parking requirements as cash to the municipality (e.g. Town) for building public parking facilities or for other uses that have long term aims of managing parking and transportation problems or achieving land use objectives.

Several purposes are served when Cash-in-lieu funds are used to build a public parking facility. It creates a shared and joint use parking environment with the benefit of minimizing the inefficient use of Bylaw required parking spaces (Jeffery Tumlin, 2005⁴). Cash-in-lieu is also intended to allow certain types of land uses to locate in the cash-in-lieu areas without the need to provide all Bylaw required parking stalls on-site

³ http://www.toronto.ca/zoning/bylaw_amendments/pdf/19_August_2014_Part1.pdf Table 200.5.10.1 (Page 278)

⁴ Jeffery Tumlin, 2005. "Reforming Parking Requirements" Nelson Nygaard Consulting

(City of Calgary, 1980⁵; Coconut Grove, Miami Florida⁶). Examples of cash-in-lieu rates in other jurisdictions are summarized in **Table 7.1**.

Table 7.1: Cash-in-Lieu Rates in Other Jurisdictions

Jurisdiction	Cash-in-Lieu Rate
Calgary, AB (Downtown)	\$39,697
Banff, AB	\$21,000
Canmore, AB	\$40,000

Funds are used in some other municipalities not only for building parkades but also for constructing, maintaining, operating, leasing, managing, or otherwise providing off-street parking facilities for public use. The funds are also used to provide public information to enhance parking utilization including publicity campaigns, graphics and signage, and other informational devices. As well, funds can be used to reduce parking demand by supporting walking, cycling, and transit infrastructure.

Another method is for a benefit assessment Bylaw fee to be collected monthly for either a finite or indefinite period of time and used for a variety of purposes not limited to the construction of new off-street parking stalls.

A cash-in-lieu or benefit assessment bylaw fee may be an option to ensure parking spaces are available to meet parking demand within the Greater Downtown area, while at the same time improving development potential and reducing development costs by removing the need to provide costly on-site parking. These fees may be especially useful in redeveloping areas such as Riverlands and Railyards.

7.1.4 Reduced Bylaw Parking Requirements

Bylaw parking requirements increase costs associated with development. Therefore, excessive parking requirements can stifle development. Bylaw residential minimum parking requirements are required in the C1 District (primarily Historic Downtown, North Mixed Use, South Mixed Use), while all minimum parking requirements are required in other zones.

Multi-Family Residential

Red Deer's bylaw minimum parking requirement for multi-family residential is 1.0 per 1 bedroom unit, 1.5 per 2 bedroom unit, and 2.0 per 3 bedroom units. The New Urbanism SmartCode⁷ recommends a minimum parking requirement of 1 space per residential unit, as opposed to tying the requirement to the

⁵ City of Calgary, 1980. "Land Use Bylaw" Chapter 18

⁶ City of Miami, 2004. "Coconut Grove Business District Improvement Trust" Ordinance Number 12564

⁷ <http://www.smartcodecentral.com/>

number of bedrooms. Within the Greater Downtown, a bylaw minimum requirement of 1 per unit would be appropriate given the proximity of amenities, employment density, and transit routes.

Developments are also required to provide 0.20 visitor parking spaces per unit. However, shared parking opportunities exist as evidential visitor parking demand peaks on evenings and weekends at which time the overall parking demand in the Greater Downtown area is low.

Therefore, Bunt & Associates recommends that residential bylaw requirements be reduced in the Greater Downtown area to 1 per residential unit while the visitor parking requirement can be reduced to 0.08/unit. This is consistent with findings in Calgary. Further reductions should be considered if it could be confirmed, through a parking study, that lower demand can be expected (e.g. senior oriented or student oriented rental apartments).

Commercial

The City’s desire is that off-street parking is provided underground in the Riverlands and Railyards zones. However, providing underground spaces is the most cost prohibitive and therefore high parking requirements could reduce development. As such, as part of redevelopment, lower parking requirements should be considered in these zones due transit service, proximity to residential, and opportunity for shared parking. To support walkable mixed-use developments, there should be no parking requirements for commercial ground floor uses in an office or multi-family residential building.

7.1.5 Update Minimum Parking Lot Design Standards

The current City of Red Deer minimum parking lot design standards are larger than requirements in other jurisdictions. The City of Calgary updated their minimum parking stall dimensions based on a study completed by Bunt & Associates⁸ in 2010. The City of Calgary’s updated requirements are compared to the City of Red Deer’s existing requirements in **Table 7.2**.

Table 7.2: Minimum Parking Lot Dimension Standards Comparison (Metres)

Parking Angle	City	Driving Aisle Width	Stall Depth (Perpendicular to aisle)	Overall Depth	Stall Width Parallel to Aisle	
					Residential	Other Uses
45°	Red Deer	4.00	5.70	15.4	3.82	3.82
	Calgary	4.00	5.00	14.0	3.54	3.68
60°	Red Deer	5.50	6.00	17.5	3.12	3.12
	Calgary	4.82	5.49	15.8	2.89	3.00
90°	Red Deer	7.00	5.50	18.0	2.70	2.70
	Calgary	7.20	5.40	18.0	2.50	2.60

⁸ Ezekiel Dada and Mike Furuya, *Parking Dimensions*, The Parker, 2nd Quarter 2010. <http://www.fortsask.ca/home/showdocument?id=1295>

As can be seen in the above table, the City of Red Deer's minimum parking lot dimension standards require a larger amount of space to accommodate the same number of vehicles. To reduce development costs, without negatively impacting parking operations, Bunt & Associates recommends that the City of Red Deer update its minimum parking lot design standards to match the City of Calgary's standards.

7.1.6 Improve Parking Payment Methods

On-street parking is currently controlled by single-space meters. The operating costs of these devices are high, while the user convenience is low. Observations also indicated actual available on-street parking supply is reduced as a percentage of existing meters are out of service at any one time.

Municipalities are typically phasing out single meters for payment methods that have lower operating costs and higher user convenience. A number of other methods exist including:

- **Pay & Display Meters** – Surface lots are currently controlled by this method. Users obtain a ticket from a pay station and display the ticket as a proof of payment. Providing this method on-street would increase user convenience by allowing for payments to be made by credit card. Overall operating costs are also lower, as this method results in fewer devices requiring maintenance and less coin collection. Revenue opportunities are also higher as ability to utilize leftover meter parking time is reduced, while increased payment methods increases user compliance. This method would also remove costs associated with painting on-street parking stalls. Removal of on-street designation could increase available parking supply, as vehicles are able to use unused space left by smaller vehicles.
- **Automatic Vehicle Identification** – In this method, enforcement is completed based on license plate numbers entered by users at a pay station. Enforcement is completed by automatic license plate recognition. This method provides the highest user convenience, but also has the highest capital costs. Within the City of Calgary, allowing users to also pay by text, phone, or mobile application provides additional convenience.

The following on-street payment methods are provided in other similarly sized jurisdictions:

- **Grand Prairie, AB** – Single-space meters are currently provided. These meters only accept coins.
- **Lethbridge, AB** – Single-space meters are currently provided. However, the meters are at their end of life and will be replaced with new technology. The City of Lethbridge has funded a \$2.0 million program to replace all on-street parking meters with a modern pay-parking system.
- **Kelowna, BC** – The City of Kelowna currently has a mix of single-space parking meters and newly added pay & display stations. The City also allows for payment by mobile application using a paybyphone⁹ application.
- **Nanaimo, BC** – Single-space meters are currently provided.

⁹ <https://paybyphone.com/>

- **New Westminster, BC** – Single-space meters were replaced with pay stations requiring license plate numbers. Payment can be made with coins or credit card.
- **Surrey, BC** – On-street single-space meters were replaced with pay stations. Users pay with cash or credit card. Payments are linked to license plates removing the need to return to the vehicle after payment. The City of Surrey indicated each station replaced 10-15 single-space meters.
- **Victoria, BC** – Pay stations within the City’s five parking zones allow for payment to be made by coin, credit card, or City parking card. Users enter their parking space number (which is indicated adjacent to each stall) and do not have to return to their vehicle. Payment can also be made through the City’s parking mobile application.
- **Regina, SK** – The City recently began installation credit card capable single-space meters which allow for wireless real-time monitoring and remote access.
- **Saskatoon, SK** – The City is in the process of phasing out single-space meters with pay stations. The new system allows for payment by coin, credit, card, City parking card, or mobile app. Users enter license plate numbers and therefore do not need to return to their vehicles after payment.

The review indicates most jurisdictions are either in the process of replacing or have previously replaced on-street single-space parking meters with other payment methods.

Bunt & Associates recommends the City of Red Deer consider options for replacing existing on-street meters with modern payment methods. A review of other jurisdictions suggest this method would involve a pay station with either a pay & display, license plate entry, or stall number entry requirement. This method would increase user convenience by allowing for credit card payment and reduce operating costs.

In the interim, payment should be made easier in the on-street meters. The current parking rates are coin dependent and may be so for a while. However, Bunt & Associates is of the opinion that parking rates should be divisible by 25 cents, that is, instead of 80 cents, it should be 75 cents and instead of 90 cents, it should be \$1. This would make it easier for customers to find change and pay for their parking.

7.2 Reducing Parking Demand

7.2.1 Market Pricing

On-street parking spaces are the most desirable spaces to park. This applies to both customers and staff since these stalls are the easiest to see and often closest to businesses that are being visited. Off-street stalls are less desirable and therefore intended more for long-stay visitors. Appropriate or “right” pricing has been determined as that which would always result in 85% occupancy in on-street spaces and up to 95% occupancy in off-street spaces. By pricing the on-street parking spaces appropriately, customers who are willing to pay will always have spaces as approximately 1 in 8 spaces would be available at 85% occupancy. Studies have also shown businesses benefit when parking turnover is encouraged.

