Downtown Parking Strategy

Draft Final Report

Submitted to the City of New Westminster
June 2013

PROJECT DELIVERABLE

PROJECT TITLE:	Downtown Parking Strategy
CONTACT PERSON AND TITLE:	John Steiner, M. Eng., MCIP, Project Director
BUSINESS ADDRESS:	Urban Systems Ltd. #550 – 1090 Homer Street Vancouver, BC V6B 2W9
TELEPHONE:	604.273.8700
FAX:	604.273.8752
EMAIL ADDRESS:	jsteiner@urban-systems.com
URBAN SYSTEMS PROJECT NUMBER:	1274.0028.01

TABLE OF CONTENTS

EXECUTIVE SUMMARY **1**

1 INTRODUCTION **15**

1.1 Study Methodology 17

2 EXISTING PARKING CONDITIONS – TAKING STOCK **18**

2.1 Related Plans and Policies 18

2.2 Public Parking 22

2.2.1 Organizational Structure 22

2.2.2 Publically-Accessible Parking Facilities 23

2.3 Private Parking 26

2.3.1 Zoning By-law 27

2.3.2 General Requirements 30

2.3.3 Front Street Parkade and Private Parking Requirements 30

2.3.4 Variances 31

2.3.5 Parking Cash-in-Lieu 32

3 PARKING INVENTORY **33**

3.1 Supply 33

3.2 Demand 36

3.2.1 Monthly Parking Demand Patterns 36

3.2.2 Daily Parking Patterns 37

3.3 Parking Charges 47

4 PARKING FINANCE **51**

4.1 Parking System Revenues & Expenditures 52

4.1.1 Parking Revenues 52

4.1.2 Expenditures 54

4.1.3 Comparison of Revenues and Expenditures 57

4.1.4 Front Street Parkade Rehabilitation 57

4.2 Issues & Opportunities 58

5 VISION, ASPIRATIONS, AND GUIDING PRINCIPLES **61**

5.1 Visions 61

5.2 Aspirations 62

5.3 Guiding Principles 63

6 FUTURE BASE CONDITIONS **64**

6.1 Downtown Growth Projections 64
6.2 City-owned Publically-accessible Parking Demand Patterns 68
6.3 Private Parking Requirements 73
6.3.1 Current City of New Westminster Bylaw Rates 74
6.3.2 Existing Rates from other Municipalities 76
6.4 Trends in Travel Behaviour, Economics, and Parking 79
7 CORE PARKING STRATEGIES 82
7.1 Overarching Parking Strategies 83
7.1.1 Demand Management 84
7.1.2 Supply Strategies 90
7.1.3 Pricing Strategies 93
7.1.4 Support Parking Strategies 95
7.2 Parking Governance Models 98
7.3 Location-based Strategies for City-owned Publically-accessible Parking 101
7.4 Bylaw-based Strategies for Private Parking 117
7.4.1 Reduce Parking Requirements 117
7.4.2 Parking Variances 118
7.4.3 Parking Cash-in-Lieu 120
8 EXTENDED PARKING MANAGEMENT PROGRAM 121
8.1 Overall Context 121
8.2 Practices in Other Juridictions 121
8.3 Approaches 122
8.3.1 Greater Financial Incentive for Cash-in-Lieu 123
8.3.2 Mandatory Short-term Parking Cash-in-Lieu 125
8.3.3 Pricing Increases 125
8.3.4 Summary 126
8.3.5 Next Steps 127
9 Implementation Plan 128
9.1 2 Year Parking Management Plan 128
9.2 Implementation Table 131

LIST OF FIGURES

FIGURE 1 Study Area And Precincts 16
FIGURE 2 Publically-accessible Parking Organizational Structure 23
FIGURE 3 Publically-accessible Parking Facilities ..... **Error! Bookmark not defined.**
FIGURE 4 Loading Zone and Bicycle Parking Locations 26
FIGURE 5 Monthly Parking Meter Revenue, City of New Westminster (2011) 37
FIGURE 6 Weekday City-owned Parking Occupancy by Hour 38
FIGURE 7 Saturday City-Owned Parking Occupancy by Hour 39
FIGURE 8 Weekday Peak Period Occupancy by Block (14:00 – 14:30) 41
FIGURE 9 Saturday Peak Period Occupancy By Block (12:30 – 13:00) 42
FIGURE 10 Weekday Peak Occupancy by Precinct (time) 43
FIGURE 11 Saturday Peak Occupancy by Precinct (time) 44
FIGURE 12 Parking Space Types and Average Number Used 45
FIGURE 13 Turnover Assessment Areas 46
FIGURE 14 Downtown Parking Turnover 47
FIGURE 15 2011 Parking Revenue 52
FIGURE 16 Annual Parking Meter Revenue, City of New Westminster (2004 – 2011) 53
FIGURE 17 Parkade Revenue 54
FIGURE 18 2011 Parking Expenditures 55
FIGURE 19 Annual Parking Meter Expenditures, City of New Westminster 56
FIGURE 20 Parkade Expenditures 57
FIGURE 21 Downtown Parking Revenues and Expenditures 57
FIGURE 22 Demand Patterns and Other Issues 60
FIGURE 23 Downtown Development to 2031 65
FIGURE 24 Development by Precinct to 2031 66
FIGURE 25 Downtown Development Model (City of New Westminster, 2012) 67
FIGURE 26 Projected Retail Growth By Precinct. 70
FIGURE 27 Forecast Public Parking Demand Method ..... **Error! Bookmark not defined.**
FIGURE 28 Forecast Weekday Public Parking Occupancy by Hour 71
FIGURE 29 Forecast Saturday Public Parking Occupancy by Hour 72
FIGURE 30 Car Ownership per Household by Municipality 79
FIGURE 31 Historic Auto Ownership by Household, New Westminster (1988 – 2011) 80
FIGURE 32 Framework of Parking Strategies 84
FIGURE 33 Impacts of High Parking Requirements 91
FIGURE 34 Forecast Weekday Demand Pattern – Albert Crescent Precinct 102
FIGURE 35 Forecast Saturday Demand Pattern – Albert Crescent Precinct 103
FIGURE 36 Forecast Weekday Demand Pattern – Tower Precinct 104
FIGURE 37 Forecast Saturday Demand Pattern – Tower Precinct 105
FIGURE 38 Forecast Weekday Demand Pattern – Waterfront (excluding Quayside) 106
FIGURE 39 Forecast Saturday Demand Pattern – Waterfront (excluding Quayside) 107
FIGURE 40 Forecast Weekend Demand Pattern – Quayside 108
FIGURE 41 Forecast Saturday Demand Pattern – Quayside 109

FIGURE 42 Forecast Weekday Demand Pattern – Historic Precinct 110
FIGURE 43 Forecast Saturday Demand Pattern – Historic Precinct 111
FIGURE 44 Forecast Weekday Demand Pattern – Front Street Parkade 113
FIGURE 45 Forecast Saturday Demand Pattern – Front Street Parkade 114

EXECUTIVE SUMMARY

Introduction







Downtown New Westminster is a unique, active, and highly desirable neighbourhood. The area serves as the commercial, residential, and recreational hub for the community, attracting those who call New Westminster home as well as visitors from near and far. The City of New Westminster is proactively looking to guide growth and development in support of the liveability of this vibrant community. Inherently, transportation plays a key role in the daily lives of residents and the growth of the City. As a growing municipality, the City's current population of 63,000 residents is expected to reach 92,000 by 2031. This future growth will place increasing pressure on the existing transportation system in New Westminster, including parking infrastructure.