Parking demand counts indicated most metered stalls currently operate with less than 85% occupancy, while most public off-street lots operate with less than 95% occupancy. However, occupancy thresholds are exceeded in a few locations largely in the centre of Historic Downtown. If the goal were to ensure parking spaces are always available in high demand areas, the following changes would be implemented:

- On-street parking rates in high demand areas should be increased (48 Avenue – 51 Street to 47 Street; Gaetz Avenue – 50 Street to 49 Street; 50 Street – Gaetz Avenue to 49 Avenue; 48 Street – Gaetz Avenue to 49 Avenue). This would entice some visitors to park in underutilized blocks, which would ensure other visitors would always have an available space near their destination.
- Off-street parking rates in lot P4 (currently \$1.20 per hour) should be increased. This would lead more visitors to park in the underutilized Sorenson Station parkade while freeing up space in the surface parking lot.
- As future development occurs, on-street and off-street spaces should be monitored to identify locations where parking rates increases are required to achieve the occupancy thresholds. In all situations, on-street parking rates should exceed rates for adjacent off-street facilities.

7.2.2 Improve Walking & Cycling Opportunities

Walking and cycling improvements can reduce parking demand due to the following reasons:

- The provision or improvement of sidewalk and crosswalk facilities expands the range of shared parking facilities. These facilities also make users more willing to park once and then walk to multiple destinations instead of driving between close-by destinations.
- Sidewalk improvements would promote transit usage by providing a connection from bus stop to destination.
- Sidewalk and cycling improvements would increase the viability of walking and cycling to work for employees residing in adjacent neighbourhoods.

Existing sidewalk facilities in the Riverlands and Railyards zones are poor. As identified in the redevelopment plans for these areas, sidewalk improvements will be required to support redevelopment. Higher parking supplies will be required if no improvements are implemented. The City of Red Deer also has a number of cycling routes in the Greater Downtown area. However, these routes tend to be disconnected requiring cyclists to share lanes with vehicles along a portion of the route, which deters non-confident cyclists. Illegal parking along bike lane routes is not enforced in some locations (e.g. 53 Avenue), which defeats the purpose of the lanes.

The following strategies are recommended to reduce parking demand:

- Ensure sidewalks are provided on all roads within the Greater Downtown area and cleared of snow.
- Promote development that faces building entrances to the street and not internal parking lots.
- Review opportunities to provide cycling connections between existing routes.

7.2.3 Unbundle Parking

Unbundled parking means parking spaces are rented or sold separately from building space such that occupants only pay for spaces they actually want to use. Minimum parking requirements can be reduced for developments with unbundled parking recognizing the reduced parking demand that tends to occur in these situations.

7.3 Support Strategies

7.3.1 Spillover Management

Most parking stalls in the North Downtown Residential, Parkvale, Riverlands, and Railyards zones are unrestricted with no time limits or payment requirements. A number of unrestricted stalls are also located in the North Mixed Use and South Mixed Use zones. Increased development density will result in increased parking demand in and around the Historic Downtown. This demand may spillover into streets in adjacent residential neighbourhoods. The following strategies are considered when spillover becomes an issue:

- **Time Limit Restrictions:** The introduction of time limit restrictions (e.g. 2-hour maximum) in conjunction with enforcement discourages usage by long-stay parkers (employees).
- **Residential Parking Permit Zone:** A residential parking permit (RPP) zone prohibits non-residents from parking in a certain section of a street. This program is typically implemented if spillover parking continues to occur after time limit restrictions are in place. A RPP zone should not be implemented unless a parking study confirms that on-street occupancy exceeds 75-85% of the available supply, that demand is impacted by non-residents, and that the majority of residents support a RPP program. If implemented, the permit program should be cost neutral with those residents making use of the program paying a yearly fee to recoup costs associated with running the program.

Existing occupancy counts indicated spillover demand occurred in some locations where there are currently unrestricted parking stalls. Based on the existing analysis, it is recommended that 2-hour time limits (Monday to Friday 8:00-17:00) be considered in the following locations:

- North Downtown Residential
 - 51 Street (47 Avenue to 46 Avenue) – *Will require prior consultation with residents.*
 - 50 Street (47 Avenue to 46 Avenue)
 - 47 Avenue (52 Street to 50 Street)
- Parkvale
 - 49 Street (47 Avenue to 46 Avenue)
 - 47 Avenue (48 Street to 47 Street)

- South Mixed Use
 - 46 Street (48 to 47 Avenue)
 - 47A Avenue (48 Street to 47 Street)
- Riverlands
 - 54 Avenue (43 Street to Taylor Drive) – *Will require prior consultation with residents.*
- Railyards
 - 52 Street (54 Ave to Gaetz Ave)
 - 53 Avenue (52 Street to 50 Street)

Further time limit restrictions as well as the implementation of a residential parking permit zone may be required in the future if spillover demand grows with increased development.

7.3.2 Wayfinding and Signage

Sometimes existing parking facilities are not well utilized either because their locations are not obvious to infrequent visitors or because there is no adequate wayfinding to them. By ensuring that available parking facilities are advertised and that drivers are directed to them, they would be better used and the perception of inadequate parking would be reduced. This includes the usage of apps and website occupancy information (e.g. Calgary Parking Authority, Town of Banff).

Wayfinding signage is provided at entrances to all surface parking lots. However, wayfinding information is not currently provided to indicate the entrance to the Sorenson Station parkade on 49 Street. As well, visitors are not able to determine the availability of parking supply in the parkade. Therefore, the following wayfinding improvements are recommended:

- Provide wayfinding signage indicating the direction to the entrance of the Sorenson Station parkade when travelling on 49 Avenue as well as 49 Street.
- Provide real-time information at the parkade entrance indicating available parking supply for hourly and daily users. Real time information would make users more comfortable with using the parkade if they knew that they could find a parking stall within the complex.

7.4 Increase Parking Supply

7.4.1 Access Management

Access management can reduce the number of driveways on a street, which in turn allows for increased on-street parking supply. As development occurs, access locations should be promoted from lanes or at combined locations where possible.

7.4.2 On-Street Parking

The ability to add on-street parking is limited in the Historic Downtown, beyond off-peak parking in locations previously identified. The redevelopment plans for Riverlands and Railyards would significantly increase the on-street parking supplies in these zones. Cost-effective solutions such as off-peak parking should be considered when redevelopment plans proceed.

7.4.3 Off-Street Parking

If development in the C1 district exceeds the residual supply of existing parking, there will be a need to either require developers to provide private parking facilities or build new public off-street parking facilities. As part of the redevelopment of Riverlands and Railyards, there will be a need to provide public off-street parking facilities. Joint ventures should be considered to allow the City to manage a parkade developed as part of a new development. High-level costs¹⁰ associated with building new facilities are summarized in **Table 7.3**. The facility cost assumes 20 years of payment.

Table 7.3: Typical Parking Facility Costs

Type of Facility	Land Costs	Land Costs	Construct. Costs	Annual O & M Costs	Annual Cost	Monthly Cost
	Per Acre	Per space	Per Space	Per Space	Per Space	Per Space
CBD Surface	\$5,000,000	\$38,462	\$5,000	\$600	\$4,389	\$366
CBD 4-Level Surface	\$5,000,000	\$9,615	\$20,000	\$700	\$3,282	\$274
CBD Underground	\$5,000,000	\$0	\$35,000	\$800	\$3,851	\$321

Future sites where central pooled parking facilities would need to be located within 2-3 blocks walking distance of areas where densification is expected. Walking distances from existing surface lots are illustrated in **Appendix C**.

¹⁰ Parking Costs, Pricing and Revenue Calculator, Todd Litman, Victoria Transport Policy Institute. <http://www.vtpi.org/parking.xls>

8. RECOMMENDED PARKING STRATEGY

Based on the information reviewed in this report, the following parking strategy is recommended.

8.1 Short Term

- To account for the shared parking impacts of mixed-use sites, update the Land Use Bylaw to include parking occupancy rates by time of day (morning, afternoon, and evening).
- Within the Greater Downtown, reduce the residential bylaw minimum parking requirements to 1 stall per residential unit, as opposed to tying the requirement to the number of bedrooms. The visitor parking requirement can be lowered to 0.08 stalls per unit, especially for high density residential developments.
- Within the Railyards zone, remove ground floor commercial parking requirements for mixed-use developments when office or residential uses are located above ground.
- Update bylaw minimum parking lot design standards to match City of Calgary's reduced standards.
- Increase on-street parking rates in high demand areas (48 Avenue – 51 Street to 47 Street; Gaetz Avenue – 50 Street to 49 Street; 50 Street – Gaetz Avenue to 49 Avenue; 48 Street – Gaetz Avenue to 49 Avenue) as well as in surface lot P4. Rates would be increased to ensure an ideal on-street occupancy below 85%.
- Make on-street parking rates divisible by \$0.25 per hour to increase ease of payment.
- Allow developments to unbundle parking, where in parking spaces can be rented or sold separately from building space such that occupants only pay for spaces they actually want to use.
- Implement new time limit restrictions (2-Hour 8:00-18:00 Monday-Friday) in currently unrestricted areas near the Historic Downtown.
- Improve wayfinding to the Sorenson Station parkade entrance. Provide real-time information at the parkade entrance indicating available parking supply.
- To preserve on-street parking, encourage new developments to provide access from lanes or combined driveways.
- Consider monthly parking passes for all off-street lots except for P4.

8.2 Mid-Term to Long-Term

- Add off-peak parking (9:00-15:30) on curb lanes along both 49 Avenue and 49 Street. This could increase on-street parking supply by over 200 stalls while keeping curb lanes available for vehicle traffic during the busiest traffic periods.

- Consider a cash-in-lieu or benefit assessment bylaw fee to ensure parking spaces are available to meet parking demand within the Greater Downtown area, while at the same time improving development potential and reducing development costs by removing the need to provide costly on-site parking. These fees may be especially useful in redeveloping areas such as Riverlands and Railyards.
- Replace existing on-street meters with modern payment methods. A review of other jurisdictions suggest this method would involve a pay station with either a pay & display, license plate entry, or stall number entry requirement. This method would increase user convenience by allowing for credit card payment while reducing operating costs.
- Annually monitor on-street and off-street spaces to identify locations where parking rates increases are required to achieve the occupancy thresholds. In all situations, on-street parking rates should exceed rates for adjacent off-street facilities.
- Improve walking and cycling conditions to reduce parking demand. Ensure sidewalks are provided on all roads within the Greater Downtown area. Promote walkable developments and review opportunities to provide cycling connections.
- If spillover demand grows, increase time restrictions and consider implementing a residential parking permit program.
- Identify sites where central pooled parking facilities could be developed. Future sites were central pooled parking facilities would need to be located within 2-3 blocks walking distance of areas where densification is expected.

APPENDIX A

Private Parking Inventory



ROLL	CODE	LOCATION	City	Province	Country	ZONING	Stalls	SIZE Sq Ft	ASSESSMENT	WIDTH	DEPTH	SITEAREA	AREA/STALL	ASMT per STALL
1620222	214	Century Centre	Red Deer	AB	Canada	C1	56	15,588	\$ 779,400	125	125	15,587.50	278	\$ 50
1620316	214	4707 50 Av	Red Deer	AB	Canada	C1	12	2,950	\$ 147,500	25	118	2,950.00	246	\$ 50
1620317	214	A, 4707 50 Av	Red Deer	AB	Canada	C1	12	2,950	\$ 147,500	25	118	2,950.00	246	\$ 50
1620387	214	4906 47 St	Red Deer	AB	Canada	C1	32	6,375	\$ 318,800	50	128	6,375.00	199	\$ 50
1620390	214	4910 47 St	Red Deer	AB	Canada	C1	16	4,781	\$ 239,100	35	137	4,781.25	299	\$ 50
1620395	214	4914 47 St	Red Deer	AB	Canada	C1	16	4,781	\$ 239,100	35	137	4,781.25	299	\$ 50
1620405	214	4926 47 St	Red Deer	AB	Canada	C1	16	5,100	\$ 255,000	25	128	5,100.00	319	\$ 50
1620410	214	4928 47 St	Red Deer	AB	Canada	C1	15	3,188	\$ 159,400	25	128	3,187.50	213	\$ 50
1620426	214	4824 47 St	Red Deer	AB	Canada	C1	12	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1620427	214	4822 47 St	Red Deer	AB	Canada	C1	11	3,188	\$ 159,400	25	128	3,187.50	290	\$ 50
1620428	214	4820 47 St	Red Deer	AB	Canada	C1	11	3,188	\$ 159,400	25	128	3,187.50	290	\$ 50
1620429	214	4818 47 St	Red Deer	AB	Canada	C1	11	3,188	\$ 159,400	25	128	3,187.50	290	\$ 50
1620431	214	4816 47 St	Red Deer	AB	Canada	C1	11	3,188	\$ 159,400	25	128	3,187.50	290	\$ 50
1620432	214	4814 47 St	Red Deer	AB	Canada	C1	12	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1620433	214	4810 47 St	Red Deer	AB	Canada	C1	24	6,375	\$ 318,800	50	128	6,375.00	266	\$ 50
1620470	214	4821 48 St	Red Deer	AB	Canada	C1	24	6,375	\$ 318,800	50	128	6,375.00	266	\$ 50
1622520	214	4825 48 St	Red Deer	AB	Canada	C1	24	7,504	\$ 375,200	60	125	7,503.92	313	\$ 50
1620575	214	4801 48 Av	Red Deer	AB	Canada	C1	23	6,500	\$ 341,300	50	130	6,500.00	283	\$ 53
1620555	214	4809 48 St	Red Deer	AB	Canada	C1	N/A	6,385	\$ 319,300	50	128	6,385.00	266	\$ 50
1620721	214	4816 48 Av	Red Deer	AB	Canada	C1	12	3,250	\$ 146,300	25	130	3,250.00	271	\$ 45
1620730	214	4811 47 St	Red Deer	AB	Canada	C1	11	3,193	\$ 143,700	25	128	3,192.50	290	\$ 50
1620740	214	4815 47 St	Red Deer	AB	Canada	C1	23	6,385	\$ 319,300	50	128	6,385.00	278	\$ 50
1620745	214	4821 47 St	Red Deer	AB	Canada	C1	21	6,385	\$ 319,300	50	128	6,385.00	304	\$ 50
1620780	214	4611 48 Av	Red Deer	AB	Canada	DC12	12	6,509	\$ 325,500	50	130	6,509.10	542	\$ 50
1620785	214	4615 48 Av	Red Deer	AB	Canada	DC12	14	6,509	\$ 325,500	50	130	6,509.10	465	\$ 50
1621456	214	5009 45 ST	Red Deer	AB	Canada	C1	28	10,000	\$ 500,000	100	100	10,000.00	357	\$ 50
1621735	200	5107 47 ST	Red Deer	AB	Canada	C1	28	17,961	\$ 987,900	150	120	17,961.10	357	\$ 55
1621785	214	4913 47 ST	Red Deer	AB	Canada	C1	26	6,400	\$ 320,000	50	128	6,400.00	246	\$ 50
1621790	214	4909 47 ST	Red Deer	AB	Canada	C1	26	6,400	\$ 320,000	50	128	6,400.00	246	\$ 50
1621795	214	4905 47 ST	Red Deer	AB	Canada	C1	26	6,400	\$ 320,000	50	128	6,400.00	246	\$ 50
1621800	214	4901 47 ST	Red Deer	AB	Canada	C1	26	6,400	\$ 320,000	50	128	6,400.00	246	\$ 55
1621805	214	4913 46 ST	Red Deer	AB	Canada	C1	24	6,388	\$ 319,400	50	128	6,387.50	266	\$ 50
1621870	214	4909 46 ST	Red Deer	AB	Canada	C1	24	6,388	\$ 319,400	50	128	6,387.50	266	\$ 50
1621900	214	4918 45 ST	Red Deer	AB	Canada	C1	22	6,388	\$ 287,400	50	128	6,387.50	290	\$ 45
1621925	214	4306 52 AV	Red Deer	AB	Canada	C1	96	42,253	\$ 1,924,300	145	291	40,511.00	422	\$ 46
1622275	214	4342 50 AV	Red Deer	AB	Canada	C1	34	19,936	\$ 697,700	175	114	19,935.60	586	\$ 35
1622415	214	4715 49 ST	Red Deer	AB	Canada	C1	30	12,500	\$ 843,800	125	100	12,500.00	417	\$ 68
1623615	214	4421 51 AV	Red Deer	AB	Canada	C1	27	8,291	\$ 373,100	100	83	8,291.40	307	\$ 45
1623659	214	4902 48 ST	Red Deer	AB	Canada	C1	0	0	\$ 27,678.00	0	0	0	0	\$ 45
1630026	214	5030 50 ST	Red Deer	AB	Canada	C1	14	3,250	\$ 178,800	25	130	3,250.00	232	\$ 55
1630027	214	5028 50 ST	Red Deer	AB	Canada	C1	0	3,250	\$ 178,800	25	130	3,250.00	232	\$ 55
1630028	214	5026 50 ST	Red Deer	AB	Canada	C1	14	3,250	\$ 178,800	25	130	3,250.00	232	\$ 55
1630080	214	5125 50 AV	Red Deer	AB	Canada	C1	18	6,500	\$ 325,500	50	130	6,500.00	361	\$ 50
1630260	214	4926 54 ST	Red Deer	AB	Canada	C1	32	11,898	\$ 594,400	75	159	11,887.50	371	\$ 50
1630280	214	4925 54 ST	Red Deer	AB	Canada	C1	19	6,375	\$ 318,800	50	128	6,375.00	336	\$ 50
1630372	214	4921 53 ST	Red Deer	AB	Canada	C1	16	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1630371	214	4923 53 ST	Red Deer	AB	Canada	C1	16	3,188	\$ 159,400	25	128	3,187.50	199	\$ 50
1634710	214	4925 53 ST	Red Deer	AB	Canada	C1	16	3,188	\$ 143,500	25	128	3,188.00	199	\$ 45
1634705	214	4927 53 ST	Red Deer	AB	Canada	C1	16	3,187	\$ 143,400	25	127	3,187.00	199	\$ 45
1634700	214	4929 53 ST	Red Deer	AB	Canada	C1	16	3,187	\$ 143,400	25	127	3,187.00	199	\$ 45
1634155	214	4928 52 ST	Red Deer	AB	Canada	C1	24	3,188	\$ 159,400	25	128	3,187.50	#DIV/0!	\$ 50
1630446	214	4813 51 ST	Red Deer	AB	Canada	Gold Bar	0	0	\$ 1,174,100	125	125	1,174,100.00	0	\$ 45
1630451	214	5010 48 AV	Red Deer	AB	Canada	C1	35	12,500	\$ 656,300	100	125	12,500.00	357	\$ 53
1630455	214	4819 51 ST	Red Deer	AB	Canada	C1	15	6,250	\$ 312,500	50	125	6,250.00	417	\$ 50
1630460	214	4823 51 ST	Red Deer	AB	Canada	C1	13	3,125	\$ 140,600	25	125	3,125.00	240	\$ 45
1630490	214	4828 51 ST	Red Deer	AB	Canada	C1	24	6,375	\$ 318,800	50	128	6,375.00	266	\$ 50
1630506	214	4820 51 ST	Red Deer	AB	Canada	C1	12	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1630507	214	4818 51 ST	Red Deer	AB	Canada	C1	12	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1630515	214	4810 51 ST	Red Deer	AB	Canada	C1	26	6,375	\$ 318,800	50	128	6,375.00	245	\$ 50
1630530	214	4807 52 ST	Red Deer	AB	Canada	C1	28	6,375	\$ 318,800	50	128	6,375.00	228	\$ 50
1630550	200	4827 52 ST	Red Deer	AB	Canada	C1	14	4,781	\$ 239,100	37	129	4,781.25	342	\$ 50
1630555	214	4831 52 ST	Red Deer	AB	Canada	C1	16	4,781	\$ 239,100	37	129	4,781.25	299	\$ 50
1630561	214	4835 52 ST	Red Deer	AB	Canada	C1	13	3,188	\$ 159,400	25	128	3,187.50	245	\$ 50
1630562	214	4837 52 ST	Red Deer	AB	Canada	C1	22	4,781	\$ 239,100	37	129	4,781.25	217	\$ 50
1630565	214	4839 52 ST	Red Deer	AB	Canada	C1	18	4,781	\$ 263,000	50	96	4,781.25	266	\$ 55
1630577	214	4832 52 ST	Red Deer	AB	Canada	C1	13	6,045	\$ 302,300	50	121	6,045.00	465	\$ 50
1630580	214	4830 52 ST	Red Deer	AB	Canada	C1	25	6,375	\$ 318,800	50	128	6,375.00	255	\$ 50
1630586	214	4828 52 ST	Red Deer	AB	Canada	C1	1	3,188	\$ 159,400	25	128	3,187.50	3188	\$ 50
1630587	214	4826 52 ST	Red Deer	AB	Canada	C1	14	3,188	\$ 159,400	25	128	3,187.50	228	\$ 50
1630590	214	4825 52 ST	Red Deer	AB	Canada	C1	22	6,375	\$ 318,800	50	128	6,375.00	290	\$ 50
1630611	214	4808 52 ST	Red Deer	AB	Canada	C1	12	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1630612	214	4806 52 ST	Red Deer	AB	Canada	C1	12	3,188	\$ 159,400	25	128	3,187.50	266	\$ 50
1630655	200	4829 53 ST	Red Deer	AB	Canada	C1	N/A	4,781	\$ 239,100	37	129	4,781.25	266	\$ 50
1630665	214	4833 53 ST	Red Deer	AB	Canada	C1	26	6,375	\$ 318,800	50	128	6,375.00	245	\$ 50
1630706	214	4814 53 ST	Red Deer	AB	Canada	C1	14	3,188	\$ 159,400	25	128	3,187.50	228	\$ 50
1630707	214	4812 53 ST	Red Deer	AB	Canada	C1	0	3,188	\$ 159,400	25	128	3,187.50	#DIV/0!	\$ 50
1630710	214	4808 53 ST	Red Deer	AB	Canada	C1	11	3,188	\$ 170,500	25	128	3,187.50	290	\$ 50
1630855	214	5411 49 AV	Red Deer	AB	Canada	C1	6	2,653	\$ 132,700	35	76	2,653.13	442	\$ 50
1631499	214	5014 50 AV	Red Deer	AB	Canada	C1	52	12,098	\$ 604,900	75	161	12,097.75	233	\$ 50
1631540	214	5015 51 AV	Red Deer	AB	Canada	C1	26	5,601	\$ 280,000	50	112	5,601.07	215	\$ 50
1631545	214	5011 51 AV	Red Deer	AB	Canada	C1	28	6,705	\$ 335,200	50	134	6,705.17	239	\$ 50
1631655	214	4930 53 ST	Red Deer	AB	Canada	C1	6	1,504	\$ 56,400	30	50	1,504.20	251	\$ 38
1631840	214	5210 47 AV	Red Deer	AB	Canada	C1	66	33,977	\$ 1,429,100	170	200	33,976.80	515	\$ 40
1632305	214	5220 50 AV	Red Deer	AB	Canada	C1	14	4,829	\$ 265,600	40	121	4,829.40	345	\$ 55
1632310	214	5302 50 AV	Red Deer	AB	Canada	C1	12	4,413	\$ 242,700	40	110	4,413.30	368	\$ 55
1620050	49	4811 51 AV	Red Deer	AB	Canada	C1	26	9,570	\$ 526,400	60	160	9,570.00	368	\$ 55
1620080	49	4905 51 AV	Red Deer	AB	Canada	C1	53	18,051	\$ 1,083,100	130	139	18,051.00	341	\$ 60
1620160	49	4908 49 ST	Red Deer	AB	Canada	C1	0	28,747	\$ 1,724,800	244	118	28,747.00	0	\$ 60
1620246	49	5111 48 ST	Red Deer	AB	Canada	C1	13	3,188	\$ 159,400	25	128	3,187.50	245	\$ 50
162024														