In response, the Downtown Parking Strategy will guide the long term planning and management of parking in the City's downtown core, where some of the highest growth is expected to take place. The Downtown Parking Strategy will address a number of issues, including providing parking that is supportive of retail and economic vibrancy without encouraging automobile dependency. The Downtown Parking Strategy further examines existing parking supply and demand conditions in order to position the City to address and meet all future parking needs

A number of related plans and policies have been studied, in an effort to further guide the development of the Downtown Parking Strategy. Those documents include, the City's Official Community Plan (completed in 2011), Transportation Master Plan (in progress), and the Downtown Community Plan. In addition this parking strategy has included a review of the practices and approaches of both the City of Vancouver and the City of Calgary. This analysis has provided a further understanding of methodologies surrounding parking.

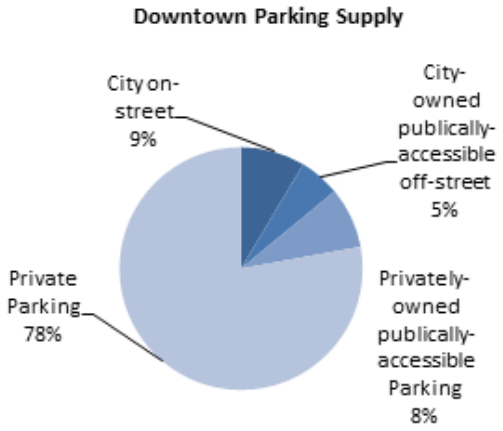
For ease of reference, the study area has been divided into five precincts that were first defined in the Downtown Community Plan. These precincts include Tower Precinct, Albert Crescent Precinct, Historic Precinct, Quayside, and Waterfront Precinct. Each precinct has different parking patterns and is expected to develop differently over the next two decades. The Downtown Parking Strategy has outlined a number of potential strategies to effectively manage parking in each precinct.

A "Snapshot" of Today

The current environment for parking in the downtown core will serve a key role in shaping the strategic direction for parking in downtown New Westminster. Parking in New Westminster comprises on-street parking, privately owned publically accessible off-street parking, City owned publically accessible off-street parking, and private parking.

Currently, the city owns and operates approximately 15 per cent of the 17,000 parking stalls in the downtown core. City-owned publically accessible parking is the shared responsibility of the Downtown Parking Commission and the Engineering Department. Much like other municipalities, the City plays a key role in the delivery and operation of both privately and City owned parking. With that said, it is important for the parking strategy to advance all forms of parking in an integrated and consistent manner. The City's role and influence over parking differs based on the type of supply. For City-owned on- and off-street parking, the City has direct influence over a wide variety of levers and policies. For privately-owned parking, the city's influence is limited to planning & policies and bylaws & regulations.

Of the 17,000 parking stalls in Downtown New Westminster, the City owns and operates approximately 15% of the total supply



City plays a shaping role in provision and operation of privately owned off-street parking facilities, but has various responsibilities for on-street and off-street publicly owned parking



	PUBLICLY OWNED		PRIVATELY OWNED	
	On-street	Off-street	Off-Street Public	Off-street Private
Planning & Policies	✓	✓	✓	✓
Bylaws & Regulations	✓	✓	✓	✓
Provision	✓	✓	X	X
Pricing	✓	✓	X	X
Operations/ Maintenance	✓	✓	X	X
Enforcement	✓	✓	X	X
Financing	✓	✓	X	X
Public-Private Partnerships	✓	✓	X	X

With the exception of Quayside, most city-owned parking in Downtown is not fully utilized during weekdays and Saturdays. This is as a result of a parking supply that outweighs the current demand. The Quayside area is one exception, with on-street parking reaching occupancy as high as 98 per cent on weekends. Most other precincts are no more than 70 per cent occupied at any given time. Other areas reach no more than 50 per cent capacity during the weekdays, some with less than 20 per cent on the weekends.

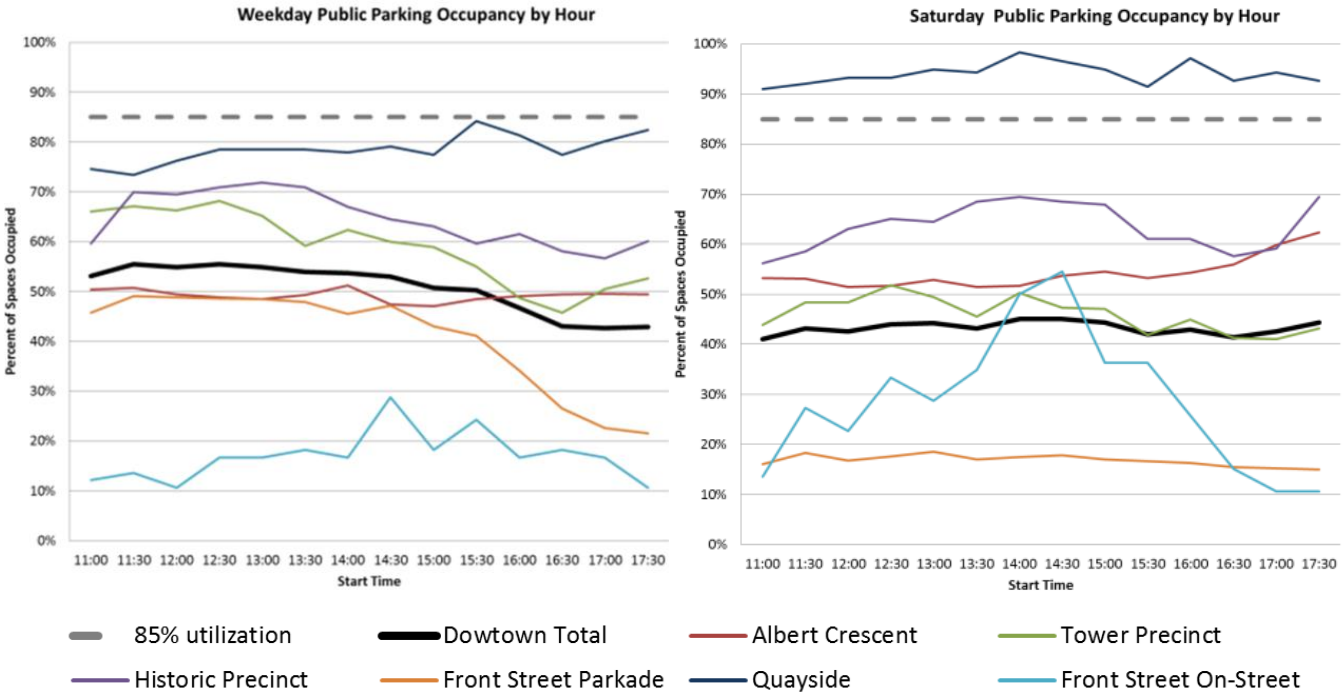
City-owned Parking Supply in Downtown

1,500 on-street spaces:

- *560 metered spaces*
- *940 time restricted and unrestricted spaces*

942 off-street spaces:

- *759 in Front Street Parkade*
- *183 in Columbia Station Parkade*



On-street parking in Downtown New Westminster is currently designed and being used for short-term parking. Over 85 per cent of all vehicles park for less than two hours, suggesting on-street parking is serving the needs of economic activity throughout the downtown core.

On-street parking in the Downtown is designed for, and generally being used by, short-term parking. Over 85% of all parked vehicles stay for less than 2 hours.

The cost of parking in the downtown core is comparatively modest in contrast with other cities, the cost of transit, and the costs associated with building a parking stall. This allows for the opportunity to further explore potential parking rate increases in strategic areas, which will encourage turnover and the use of stalls located two to three blocks from the users intended destination.

	City On-street	City Off-street	Private Public Parking
Hourly	$1.00 - $1.40	$1.25	$1 - $2
Daily	•	$7.00	$3.50 - $8.00
Monthly	•	$40 - $80	$70.00

The Vision

VISION
Ensuring the right balance of the right type of parking to meet the needs of residents, businesses and visitors to promote downtown New Westminster and achieve other policy objectives

Downtown New Westminster is undergoing a period of revitalization with new development expected to bring significant population and employment growth in the coming years. Parking can actively support the City's aspirations for the Downtown. It will play a key role in the economic, land use, and transportation strategy for the area. Having a well-managed public parking system will support and enable the desired development, while ensuring that existing and planned parking infrastructure is utilized effectively and is financially viable.



The City's Official Community Plan sets a strategic direction for the ongoing revitalization of the Downtown, including a number of policies related to parking. These policies generally relate to increasing transportation mode choice, including walking, cycling, and transit, while supporting Downtown revitalization and managing the parking supply. The City's ongoing development of its Transportation Master Plan has established a set of goals, which include mobility and access, social diversity, and a sense of place. The Downtown Community Plan set more specific goals and targets for Downtown, including decreasing the 24 hour mode share for auto travel from 53% in 2004 to 60% by 2031. Active parking management plays a key role in supporting these goals.

In order to ensure the Downtown Parking Strategy is in line with the values and vision of the community, a Stakeholder Advisory Group was consulted to share what success, in this context, looks like. Below is a summary of the findings that will form the vision for parking in Downtown New Westminster.

When asked what success looks like, the Stakeholder Advisory Group shared the following thoughts:

- *Everyone understands how parking policies are linked to overall transportation, economic, and livability goals*
- *Residents and businesses support each other, with more local use of local businesses*
- *Parking is available in the right place, at the right time, at the right price and people know where to find it*
- *Downtown New Westminster is a unique destination, like Main Street or Gastown*
- *Businesses, residents, and students all benefit from being located together in a vibrant Downtown*
- *A balance of retail with offices to increase local daytime shoppers*
- *Retailers providing options to local travellers who use alternative modes*

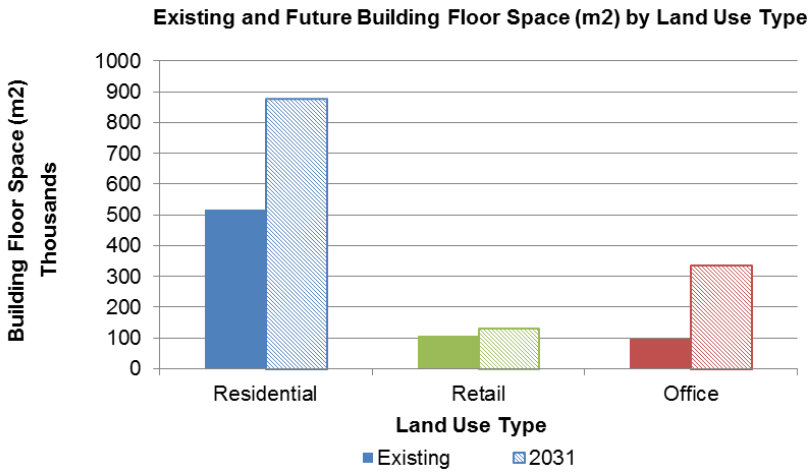
The Vision for the Downtown Parking Strategy is to balance the needs of residents, businesses, and visitors with transportation and land use objectives. For new development, land owners will continue to be responsible for the delivery of both long-term and short-term parking to serve their own needs, as required by bylaw. Furthermore, there is an expectation that attractive transportation alternatives will reduce the overall demand for parking supplies, which can be reflected in policies and bylaws.

The primary role of the City-owned on-street and off-street public parking supply is to serve the needs of visitors, or short-term parkers, as a way to augment private off-street parking. In this regard, the City will want to make sure most public parking supplies are managed to be increasingly used by visitors rather than serving long-term parking demands. The principle exception is the Front Street Parkade whereby the long-term parking activity must continue to serve long-term parking demands for heritage developments where parking credits have been granted. It is worth noting that most communities cannot afford to build, operate and maintain public parking – which can cost more than $50,000 per stall – to serve long-term parking needs.



Future Challenges

Key challenges addressed by the Downtown Parking Strategy include growth and densification (and the effect of these changes on parking), continued economic vibrancy, and fulfilling the visions identified above.



The Downtown Community Plan identifies the opportunity for continued growth, densification, and diversification in the Downtown Core. One of the strategic themes acknowledged within the Downtown Community Plan is that maximizing strategic opportunities will fuel economic growth in the downtown core. Furthermore, a Downtown Commercial Land Use Marketability Study has identified a significant number of development opportunities. The study recommends the City aggressively encourage new residential development in and around Downtown New Westminster. In the future, the amount of residential space is expected to grow by 90 per cent, while most of the non-residential growth will be comprised of office space. Built floor space for office use is expected to more than triple by 2031, while retail is expected to increase by about 25 per cent. The findings stress that increasing employment opportunities through the development of office space is important for a healthy Downtown. Supporting employment opportunities in the area will increase pedestrian traffic and allow more New Westminster residents to work closer to home, shortening or eliminating commute times, and parking requirements, for many residents.