APPENDIX B

Public Parking Analysis



Greater Downtown Red Deer Parking Study: On-Street Summary

Date: September 17, 2015 (Thursday)

Zone	Street	From	To	Block Face	Parking Supply	Loading Supply	Time of Day									Max %	Peak %	
							9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00			
Historic Downtown	51 Avenue	50 Street	49 Street	East	5	1	0	0	0	1	1	1	1	1	1	17%	0%	
		49 Street	48 Street	East	4		1	1	1	1	1	0	1	1	1	25%	25%	
		48 Street	47 Street	East	9		1	1	2	2	2	4	3	1	0	44%	22%	
	Gaetz Avenue	52 Street	51 Street	East	19		1	1	8	9	7	2	7	9	11	58%	42%	
		51 Street	50 Street	East	15		12	13	13	11	11	10	13	10	5	87%	87%	
		50 Street	49 Street	East	15		11	15	14	13	15	14	12	12	9	100%	93%	
		49 Street	48 Street	48 Street	West	6		5	3	6	5	4	5	3	3	3	100%	100%
					East	9		8	5	7	7	9	5	4	6	6	100%	78%
			48 Street	47 Street	East	16		4	12	11	9	10	8	2	5	5	75%	69%
	47 Street		46 Street	West	5		2	1	1	0	0	1	0	1	0	40%	20%	
	49 Avenue	51 Street	50 Street	West	8		0	1	1	3	1	2	2	2	2	30%	10%	
			50 Street	West	8		2	3	4	2	3	3	4	2	2	50%	50%	
	48 Avenue	51 Street	50 Street	West	4		3	3	4	3	4	4	3	3	1	100%	100%	
				East	10		6	8	7	4	3	7	6	3	1	80%	70%	
		50 Street	49 Street	West	5		0	3	3	0	2	2	2	0	0	60%	60%	
				East	5		5	5	5	5	3	3	4	2	0	100%	100%	
			49 Street	48 Street	East	10		9	10	10	10	8	7	3	2	6	100%	100%
	47 Avenue	50 Street	49 Street	West	6		0	3	1	3	0	1	4	4	1	67%	17%	
			48 Street	West	8		1	2	1	0	1	1	0	3	4	50%	13%	
			49 Street	West	8		1	2	1	0	1	1	0	3	4	50%	13%	
	51 Street	Gaetz Ave	49 Ave	North	34		17	19	26	14	10	26	21	18	12	76%	76%	
			South	0	5	0	0	0	0	0	0	0	0	0	0	0%	0%	
		50 Street	51 Ave	Gaetz Ave	North	27		10	17	18	21	16	20	10	8	10	78%	67%
				South	16	1	4	10	12	14	11	12	14	13	12	82%	71%	
			Gaetz Ave	49 Ave	North	1	1	1	1	0	2	1	2	0	0	0	100%	0%
				South	16	1	12	14	8	14	15	17	13	15	14	100%	47%	
			49 Ave	48 Ave	North	33	2	14	14	13	13	9	20	16	13	15	57%	37%
				South	31		13	19	15	15	17	17	12	5	11	61%	48%	
			48 Ave	47 Ave	North	36	1	15	18	16	11	13	15	11	10	8	49%	43%
					South	44		10	27	25	22	23	32	28	23	13	73%	57%
	49 Street	51 Ave	Gaetz Ave	South	5		3	5	2	2	3	4	3	3	1	100%	40%	
			Gaetz Ave	49 Ave	South	15		10	12	11	13	11	10	9	12	9	87%	73%
		49 Ave	48 Ave	North	5		1	1	3	3	2	2	0	3	2	60%	60%	
			South	9		3	7	5	8	6	5	5	6	7	89%	56%		
	48 Street	48 Ave	47 Ave	South	16		4	5	5	7	9	10	7	9	6	63%	31%	
			North	8		6	6	5	7	3	2	4	5	1	88%	63%		
		Gaetz Ave	49 Ave	North	9		4	0	3	5	4	3	3	3	2	63%	38%	
			South	10	2	9	8	5	9	6	8	10	10	7	83%	42%		
	47 Street	51 Ave	48 Ave	South	8		2	4	6	5	3	3	3	2	1	75%	75%	
			48 Ave	47A Ave	North	11		1	2	2	3	3	2	1	1	27%	18%	
			South	7		1	1	1	0	3	2	2	1	1	43%	14%		
	47 Street	Gaetz Ave	49 Ave	North	11		6	8	9	8	7	9	10	6	4	91%	82%	
			South	11		1	1	2	2	1	0	0	1	2	18%	18%		
			North	17		3	4	4	4	3	4	4	1	4	24%	24%		
			South	9		2	3	3	3	2	3	3	1	3	33%	33%		
	Historic Downtown & Civic Centre					581	14	245	313	320	309	284	322	280	254	213		
								41%	53%	54%	52%	48%	54%	47%	43%	36%		

Greater Downtown Red Deer Parking Study: On-Street Summary

Date: September 17, 2015 (Thursday)

Zone	Street	From	To	Block Face	Parking Supply	Loading Supply	Time of Day								Max %	Peak %	
							9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00			17:00
North Downtown Residential	49A Avenue	North End	55 Street	West	12				4		7		6			58%	33%
				East	7				3		3		1			43%	43%
	48A Avenue	56 Street	55 Street	West	9				0		0		0			0%	0%
				East	10					3		4		2		40%	30%
	48 Avenue	55 Street	54 Street	West	11					9		7		9		82%	82%
				East	14					9		10		10		71%	71%
		54 Street	53 Street	West	7			1	0	0	0	0	0	0	0	14%	0%
				East	10			1	0	0	0	0	0	1	1	10%	0%
	47A Avenue	57 Street	56 Street	West	9					0		0		0		0%	0%
				East	9					2		2		1		22%	22%
		56 Street	55 Street	East	13					7		7		6		54%	54%
		55 Street	54 Street	West	11					4		6		7		64%	36%
				East	13					7		10		11		85%	54%
		54 Street	53 Street	West	9					6		8		7		89%	67%
				East	12					5		9		9		75%	42%
	47 Avenue	55 Street	53 Street	West	11	1				3		3		3		25%	25%
				East	15	1				4		5		2		31%	25%
		53 Street	52 Street	East	8					7		7		6		88%	88%
		52 Street	51 Street	East	7					5		6		5		86%	71%
	46 Avenue	52 Street	51 Street	West	11					3		2		1		27%	27%
				East	13					2		5		3		38%	15%
		51 Street	50 Street	West	5					1		1		0		20%	20%
				East	12					2		0		0		17%	17%
	57 Street	West End	47A Ave	North	5					0		0		0		0%	0%
				South	4					1		1		1		25%	25%
		47A Ave	47A Ave	Outer	10					0		0		0		0%	0%
				Inner	27					3		3		3		11%	11%
	56 Street	47A Ave	48A Ave	North	25					4		2		3		16%	16%
				South	32					11		10		8		34%	34%
		48A Ave	East End	North	15					2		3		3		20%	13%
				South	16					1		4		2		25%	6%
	54 Street	49 Ave	48 Ave	North	13	2	1	1	3	4	3	1	2	1	3	27%	20%
			South	15		3	2	3	2	4	3	2	3	6	40%	20%	
	48 Ave	47 Ave	North	23					8		15		15		65%	35%	
			South	15					7		11		11		73%	47%	
53 Street	49 Ave	48 Ave	North	21		0	2	0	2	0	0	2	0	1	10%	0%	
	48 Ave	47A Ave	North	23					21		10		16		91%	91%	
	47A Ave	47 Ave	North	8					6		9		4		113%	75%	
	47 Ave	East End	North	6					2		3		3		50%	33%	
			South	4					2		3		2		75%	50%	
52 Street	47 Ave	46 Ave	North	6					3		3		1		50%	50%	
			South	7					6		5		5		86%	86%	
51 Street	47 Ave	46 Ave	North	13					12		13		12		100%	92%	
			South	13					8		10		9		77%	62%	
Ross (50) Street	47 Ave	46 Ave	North	24					24		22		23		100%	100%	
Gaetz Avenue	55 Street	54 Street	West	4		0	0	0	1	1	1	2	1	1	50%	0%	
			East	11		1	1	1	1	2	3	1	2	1	27%	9%	
	54 Street	53 Street	West	7		1	0	1	0	2	2	0	1	0	29%	14%	
			East	8		1	1	2	4	4	3	0	0	1	50%	25%	
48 Avenue	53 Street	52 Street	West	4		0	0	0	0	1	2	2	0	0	50%	0%	
			East	0	7	0	0	0	0	0	0	0	0	1	14%	0%	
	52 Street	51 Street	West	8		3	6	5	3	6	8	3	3	1	100%	63%	
			East	5		0	3	1	0	2	3	2	1	2	60%	20%	
47 Avenue	53 Street	52 Street	West	10					9		8		5		90%	90%	
	52 Street	51 Street	West	11					10		9		8		91%	91%	
	51 Street	50 Street	West	5					5		4		5		100%	100%	
54 Street	Gaetz Ave	49 Ave	North	16		1	3	5	5	3	6	1	7	6	44%	31%	
			South	18		3	6	7	4	3	6	1	3	1	39%	39%	
53 Street	Gaetz Ave	49 Ave	North	13		0	2	3	1	1	2	4	1	2	31%	23%	
			South	10		0	1	1	0	1	1	1	0	0	10%	10%	
	49 Ave	48 Ave	South	17		2	3	2	2	3	0	3	2	2	18%	12%	
	48 Ave	47A Ave	South	17					0		3		2		18%	0%	
	47A Ave	47 Ave	South	10					3		6		8		80%	30%	
52 Street	Gaetz Ave	49 Ave	North	10		4	5	6	4	3	6	3	5	0	60%	60%	
	49 Ave	48 Ave	North	9		6	7	7	5	5	6	3	3	1	78%	78%	
			South	19		14	13	17	13	16	18	13	9	2	95%	89%	
51 Street	49 Ave	48 Ave	North	14		5	3	2	3	1	6	2	4	0	43%	14%	
			South	5	4	3	6	4	6	6	5	3	6	1	67%	44%	
North Downtown Residential					563	4	6	5	214	8	235	4	217	5	11		
									1%	1%	38%	1%	41%	1%	38%	1%	2%
North Mixed Use					231	11	44	60	91	52	90	78	72	48	22		
									18%	25%	38%	21%	37%	32%	30%	20%	9%

Greater Downtown Red Deer Parking Study: On-Street Summary

Date: September 17, 2015 (Thursday)

Zone	Street	From	To	Block Face	Parking Supply	Loading Supply	Time of Day									Max %	Peak %	
							9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00			
Parkvale & Rotary Park	47 Avenue	50 Street	49 Street	East	2		0	0	2	2	0	2	1	0	0	100%	100%	
		49 Street	48 Street	East	8		5	6	6	5	6	6	5	3	5	75%	75%	
	48 Street	47 Street	West	12				10		9	6	5	3	5	83%	83%		
			East	10			8		7		8				80%	80%		
	47 Street	46 Street	West	4				1		1		0				25%	25%	
			East	5			3		3		2					60%	60%	
	46 Street	45 Street	West	11				3		2		2				27%	27%	
			East	8			3		3		2					38%	38%	
	45 Street	44 Street	West	7				0		0		0				0%	0%	
			East	5			3		3		3					60%	60%	
	44 Street	48 Avenue	West	37				0		0		0				0%	0%	
			East	32			0		0		0					0%	0%	
	46A Avenue	44 Street	43 Street	West	19				2		0		2			11%	11%	
			East	25				3		5		4				20%	12%	
	43 Street	43 Street	In	7					1		1		1			14%	14%	
			Out	6				2		2		0				33%	33%	
	46 Avenue	50 Street	49 Street	West	8				0		1		0			13%	0%	
			East	8				0		0		0				0%	0%	
	49 Street	48 Street	West	8					2		2		2			25%	25%	
			East	8				0		1		0				13%	0%	
	48 Street	47 Street	West	9					1		1		1			11%	11%	
			East	7				3		1		1				43%	43%	
	47 Street	46 Street	West	10					0		0		1			10%	0%	
			East	9				1		2		1				22%	11%	
	46 Street	45 Street	West	9					0		0		0			0%	0%	
			East	9				1		1		3				33%	11%	
	45 Street	44 Street	West	8					0		0		0			0%	0%	
			East	8				1		1		0				13%	13%	
	44 Street	43 Street	West	24					3		4		6			25%	13%	
			East	15				5		4		5				33%	33%	
	45A Ave	44 Street	South End	West	6				1		1		1			17%	17%	
			East	11				2		2		1				18%	18%	
	Ross (50) Street	47 Ave	46 Ave	South	35				28		25		26			80%	80%	
	49 Street	47 Ave	46 Ave	South	24					14		17		18			75%	58%
			46 Ave	East End	South	4				1		1		1			25%	25%
	48 Street	47 Ave	46 Ave	North	23					14		15		11			65%	61%
			South	23				15		14		12				65%	65%	
	46 Ave	East End	North	6					2		2		2				33%	33%
			South	6				1		1		1					17%	17%
	47 Street	47 Ave	46 Ave	North	23					8		10		8			43%	35%
			South	22				7		11		7					50%	32%
	46 Ave	East End	North	11					2		1		1				18%	18%
			South	12				2		3		2					25%	17%
	46 Street	47 Ave	46 Ave	North	22				5		6		6				27%	23%
			South	23				5		5		2					22%	22%
	46 Ave	East End	North	11					3		5		4				45%	27%
			South	9				4		2		4					44%	44%
	45 Street	47 Ave	46 Ave	North	23				3		2		3				13%	13%
			South	13				5		6		5					46%	38%
	46 Ave	East End	North	12					5		3		3				42%	42%
			South	12				2		2		3					25%	17%
	44 Street	48 Ave	47 Ave	North	2				0		0		0				0%	0%
			South	6				1		1		0					17%	17%
	47 Ave	46 Ave	North	6					1		1		2				33%	17%
			South	11				1		2		3					27%	9%
	46 Ave	East End	North	14					1		1		1				7%	7%
			South	8				1		1		1					13%	13%
	42 Street	47 Ave	46 Ave	North	13				0		0		1				8%	0%
			South	9				0		0		0					0%	0%
	42 Street Cr	46 Ave	46 Ave	Outer	3				3		4		3				133%	100%
			Inner	11				1		2		1					18%	9%
	Parkvale & Rotary Park					752	0	5	6	202	7	206	8	192	3	5		
								1%	1%	27%	1%	27%	1%	26%	0%	1%		

Greater Downtown Red Deer Parking Study: On-Street Summary
 Date: September 17, 2015 (Thursday)