Into the future the City will need to continue to strengthen the delivery of private short-term parking supplies in the downtown area as growth and development occurs. Recognizing that all new development within the Downtown will continue to be responsible for meeting short-term and long-term parking needs, the primary mechanism to achieving the overall aspirations for the Downtown is to influence the amount and approach to managing parking within privately owned property.

> *The City's role is to influence the amount and approach to managing parking within private parking supplies through public policies and information, while continuing to bolster the provision of short-term parking.*

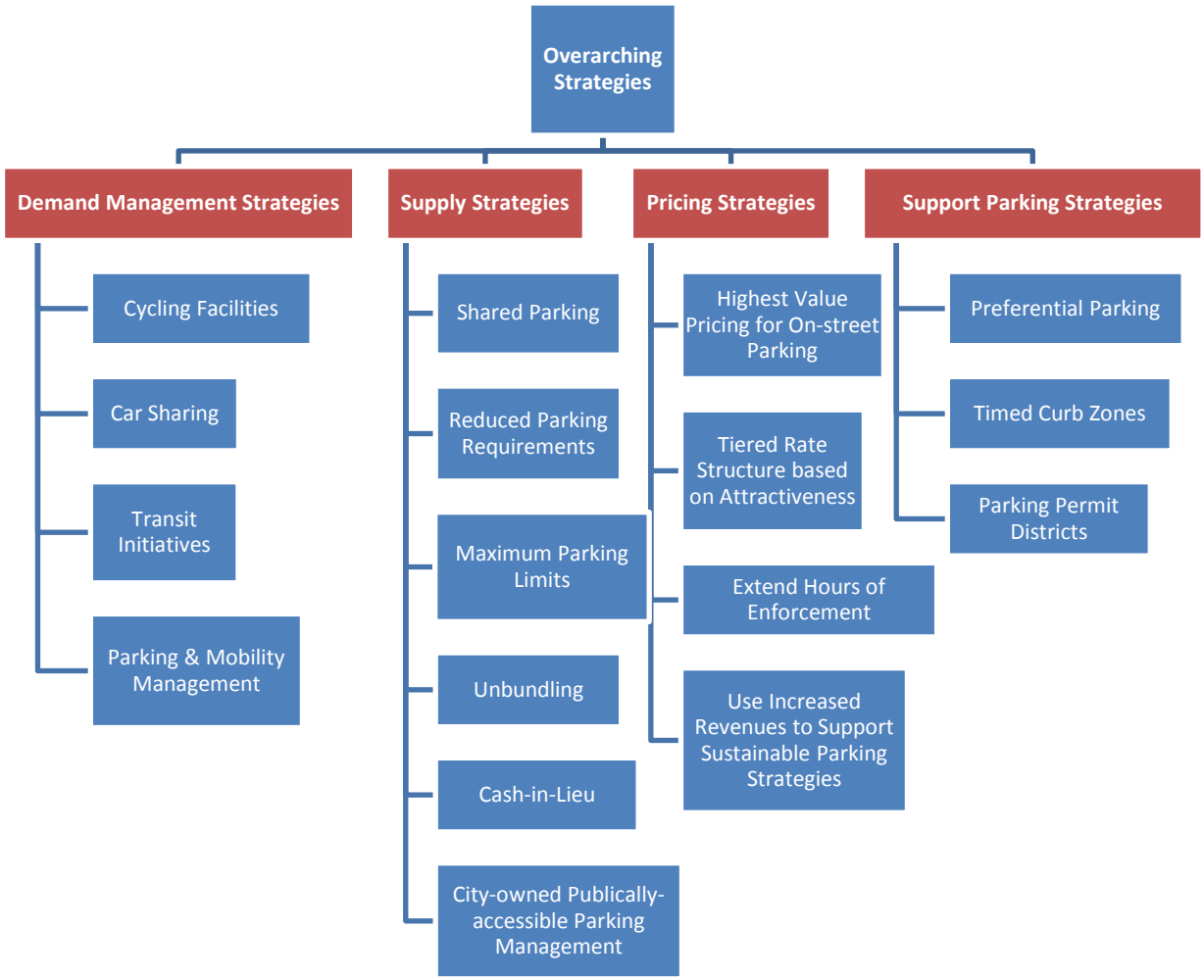
While influencing the supply and management of private parking supplies is essential, the City's other role is to bolster the provision of public short-term parking supplies. Specifically, as commercial retail activity grows in New Westminster, the demands for short-term parking supplies will increase. As such, the projected increase of retail activity (25% overall, based on projected growth) can be used as an indicator or measure of the change projected in the demands for short-term parking activity in city-owned public parking.



As previously noted there is generally sufficient on-street and off-street City-owned publically in the downtown area, however specific precincts will face more localized challenges. The projections for public parking below show that Tower Precinct and Quayside will require integrated parking strategies that include changes to managing the existing supply differently and considering new facilities in key areas. The Tower Precinct currently sees 68 per cent utilization during the weekday, whereas Quayside experiences 79 per cent utilization during the week, increasing to 98 per cent utilization on the weekend. In addition, the Front Street Parkade, a multi-level structure over Front Street presents some specific challenges for Downtown. The structure, completed in 1965, is experiencing significant deterioration and will need substantial rehabilitation for the parkade to be maintained for the long term. It is less than 50% utilized during the peak periods. The future of the Front Street Parkade is tied to the City's other plans for Front Street and the Downtown Waterfront.

The Strategy

The Downtown Parking Strategy has outlined four overarching categories of strategies available to the City for the effective planning, management, and operation of public and private parking supplies in the downtown core. These overarching categories are supported by the more specific categories of strategies addressing more specific policies and approaches.



Overarching Categories of Strategies

- **Demand Management** initiatives encourage the use of alternate modes and reduce the need to own a vehicle. At a minimum, demand management strategies have the ability to discourage Single Occupant Vehicle use as a commuter mode of travel. Shifting trips to other modes of transportation is fundamental to managing the impact of vehicle travel on the community. The Downtown Parking Strategy has included four categories of interest within the demand management strategy, including cycling facilities, car sharing, transit initiatives, and parking and mobility management. Each play a key role in demand management and are explained in detail within the report.
- **Supply Strategies** involve policies the City can leverage shape to influence the amount of off-street parking provided within new developments. This will work to minimize the space and costs associated with parking and overall parking activity. As outlined earlier, the current parking supply greatly outweighs the current demand. The Downtown Parking Strategy outlines six strategies associated with supply, including shared parking, reducing parking requirements, maximizing parking limits, unbundling, cash-in-lieu, and City-owned publically-accessible parking management.
- **Pricing strategies** help to facilitate *demand management* that maintains a desired 85 per cent occupancy level in high demand locations. Appropriate strategies relating to pricing encourage high turnover, making space available for others and therefore contributes to the economic vitality of the downtown area. The Downtown Parking Strategy includes three pricing strategies for consideration, including highest value pricing for on-street parking, tiered rate structure based on attractiveness, and use increased revenues to support sustainable parking strategies.
- **Support Strategies** are an essential component to the success of any parking management strategy. The support strategies outlined, are intended as an agent to strengthen and support both the parking *supply strategies* and *pricing strategies*. Included are approaches to managing public and private parking in order to appropriately utilize the space and discourage long-term parking where suitable. The support strategies within this parking strategy include preferential parking, time curb zones, and parking permit districts.