Zone	Street	From	To	Block Face	Parking Supply	Loading Supply	Time of Day									Max %	Peak %	
							9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00			
Riverlands	54 Avenue	47 Street	45 Street	East	9				6		5		4			67%	67%	
		43 Street	Taylor Dr	West	40				37		40		37			100%	93%	
				East	15	2				13		14		13			82%	76%
	47 Street	45 Street	54 Ave	North	9				0		0		0			0%	0%	
				South	3				0		0		0		0%	0%		
	47/45 Street	47 Street	45 Street	West	25				0		0		0			0%	0%	
				East	25				0		0		0			0%	0%	
	45 Street	47 Street	55 Ave	North	22				3		5		3			23%	14%	
				South	9				3		2		1			33%	33%	
	44 St Cr	44 St Cr	45 Street	North	0				0		0		0			#DIV/0!	#DIV/0!	
South				0				7		7		7			#DIV/0!	#DIV/0!		
44 Street Cr	55 Ave	54 Ave	South	8				8		8		8			100%	100%		
Railyards	53 Avenue	54 Street	52 Street	West	0			0		0		0			#DIV/0!	#DIV/0!		
				East	0			4		2		4			#DIV/0!	#DIV/0!		
		52 Street	50 Street	East	29				29		26		27			100%	100%	
	54 Street	54 Ave	52 Ave	North	3				0		0		0			0%	0%	
				South	7				4		4		3			57%	57%	
	52 Street	54 Ave	52 Ave	South	5				5		5		4			100%	100%	
52 Ave				51 Ave	South	14				14		14		14			100%	100%
South Mixed Use	52 Avenue	48 Street	47 Street	West	6		2	2	2	3	2	1	1	0	1	50%	33%	
				East	4		0	0	1	0	0	0	2	2	3		75%	25%
	47 Street	45 Street	45 Street	West	16		0	0	1	2	1	1	1	1	0	13%	6%	
				East	10		1	1	1	2	2	2	2	2	2		20%	10%
	45 Street	52 Ave	52 Ave	West	3				3		2		1			100%	100%	
				East	3				2		2		1				67%	67%
	52 Ave	43 Street	43 Street	West	13		12	13	13	13	13	12	10	9	5	100%	100%	
				East	15		14	15	15	15	15	13	10	8	5		100%	100%
	51 Avenue	50 Street	49 Street	West	5		0	0	0	0	0	1	1	0	0	20%	0%	
				49 Street	48 Street	West	6		2	1	2	2	1	3	1	3	1	50%
	48 Street	48 Street	47 Street	West	3		0	1	1	1	3	1	1	1	1	1	100%	33%
				45 Street	43 Street	West	10	2			4		5		5			42%
	51A Avenue	44 Street	43 Street	East	3				3		4		3			133%	100%	
				West	4				3		4		4				100%	75%
	51 Avenue	44 Street	43 Street	East	2				3		3		4			200%	150%	
				West	4				3		3		3				75%	75%
	48 Avenue	47 Street	46 Street	West	8		4	4	4	3	2	4	3	2	1	50%	50%	
				East	11		9	8	8	7	8	5	5	4	0	0	82%	73%
	46 Street	45 Street	45 Street	West	8		4	2	0	0	0	0	0	0	1		50%	0%
				East	10				7		9		7				90%	70%
	45 Street	43 Street	43 Street	West	27				19		14		9			70%	70%	
				East	27	1			12		10		10				43%	43%
	47A Avenue	48 Street	47 Street	West	11				13		10		7			118%	118%	
				47 Street	46 Street	West	2	2			2		2		2			50%
	46 Street	46 Street	45 Street	West	5	1			2		2		2			33%	33%	
				48 Street	52 Ave	51 Ave	North	9		4	4	3	2	1	3	1	3	44%
	47 Street	52 Ave	51 Ave	South	8		1	0	3	5	5	4	3	3	3	63%	38%	
				North	10	1	2	1	4	3	4	4	4	1	2		36%	36%
	49 Ave	48 Ave	48 Ave	South	8		3	4	5	4	5	4	4	5	6		75%	63%
				North	10	4	4	5	5	3	5	5	3	3	3		36%	36%
	48 Street	48 Ave	47A Ave	South	9		0	1	2	4	2	4	4	0	2		44%	22%
				48 Ave	47A Ave	South	6		4	3	3	3	4	4	4	2	0	67%
	46 Street	Gaelz Ave	49 Ave	North	15	1	1	2	1	3	4	4	3	1	1		25%	6%
				South	14		1	3	4	3	5	6	4	3	2		43%	29%
	49 Ave	48 Ave	48 Ave	North	13		8	8	9	10	9	11	11	9	4		85%	69%
				South	7		3	5	6	5	4	3	5	3	1		86%	86%
	44 Street	51A Ave	51 Ave	North	16				11		9		5			110%	110%	
				South	19				13		15		12				94%	81%
	43 Street	51A Ave	51 Ave	North	16				16		18		15			95%	84%	
				South	4				4		0		0		0		0%	0%
50 Ave	49 Ave	49 Ave	North	0	2			0		0		0		0		0%	0%	
			South	0				0		0		0		0			0%	0%
South Mixed Use					401	14	79	83	212	95	214	95	187	65	47			
							19%	20%	51%	23%	52%	23%	45%	16%	11%			
Riverlands					165	2	0	0	77	0	81	0	73	0	0			
							0%	0%	46%	0%	49%	0%	44%	0%	0%			
Railyards					58	0	0	0	56	0	51	0	52	0	0			
							0%	0%	97%	0%	88%	0%	90%	0%	0%			

Greater Downtown Red Deer Parking Study: On-Street Summary

Date: September 17, 2015 (Thursday)

Zone	Street	From	To	Block Face	Parking Supply	Loading Supply	Duration										
							0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	Total	
Historic Downtown	51 Avenue	50 Street	49 Street	East	5	1	1	1	1	0	0	0	0	0	0	0	3
	49 Street	48 Street	48 Street	East	4		8	0	0	0	0	0	0	0	0	0	8
		48 Street	47 Street	East	9		8	4	0	0	0	0	0	0	0	0	12
	Gaetz Avenue	52 Street	51 Street	East	19		34	4	3	1	0	0	0	0	0	0	42
		51 Street	50 Street	East	15		43	13	7	2	0	0	0	0	0	0	65
		50 Street	49 Street	East	15		67	15	4	0	0	1	0	0	0	0	87
		49 Street	48 Street	West	6		18	5	3	0	0	0	0	0	0	0	26
				East	9		33	8	0	2	0	0	0	0	0	0	43
		48 Street	47 Street	East	16		32	14	2	0	0	0	0	0	0	0	48
		47 Street	46 Street	West	5		3	0	1	0	0	0	0	0	0	0	4
				East	10		5	3	1	0	0	0	0	0	0	0	9
	49 Avenue	51 Street	50 Street	West	8		11	3	0	0	0	0	0	1	0	0	15
	48 Avenue	51 Street	50 Street	West	4		3	1	1	1	0	0	1	0	1	0	8
				East	10		7	6	1	1	1	1	0	1	0	0	18
		50 Street	49 Street	West	5		10	1	0	0	0	0	0	0	0	0	11
				East	5		10	5	4	0	0	0	0	0	0	0	19
		49 Street	48 Street	East	10		31	11	4	0	0	0	0	0	0	0	46
		48 Street	47 Street	West	6		10	3	2	3	0	1	0	0	0	0	19
				East	9		27	1	6	0	0	0	0	0	0	0	34
	47 Avenue	50 Street	49 Street	West	6		15	1	0	0	0	0	0	0	0	0	16
		49 Street	48 Street	West	8		7	3	0	0	0	0	0	0	0	0	10
	51 Street	Gaetz Ave	49 Ave	North	34		94	20	7	2	0	0	0	0	0	0	123
				South	0	5											0
	50 Street	51 Ave	Gaetz Ave	North	27		82	18	4	0	0	0	0	0	0	0	104
				South	16	1	61	13	2	1	1	0	0	0	0	0	78
		Gaetz Ave	49 Ave	North	1	1	5	1	0	0	0	0	0	0	0	0	6
				South	16	1	77	15	5	0	0	0	0	0	0	0	97
		49 Ave	48 Ave	North	33	2	82	19	1	1	0	0	0	0	0	0	103
				South	31		75	11	1	0	2	1	0	1	0	0	91
		48 Ave	47 Ave	North	36	1	42	18	5	3	1	0	1	0	0	0	70
				South	44		95	24	5	4	2	2	1	0	0	0	133
	49 Street	51 Ave	Gaetz Ave	South	5		10	5	2	0	0	0	0	0	0	0	17
		Gaetz Ave	49 Ave	South	15		52	11	2	3	1	0	0	0	0	0	69
		49 Ave	48 Ave	North	5		14	0	1	0	0	0	0	0	0	0	15
				South	9		23	8	3	1	0	0	0	0	0	0	35
		48 Ave	47 Ave	South	16		28	6	1	0	1	0	2	0	0	0	38
	48 Street	51 Ave	Gaetz Ave	North	8		18	5	0	1	0	0	1	0	0	0	25
				South	8		13	3	1	0	1	0	0	0	0	0	18
		Gaetz Ave	49 Ave	North	9		28	14	1	1	0	0	0	0	0	0	44
				South	10	2	43	8	3	1	0	0	0	0	0	0	55
	49 Ave	48 Ave	South	8		16	3	1	1	0	0	0	0	0	0	21	
	48 Ave	47A Ave	North	11		6	1	1	0	1	0	0	0	0	0	9	
			South	7		5	1	0	0	1	0	0	0	0	0	7	
North Downtown Residential		54 Street	53 Street	West	7		1	0	0	0	0	0	0	0	0	1	
				East	10		4	0	0	0	0	0	0	0	0	4	
	54 Street	49 Ave	48 Ave	North	13	2	9	1	0	2	0	0	0	0	0	12	
				South	15		22	3	0	0	0	0	0	0	0	0	25
53 Street	49 Ave	48 Ave	North	21		7	0	0	0	0	0	0	0	0	0	7	
Gaetz Avenue	55 Street	54 Street	West	4		1	0	0	0	0	1	0	0	0	0	2	
			East	11		11	1	0	0	0	0	0	0	0	0	12	
			East	8		11	1	1	0	0	0	0	0	0	0	13	
48 Avenue	53 Street	52 Street	West	4		1	2	0	0	0	0	0	0	0	0	3	
	52 Street	51 Street	West	8		6	8	2	1	0	1	0	0	0	0	18	
			East	5		5	3	1	0	0	0	0	0	0	0	9	
54 Street	Gaetz Ave	49 Ave	North	16		22	4	1	1	0	0	0	0	0	0	28	
			South	18		15	3	3	1	0	0	0	0	0	0	22	
53 Street	Gaetz Ave	49 Ave	North	13		3	2	3	0	0	0	0	0	0	0	8	
			South	10		3	1	0	0	0	0	0	0	0	0	4	
	49 Ave	48 Ave	South	17		11	2	0	1	0	0	0	0	0	0	14	
52 Street	Gaetz Ave	49 Ave	North	10		30	3	0	0	0	0	0	0	0	0	33	
	49 Ave	48 Ave	North	9		4	1	1	3	3	0	1	0	0	0	13	
			South	19		17	12	3	6	3	2	2	0	0	0	45	
51 Street	49 Ave	48 Ave	North	14		18	4	0	0	0	0	0	0	0	0	22	
			South	5	4	11	4	1	0	2	0	0	1	0	0	19	
Parkvale	47 Avenue	50 Street	49 Street	East	2		3	2	0	0	0	0	0	0	0	5	
52 Avenue	48 Street	47 Street	West	6		4	1	0	2	0	0	0	0	0	0	7	
			East	4		6	1	0	0	0	0	0	0	0	0	7	
	47 Street	45 Street	West	16		1	0	0	0	0	1	0	0	0	0	2	
			East	10		1	0	0	0	1	0	0	0	1	0	3	
51 Avenue	50 Street	49 Street	West	5		0	1	0	0	0	0	0	0	0	0	1	
	49 Street	48 Street	West	6		6	0	1	0	0	0	1	0	0	0	8	
	48 Street	47 Street	West	3		5	1	1	0	0	0	0	0	0	0	7	
48 Avenue	47 Street	46 Street	West	8		6	8	0	0	1	0	0	0	0	0	15	
			East	11		13	10	3	3	0	0	0	0	0	0	29	
	46 Street	45 Street	West	8		7	0	0	0	0	0	0	0	0	0	7	
48 Street	52 Ave	51 Ave	North	9		24	0	0	0	0	0	0	0	0	0	24	
			South	8		17	1	1	0	1	0	0	0	0	0	20	
Total On-Street					2751	45	1557	386	108	49	23	11	10	4	2	2150	
%							72%	18%	5%	2%	1%	1%	0%	0%	0%	100%	

Greater Downtown Red Deer Parking Study: On-Street Summary

Date: September 19, 2015 (Saturday)

Zone	Street	From	To	Block Face	Parking Supply	Loading Supply	Time of Day						Max %	Peak %			
							10:00	11:00	12:00	13:00	14:00	15:00			16:00		
Historic Downtown	51 Avenue	50 Street	49 Street	East	5	1	3	2	2	3	2	4	3	67%	33%		
		49 Street	48 Street	East	4		2	2	3	3	1	3	2	75%	25%		
	Gaetz Avenue	48 Street	47 Street	East	9		5	4	4	4	3	6	3	67%	33%		
		52 Street	51 Street	East	19		8	9	5	8	6	8	7	47%	32%		
		51 Street	50 Street	50 Street	East	15		12	11	9	13	8	7	7	87%	53%	
			50 Street	49 Street	East	15		10	9	9	12	11	12	13	87%	73%	
		49 Street	49 Street	48 Street	West	6		1	2	1	5	2	4	5	83%	33%	
				48 Street	47 Street	East	9		2	3	2	4	3	5	1	56%	33%
		48 Street	48 Street	47 Street	East	16		9	8	9	11	5	7	9	69%	31%	
			47 Street	46 Street	West	5		1	3	2	4	4	2	1	80%	80%	
		47 Street			East	10		0	1	0	2	1	4	0	40%	10%	
			49 Avenue	51 Street	50 Street	West	8		0	0	0	0	0	0	0	0%	0%
		48 Avenue	51 Street	50 Street	West	4		1	2	2	4	3	3	3	100%	75%	
					East	10		3	4	2	9	5	2	3	90%	50%	
		50 Street	49 Street	West	5		1	2	1	5	1	2	2	100%	20%		
				East	5		3	2	3	5	3	4	3	100%	60%		
		49 Street	48 Street	East	10		8	8	6	8	9	4	1	90%	90%		
			48 Street	47 Street	West	6		4	5	2	1	3	1	0	83%	50%	
		47 Avenue			East	9		6	6	3	3	3	2	1	67%	33%	
			50 Street	49 Street	West	6		2	3	4	3	3	2	2	67%	50%	
		49 Street	49 Street	48 Street	West	8		1	2	3	1	1	4	1	50%	13%	
			51 Street	Gaetz Ave	49 Ave	North	34		12	10	8	6	10	8	11	35%	29%
			50 Street	51 Ave	South	0	5	0	0	0	0	0	0	0	0	0%	0%
					North	27		20	21	26	22	25	25	26	96%	93%	
			Gaetz Ave	49 Ave	North	1	1	0	0	0	0	0	0	0	0%	0%	
				South	16	1	4	5	5	6	4	8	6	47%	24%		
	49 Ave		48 Ave	North	33	2	11	12	14	16	21	16	17	60%	60%		
				South	31		14	17	12	15	13	12	14	55%	42%		
	48 Ave		47 Ave	North	36	1	1	8	16	30	28	10	8	81%	76%		
				South	44		4	12	14	33	24	11	11	75%	55%		
	49 Street		51 Ave	Gaetz Ave	South	5		1	2	2	3	2	2	1	60%	40%	
			Gaetz Ave	49 Ave	South	15		9	8	10	9	11	10	11	73%	73%	
		49 Ave	48 Ave	North	5		4	3	3	1	2	3	2	80%	40%		
				South	9		1	6	6	7	6	6	5	78%	67%		
	48 Street	48 Ave	47 Ave	South	16		4	7	7	12	11	13	10	81%	69%		
		51 Ave	Gaetz Ave	North	8		2	1	3	4	1	1	2	50%	13%		
			Gaetz Ave	49 Ave	North	9		5	3	8	7	6	6	5	89%	67%	
				South	10	2	6	5	5	6	2	1	2	50%	17%		
		49 Ave	48 Ave	South	8		2	3	5	3	1	2	1	63%	13%		
				North	11		0	0	0	2	0	0	0	18%	0%		
		47 Street			South	7		0	0	0	0	0	0	0	0%	0%	
			51 Ave	Gaetz Ave	North	11		0	0	0	0	0	0	0	0%	0%	
		Gaetz Ave	49 Ave	North	17		11	10	9	9	5	5	4	65%	29%		
				South	9		2	4	0	2	0	2	0	44%	0%		
	Historic Downtown & Civic Centre					581	14	204	240	240	316	260	242	219			
								34%	40%	40%	53%	44%	41%	37%			

Greater Downtown Red Deer Parking Study: Public Lot Summary

Date: September 17, 2015 (Thursday)

Zone	Description	Lot #	Parking Supply	Time of Day									Max %	Peak %
				9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00		
South Mixed Use	5100 48 St	P1	51	16	17	26	29	30	25	23	22	32	63%	51%
Historic Downtown & Civic Centre	5100 50 Ave	P2	80	34	39	35	23	27	28	30	12	7	49%	44%
	4800 51 Ave	P3	26	17	22	24	20	20	20	20	21	15	92%	92%
	4900 49 Ave	P4	95	78	95	94	91	93	81	77	61	29	100%	99%
	4800 48 St	P5	44	12	18	19	16	20	19	19	12	4	45%	43%
	5000 51 Ave	P6	49	24	24	25	24	29	34	26	18	13	69%	51%
	4700 48 St	P7	87	14	13	17	13	15	17	17	14	0	20%	20%
	4700 48 Ave	P8	56	7	20	22	16	19	19	15	10	2	39%	39%
	5000 57 St	P9	80	19	14	13	12	12	16	11	13	3	24%	16%
	4900 48 Ave	Parkade	412	217	260	279	267	264	181	251	211	86	68%	68%
Total Off-Street			980	438	522	554	511	529	440	489	394	191		
%			-	45%	53%	57%	52%	54%	45%	50%	40%	19%		

Greater Downtown Red Deer Parking Study: Public Lot Summary

Date: September 17, 2015 (Thursday)