Specific Policies and Approaches

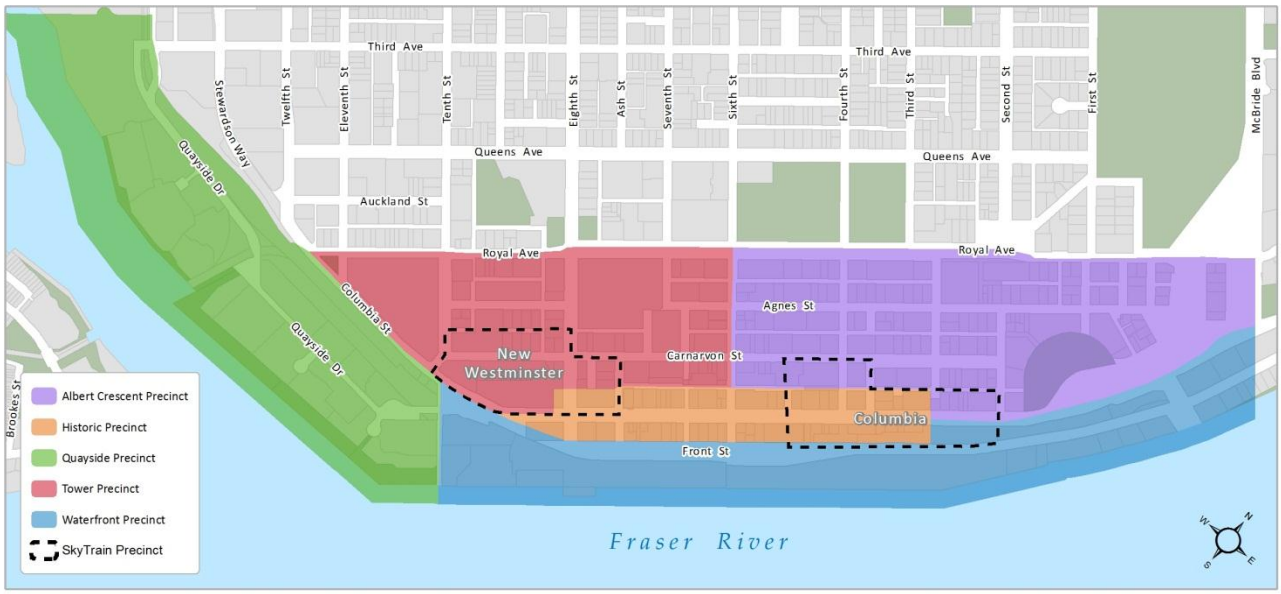
Policies to Manage Private Off-street Parking

As part of the development of new buildings, private parking is required for use by residents, employees, and visitors. The parking required for a development is determined by the off-street regulations within the Zoning Bylaw. Parking requirements specified within the Zoning Bylaw are primary tools for influencing private parking and maximum bylaws could be applied to other land use types and zones.

- Create more uniform rates to apply to the Downtown Area
- Reduce residential parking requirements slightly
- Require fewer parking spaces for purpose built rental units
- Require visitors parking for all buildings containing three or more residential units in accordance with Metro Vancouver Apartment Survey recommendations
- Maintain the existing requirement for all non-residential uses in the historic area
- Lower the requirement for non-residential uses in other Downtown Zones
- Normalize all non-residential requirements to a common unit

Approaches to Managing Public On-street and Off-street Parking

The Downtown on-street and off-street public parking supplies will continue to be increasingly valuable for visitors to the city, as they shop, do business, restore, and socialize. As outlined above, each precinct within the downtown core is expected to develop differently from the next; as such location-based strategies are needed to effectively manage public on-street and off-street parking.



- **Albert Crescent Precinct**
  - Implement meter parking along 6th Street, western portion of Carnarvon Street, Clarkson Street, and around Columbia SkyTrain Station
  - Monitor meter utilization and manage pricing
  - Strengthen restrictions for non-residents
  - Support demand management measures and investment in alternative transportation infrastructure
- **Tower Precinct**
  - Implement pay parking throughout the Tower Precinct
  - Manage time limits and pricing
  - Support demand management measure and investment in alternative transportation
  - Encourage greater use of existing private lots
  - Implement wayfinding and parking ITS
  - Consider providing shared off-street parking in the long-term (around 145 spaces)
- **Waterfront Precinct (excluding Quayside)**
  - Ensure the development meets short- and long- term parking demands
  - Actively manage on-street parking supply
  - Work with developers to understand the changing supply of privately-owned publically-accessible off-street parking as development occurs

- Support demand management measures and investment in alternative transportation infrastructure

- **Quayside**
  - Introduce time restrictions
  - In consultation with the community over the long-term, consider pay parking near the Waterfront Area
- **Historic Precinct**
  - Implement pay parking throughout the Historic Precinct
  - Manage time limits and parking
  - Price publically-accessible parking in the Anvil Centre to support short-term use
  - Support demand management measures and investment in alternative transportation infrastructure
  - Implement wayfinding and parking ITS
  - Consider providing new shared off-street parking if required
- **Front Street Parkade**
  - Support demand management measures and investment in alternative transportation infrastructure.
  - Examine the pricing structure regularly and adjust as required.
  - Manage long-term parking.
  - If the necessary preconditions are met, remove half of the Parkade. Maintain the remaining half for mid-term use (around 2030). There are two options for this strategy:
    - East retained (recommended):
      - Provide new parking opportunities near the west portion of the existing parkade.
      - Create a connection to the waterfront using the opportunity created by the removal of a portion of the parkade.
    - West retained (not recommended).
      - Identify 150 new or alternative City-owned publically-accessible parking spots in addition to the retained portion of the campaign.
  - As 2030 approaches, consider opportunities to remove the second half of the parkade.
    - Provide sufficient off-street parking spaces in another location to meet remaining demand for Front Street Parkade.



The Plan

Over time, the strategies in this report will move Downtown New Wesminster towards the vision and aspirations described earlier. The key factors for success are as follows:

- Private parking supply and management that enables economic growth, while encouraging the use of alternative modes and making effective use of land and resources.
- Resolution on the future of the Front Street Parkade, Front Street, and Downtown's connection to the waterfront.
- Management of on-street parking to distribute demand and maintain occupancy around 85% for the most occupied blocks.
- City-owned short-term parking supply that accommodates the growth in demand associated with healthy, growing economic vitality in the Downtown.