Zone	Description	Lot #	Parking Supply	3 Hour Accumulation							Maximum 3-Hour Accumulation			Peak 3-hr Accum %	Average Accumulation		Average Turnover	Average Duration	Parking Activ. Index
				9:00-12:00	10:00-13:00	11:00-14:00	12:00-15:00	13:00-16:00	14:00-17:00	15:00-18:00	Occupancy	%	Period		#	%			
South Mixed Use	5100 48 St	P1	51	59	72	85	84	78	70	77	28.3	56%	11:00-14:00	56%	24.4	48%	1.2	3.1	0.2
	5100 50 Ave	P2	80	108	97	85	78	85	70	49	36.0	45%	9:00-12:00	35%	26.1	33%	0.7	4.0	0.1
	4800 51 Ave	P3	26	63	66	64	60	60	61	56	22.0	85%	10:00-13:00	82%	19.9	76%	1.1	5.8	0.1
	4900 49 Ave	P4	95	267	280	278	265	251	219	167	93.3	98%	10:00-13:00	98%	77.7	82%	2.2	2.9	0.6
	4800 48 St	P5	44	49	53	55	55	58	50	35	19.3	44%	13:00-16:00	42%	15.4	35%	0.6	4.6	0.0
	5000 51 Ave	P6	49	73	73	78	87	89	78	57	29.7	61%	13:00-16:00	53%	24.1	49%	0.9	4.3	0.1
	4700 48 St	P7	87	44	43	45	45	49	48	31	16.3	19%	13:00-16:00	17%	13.3	15%	0.4	3.4	0.0
	4700 48 Ave	P8	56	49	58	57	54	53	44	27	19.3	35%	10:00-13:00	34%	14.4	26%	0.7	3.0	0.1
	5000 57 St	P9	80	46	39	37	40	39	40	27	15.3	19%	9:00-12:00	15%	12.6	16%	0.4	3.4	0.0
	4900 48 Ave	Parkade	412	756	806	810	712	696	643	548	270.0	66%	11:00-14:00	66%	224.0	54%	1.0	5.1	0.1
Total Off-Street			980	1514	1587	1594	1480	1458	1323	1074	531.3	54%	11:00-14:00	54%	452	46%	1.0	4.2	0.1

Greater Downtown Red Deer Parking Study: Public Lot Summary

Date: September 17, 2015 (Thursday)

Zone	Description	Lot #	Parking Supply	Duration									Total
				0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	
South Mixed Use	5100 48 St	P1	51	26	8	6	1	2	3	5	6	6	63
Historic Downtown & Civic Centre	5100 50 Ave	P2	80	2	8	21	4	0	2	10	1	6	54
	4800 51 Ave	P3	26	1	2	5	2	0	2	2	7	8	29
	4900 49 Ave	P4	95	60	44	30	13	17	11	13	17	5	210
	4800 48 St	P5	44	2	2	5	4	1	1	6	5	1	27
	5000 51 Ave	P6	49	10	4	4	6	3	2	4	6	7	46
	4700 48 St	P7	87	6	7	5	1	1	5	2	4	0	31
	4700 48 Ave	P8	56	5	11	7	7	1	2	1	4	0	38
	5000 57 St	P9	80	11	2	2	2	3	2	0	6	1	29
	4900 48 Ave	Parkade	412	9	74	39	60	47	30	17	25	130	431
Total Off-Street			980	132	162	124	100	75	60	60	81	164	958
				14%	17%	13%	10%	8%	6%	6%	8%	17%	100%

Greater Downtown Red Deer Parking Study: Public Lot Summary

Date: September 19, 2015 (Saturday)

Zone	Description	Lot #	Parking Supply	Time of Day						Max %	Peak %	
				10:00	11:00	12:00	13:00	14:00	15:00			16:00
South Mixed Use	5100 48 St	P1	51	6	6	5	4	7	5	8	16%	8%
Historic Downtown & Civic Centre	5100 50 Ave	P2	80	0	0	0	1	0	0	0	1%	1%
	4800 51 Ave	P3	26	20	17	21	17	16	11	11	81%	65%
	4900 49 Ave	P4	95	3	7	6	7	4	4	3	7%	7%
	4800 48 St	P5	44	1	3	2	5	7	6	6	16%	11%
	5000 51 Ave	P6	49	0	3	4	5	4	9	12	24%	10%
	4700 48 St	P7	87	0	1	0	0	0	0	0	1%	0%
	4700 48 Ave	P8	56	1	2	2	22	13	3	2	39%	39%
	5000 57 St	P9	80	8	5	6	6	4	5	3	10%	8%
	4900 48 Ave	Parkade	418	0	0	0	0	0	0	0	0%	0%
Total Off-Street			986	39	44	46	67	55	43	45		
%			-	4%	4%	5%	7%	6%	4%	5%		

Greater Downtown Red Deer Parking Study: Public Lot Summary

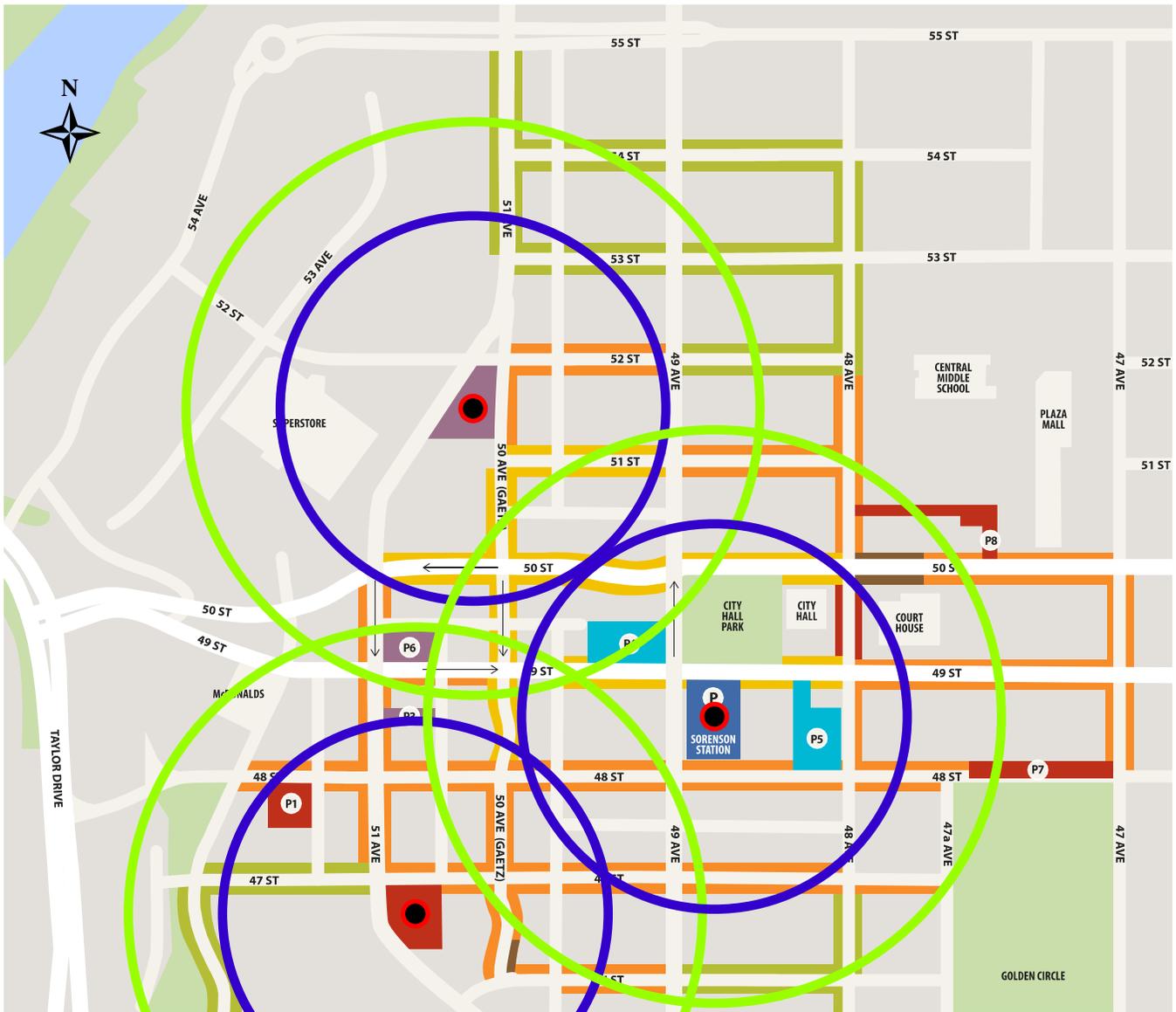
Date: September 19, 2015 (Saturday)

Zone	Description	Lot #	Parking Supply	3 Hour Accumulation					Maximum 3-Hour Accumulation			Peak 3-hr Accum %	Average Accumulation	
				10:00-13:00	11:00-14:00	12:00-15:00	13:00-16:00	14:00-17:00	Occupancy	%	Period		#	%
South Mixed Use	5100 48 St	P1	51	17	15	16	16	20	6.7	13%	14:00-17:00	10%	5.9	11%
Historic Downtown & Civic Centre	5100 50 Ave	P2	80	0	1	1	1	0	0.3	0%	11:00-14:00	0%	0.1	0%
	4800 51 Ave	P3	26	58	55	54	44	38	19.3	74%	10:00-13:00	69%	16.1	62%
	4900 49 Ave	P4	95	16	20	17	15	11	6.7	7%	11:00-14:00	6%	4.9	5%
	4800 48 St	P5	44	6	10	14	18	19	6.3	14%	14:00-17:00	11%	4.3	10%
	5000 51 Ave	P6	49	7	12	13	18	25	8.3	17%	14:00-17:00	9%	5.3	11%
	4700 48 St	P7	87	1	1	0	0	0	0.3	0%	10:00-13:00	0%	0.1	0%
	4700 48 Ave	P8	56	5	26	37	38	18	12.7	23%	13:00-16:00	22%	6.4	11%
	5000 57 St	P9	80	19	17	16	15	12	6.3	8%	10:00-13:00	7%	5.3	7%
	4900 48 Ave	Parkade	418	0	0	0	0	0	0.0	0%	10:00-13:00	0%	0.0	0%
Total Off-Street			986	129	157	168	165	143	56.0	6%	12:00-15:00	6%	48	5%

APPENDIX C

Walking Distance Analysis





Base Map Source: City of Red Deer

LEGEND

- 200m Walking Radius
- 300m Walking Radius

Exhibit C.1
Walking Radius

Greater Downtown Red Deer Parking Study
 January 2016 Scale NTS