The list of preliminary actions provided below is a plan for the first two years following the adoption of the Downtown Parking Strategy. Working towards the actions listed below will put the City on the path towards achieving the vision and aspirations for parking in the Downtown core. The plan is divided into four sections: on-street parking, City-owned off-street parking, private parking policies, and policies and organizational efforts.

On-street Parking

- Implement the planned upgrade to the City's parking and enforcement systems that meets the following requirements:
    - Pay station / pay-by phone system that is license plate based. This allows for simpler, more effective enforcement and ease of use for cell phone payments.
    - Ability to allow businesses to pay for parking on their client's behalf.
    - Ability to vary rate structure by block and / or time of day.
    - Licence-plate recognition based enforcement for both time restrictions and payment. This enables faster, more effective enforcement.
    - Availability of statistics concerning utilization.
    - Enabled for near field communication (NFC).
    - Ability to register permits with the City's database and compare using enforcement software. This will allow the City to allow residents with permits or special users (e.g. car shares, registered visitor's permits) on blocks that have time or payment restrictions.
- Install new pay parking at the following locations:
    - 6th Street between Agnes St and Cunningham St
    - Cunningham St between Sixth Street and Fourth Street
    - Carnarvon St between Sixth Street and Fourth Street
    - 10th St between Royal Ave and Agnes St
    - Moody St between McInnes St and Blackie St
    - McInnes St between Moody St and Agnes St
    - Agnes St between McInnes St and Blackie St
    - McInnes St between Agnes St and 10th St
    - Lorne St north of Carnarvon St
    - Blackwood St between Columbia St and Clarkson St

- Install two new short-term bicycle parking racks on Columbia Street between 6th Street and 8th Street.
- Extend on-street enforcement hours to 8:00 p.m.
- Introduce timed curb zones with 2-hour parking from 8:00 a.m. to 8 p.m. for the following locations:
    - Quayside Drive south of Reliance Crescent
    - All Quayside cul-de-sacs with direct access to the waterfront
- Increase rate for all on-street parking to $1.25 per hour

City-owned Off-Street Parking

- Front Street Parkade:
    - Confirm that the City can meet the required pre-conditions to remove the west half of the Front Street parkade, including finding a small supply of convenient parking for customers and providing access to the waterfront as part of a broader strategy concerning Front Street and the waterfront.
    - If preconditions are met, begin plans for removal of the west portion
    - Lower hourly rate to $1.00 per hour
    - Stop issuing new reserved parking spaces for the Front Street Parkade. Maintain existing reserved spaces.
- Anvil Centre:
    - Price parking at $1.00 per hour
- Install new static signs identifying the locations of the Front Street Parkade and the Anvil Centre and availability of public parking.

Private Parking Policies

- Begin process to move towards the proposed parking bylaw rates
- Permit variances to the bylaw rates only in the prescribed cases. Reductions may be cumulative up to a total of 30%.
- Explore moving towards a combined cash-in-lieu and alternative transportation fund at a common contribution rate of $25,000 per space.
- Revisit off-site parking portion of zoning bylaw with the intention of making cash-in-lieu discretionary.

Policies and Organizational Efforts

- Engage in internal discussions about parking governance and finance with the intention of moving towards full-cost accounting of parking revenue and expenses, including on- and off- street revenue, operations, maintenance, rehabilitation, and replacement costs for parking assets.
- Reinvest additional revenue from new meters and extended hours of enforcement into the Downtown, including into parking infrastructure and alternative transportation infrastructure.
- Monitor utilization of all on- and off- street parking assets

Proposed Parking Bylaw Rates

Zone	Unit Type	Requirement
Residential – ALL DOWNTOWN ZONES	Building containing three or more dwelling units	Minimum of: • 1.0 space per bachelor or one bedroom unit • 1.35 spaces per dwelling unit with two or more bedrooms
	Purpose-built market rental apartments containing three or more dwelling units	Minimum of: • 0.6 space per bachelor or one bedroom unit • 0.8 spaces per dwelling unit with two or more bedrooms
	Building containing three or more dwelling units	0.1 Visitor spaces per dwelling unit
Commercial – ALL DOWNTOWN ZONES	All non-residential uses in zone C-8 (includes office, bank, restaurant, retail)	Minimum of 1.0 space per 100 sq. metres
	All non-residential uses in all other Downtown Zones	Minimum of 1.4 spaces per 100 sq. metres

Site Trip Reductions and Accompanying Reductions to Parking Requirements

Site Trip Reduction Initiative	Potential Reduction in Parking Requirement
Car share	4 spaces for each car-share vehicle, up to 5% (residential only)
Ongoing reimbursement of transit passes	Up to 15%
Showers and lockers for bicycle commuters	Up to 5% (non-residential only)
Shared parking for multi-use developments	Up to 20%
Unbundling (residential)	To be considered in the future
Rapid transit proximity	Up to 5%

1 INTRODUCTION

The City of New Westminster is developing a Downtown Parking Strategy to guide the long term planning and management of parking in the City's growing Downtown core. The plan complements existing plans and ongoing work by the City and will be a key element in the future success of Downtown New Westminster.

New Westminster seeks to be a vibrant riverfront city that is livable, safe, healthy, committed to both equity and the environment, and bolstered by a sustainable economy. The City is a growing municipality with approximately 63,000 residents today and approximately 92,000 residents expected by 2031. This growth will put increasing demand on the existing transportation system and parking infrastructure. Some of the highest growth will take place in the Downtown. Growth will be guided by the vision, goals, and strategies outlined in the Downtown Community Plan. The Vision for Downtown New Westminster is included below to serve as a point of reference:

> *The Downtown is a unique neighbourhood within the City. It functions as the economic, cultural, historic and residential hub of New Westminster. Its natural amenities along the riverfront and historic streetscapes enhance its tourism, entertainment and retail appeal. Its high density residential and commercial buildings in close proximity to transit provide a showcase for the attributes of sustainable and responsible growth in the Metro Vancouver region.*

City Council also approved the Proposed Vision for Downtown's Front Street and Rail Corridor for community review and comment. This vision has implications for the future of City-owned parking in New Westminster. It was considered throughout the project and included in public consultation. This vision is stated below.

> *As the City implements the Downtown Community Plan, Front Street will be returned to a pedestrian friendly retail street with historic storefronts. Seamless connectivity to the Waterfront will be achieved by an elevated Sixth Street Overpass allowing for barrier-free movements to the Waterfront and the Westminster Pier Park for pedestrians and cyclists. Over time, the Front Street Parkade will be replaced with new public parking decentralized throughout Downtown. The rail corridor will be cleaned up and train whistles will be eliminated. When the Pattullo Bridge is reconstructed, direct access will not be permitted to Front Street. In addition, the City will seek to prohibit or restrict commercial truck traffic from Front Street. - Approved by Council on September 19th 2011 for community review and endorsement*

The Project Team considered a number of key issues in the approach to the parking strategy. These issues were identified by City Council and Staff as important items to address through the parking strategy. The study approach was designed in consideration of these key issues:

- Assessing the requirements for commercial and residential land use.
- Managing the impacts of growth on City-owned publically-accessible parking demands.
- Considering short term and long term parking strategy options, including:

- Parking supply options.
- Parking pricing options.
- Other support strategies.

- Examining parking finance and governance models.
- Supporting the goals set in other plans and strategies:
  - The Community Energy & Emissions Plan targets a 15% reduction in GHG emissions from 2007 levels by 2030. The transportation sector has a significant part to play in this reduction, with a target of reducing total emissions 35% by 2030. Parking management has a strong role to play as a means of achieving a reduction in single occupant vehicle (SOV) trips to help the City achieve its GHG emission goals.
  - The Transportation Master Plan and Downtown Community Plan identify mode share targets for sustainable transportation modes. Parking management is viewed as a key support strategy for other Transportation Demand Management (TDM) measures; when combined together, these strategies can reduce SOV travel and increase use of alternative modes.

The Parking Strategy will address a number of issues, including providing parking to support retail and economic vibrancy of the Downtown without promoting automobile dependency and determining the existing parking supply and demand conditions.

The Downtown Community Plan defines five unique Downtown precincts. Each of these precincts has a unique character and specific policies and strategies for development. These precincts were used for the parking assessment and are illustrated in FIGURE 1. This report recognizes that each precinct requires an individual assessment and strategies that are customized but consistent with the overall community plans for that precinct. Together, the precincts make up the study area for the Downtown Parking Strategy.



FIGURE 1 Study Area And Precincts

1.1 Study Methodology

This study is separated into a five phase process as summarized below:

- **Phase 1 – Project Initiation**. This initial phase included meeting with Council, City Staff and the Stakeholders Advisory Group and gathering and reviewing existing information and reports.

- **Phase 2 – Parking Data Collection and Assessment.** This phase included an extensive data collection effort. Parking supply (including regulations and pricing), parking demand, and turnover / length of stay were collected for on-street and publically-accessible, City-owned off-street parking spaces. Data for Front Street Parkade and on-street spaces were collected at 30 minute intervals from 11:00 a.m. to 6:00 p.m. on Tuesday, June 19 and Saturday, June 23. Occupancy information was collected twice per day for the Columbia Parkade. This phase also included an assessment of existing conditions, and identification of issues and opportunities. The results of the public consultation components of Phase 1 and 2 are summarized in **Appendix B**.

- **Phase 3 – Assessment of Demand and Future Projections.** Phase 3 of the study will look towards future conditions and the identification of principles that will guide the selection of appropriate parking strategies. This phase will analyze available information and growth patterns to understand the future needs that will be addressed in the development of the strategy.

- **Phase 4 – Development and Evaluation of Strategies.** The result of the study will be a combination of strategies that will work together to address the Downtown's needs and meet economic, social, and environmental goals. In this phase, the guiding principles for parking in Downtown New Westminster will be confirmed. The guiding principles, along with the understanding of existing and future needs developed in earlier phases will be used as a basis for the development of the overall package of strategies.

- **Phase 5 – Documentation**. The study will conclude with the development of a final report that documents the Parking Strategy adopted by Council.

Three discussion papers are being prepared to summarize the results of Phases 1 through 4. The discussion papers will be combined to create the final report. Discussion Paper #1 includes this introduction and an assessment of existing conditions within the Downtown based on parking data collected during a weekday and weekend survey, as well as available reports and information obtained from the study steering. Discussion Paper 1 summarizes financial information for current parking operations and explores issues and opportunities related to Downtown parking. Discussion Paper 2 explores the conditions expected in the future base condition. Discussion Paper 3 identifies potential strategies.

2 EXISTING PARKING CONDITIONS – TAKING STOCK

Similar to most municipalities, the City of New Westminster's Downtown includes a mix of publically-accessible parking (i.e. accessible to all) and private parking (i.e. restricted to building occupants or tenants). Private parking is considered to be "off-street", either in surface parking lots or within buildings. Within the city, private parking supplies are principally supporting individual land use needs, and in some cases operating as publically-accessible parking in the immediate area. Generally, private parking is managed by building owners, or by a third party on their behalf. The city influences the private parking supply through requirements within its zoning by-law. By contrast, City-owned publically-accessible parking is the city's responsibility and is generally split between on-street (either with or without parking metres) and off-street City-owned publically-accessible parking lots.

2.1 Related Plans and Policies

There are a number of plans and policies that guide the development of this parking strategy. They are listed below along with a brief description of how they will influence the parking strategy.

Official Community Plan

The City`s OCP outlines a number of policies related to parking. Generally they relate to increasing transportation mode choice, supporting Downtown revitalization and managing the parking supply. More specifically the OCP seeks to:

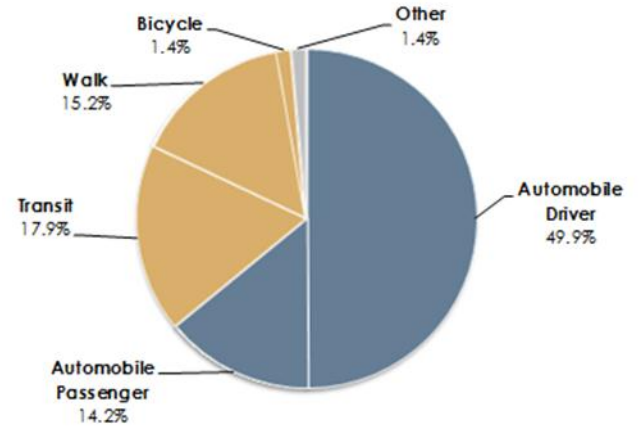
- Promote increased transportation choice including:
  - Encouragement of major employers to reduce vehicular transportation and parking demands of their employees through employer trip reduction programs
  - Implementing and maintaining a network of bicycle routes and secure bicycle parking throughout the City
  - Participation in regional transportation demand management initiatives (e.g., trip reduction services, road pricing/tolls, conversion of automobile fixed costs and adjusting the supply and pricing of parking) as proposed by Metro Vancouver
  - Installing parking meters in all commercial zones
- Support commercial revitalization goals by:
  - Providing adequate parking facilities close to local businesses including as much on-street parking as is practical
  - Investigating the use of more flexible parking requirements that may include provisions for parking behind stores or in back lanes, and may rely on sharing parking space among several users (e.g., with different peak parking requirements) or the strategic placement of traffic barriers.
  - Support Downtown and Commercial area urban design by designing parking facilities to contribute to the streetscape of the area.

- Manage the supply of off-street parking in commercial areas so as to meet the demand for short-term parking and loading, without encouraging excessive automobile use. Maintaining the economic viability of a commercial area requires that shoppers who drive, trucks making deliveries, and employees who require their cars for business (such as sales people) can park their vehicles for short periods of time. Through zoning and development permits, the City can manage the supply of parking to ensure that adequate parking is provided to meet short-term requirements without contradicting other objectives to minimize the impacts of motor vehicle traffic.
- Support market housing needs to support residents earning below the City's median income and review related parking space requirements in the Zoning Bylaw and update as required with consideration of a policy for reducing parking requirements for development within walking distance of transit or if other transportation demand management considerations are met
- Consider the development potential of underutilized institutional land not owned by the City (e.g., parking lots) while being sensitive to neighbouring uses

Transportation Master Plan

New Westminster is currently updating the Transportation Master Plan for the City as a whole. Although the project is in progress, the interim reports describe existing conditions and visions, goals, and objectives for transportation in the City. Some key items in the Transportation Master Plan that apply to the Parking Strategy include:

- New Westminster is already a leader in sustainable transportation use in Metro Vancouver. Approximately 65% of New Westminster residents commute to work by private car, which is better than the Metro Vancouver average of 80%. One of the goals of the Transportation Master Plan is to further develop a sustainable transportation system, including supporting transportation demand management initiatives that promote shifts to sustainable transportation and reduction in single occupancy vehicle trips. Managing the parking supply is an important aspect of an effective transportation demand management program.
- The Transportation Master Plan goals also include mobility and access, social diversity, and sense of place. Active parking management has an important role to play in all of these goals.
- The private automobile mode share for all day trips in the City as a whole was 64% in 2008. The Transportation Master Plan notes that several key documents have targeted reducing auto travel for the City as a whole, and for the Downtown core. This includes the Downtown Community Plan and the Energy & Greenhouse Gas emissions plan.



Source: Transportation Master Plan (ongoing)

Downtown Community Plan

The Downtown Parking Strategy complements the Downtown Community Plan and is a result of Council's commitment to meeting the objectives outlined in this plan. The Parking Strategy addresses the same geographic area as the Downtown Community Plan and will play an important role in helping the City achieve its sustainability, economic vibrancy, and livable community goals. The Downtown Community Plan includes current mode split estimates and future targets for the Downtown area. The existing private vehicle mode share for all trips was around 53% in 2004, while the private vehicle mode share for commute trips was 57%. This is lower than the mode share for the City of New Westminster as a whole. The Downtown Community Plan envisions the mode share for private vehicles in the Downtown dropping to 40% by 2031.

The Downtown Community Plan includes a number of goals that are directly applicable to the Downtown Parking Strategy. These include:

- Downtown has a strong retail and commercial base, supporting its role as a complete neighbourhood, and an economic hub within the city and the region.
- Downtown is a welcoming and inclusive neighbourhood that supports the diverse needs of its residents, employees and visitors, and provides equitable access to community, education, health, safety, and social services.
- The downtown fabric supports safe, convenient, enjoyable and sustainable transportation choices, ensuring that transportation facilities are properly integrated into the community.
- Downtown has infrastructure services and utilities that efficiently and adequately meet the neighbourhood's needs.

The Downtown Community Plan included a high level study of parking and the development of some recommendations relating to Parking in Downtown New Westminster. These recommendations addressed pricing, supply, management and marketing. The recommendations of the Downtown Community Plan will be considered in the development of the parking principles and strategies outlined in this plan. The following is a summary of the recommendations:

- **Pricing** – The minimum pricing of parking should allow for the full cost recovery of all building and operating parking facilities. Prices may also be placed higher than this to reflect the opportunity cost of the land and to provide profits.

- **Parking Supply** – The parking supply should be strategically reduced since the supply is much greater than the demand. Having a higher supply than demand encourages the use of private vehicles which will move the City farther away from its sustainability goals.

- **Coordinated Management and Marketing** – The City's management of parking should have as its primary objective a goal of achieving a sustainable mode split.

Other Relevant Plans and Policies

A number of other plans and policies were provided by the City or referenced by the consultant in the preparation of the strategy. These are listed below. Some of the documents are not applicable to Phase 2 of the study, which is documented in this Discussion Paper, but will be more fully utilized in later phases.

- **Downtown Commercial Land Use Marketability Study.** (Urbanics, 2009) This report summarizes analysis of the potential marketability of retail, office, hotel, and conference facility space in Downtown New Westminster. It includes likely projections for these land uses. The report concludes with policy recommendations for the increased marketability of land in Downtown New Westminster. These include some commentary on parking.

- **New Westminster Urban Development Forecast 2008 to 2041. Part 1: Population and Housing and Part 2: Commercial, Industrial and Institutional.** (Coriollis Consulting Corp, 2008). These reports contain an estimate of the amount, type, and location of urban development expected in New Westminster up to 2021. They were used by the City to develop long range financial forecasts.

- **The Community Energy & Emissions Plan.** (HYLA Environmental Services Ltd., 2008) This plan targets a 15% reduction in GHG emissions from 2007 levels by 2030. The transportation sector has a significant part to play in this reduction, with a target of reducing total emissions by 35% by 2030. Parking management has a strong role to play as a means of achieving a reduction in single occupant vehicle (SOV) trips to help the City achieve its GHG emission goals.

- **New Westminster Transportation and Parking Study**. Current Conditions and Issues Paper. The paper discusses the supply and parking rates as they were during the last parking study. Parking utilization across the entire downtown is also summarized showing that at the peak only 53% of spaces were utilized. When this is compared to the 1999 parking study which had 75% utilization a downward trend in parking demand can be seen. In addition to analyzing parking conditions through traffic volumes and transit conditions are also summarized.

- **Transportation Input to the Downtown New Westminster Community Plan.** (Halcrow, 2008) The report summarizes all of the inputs used the Downtown Community Plan. Inputs for current and future projects, modal split, traffic, transit, walking, cycling, parking, and policies are discussed.

- **New Westminster Transport and Parking Study – Parking Survey Report.** (Halcrow, 2008) The report summarizes the supply and utilization of parking in Downtown New Westminster. Data was collected during 3 time periods over 2 days. The data collected showed that the Front Street Parkade was at its peak 38% utilized and on-street parking was 72% utilized at its peak. A detailed breakdown of the parkade utilization is provided, and shows that the Upper and Lower Decks are most heavily Utilized both of which were 50%.

- **Columbia Street Retail Impact Assessment**. (Thomas Consultants Inc., 2004) The study aimed to estimate the impacts of proposed changes to retail sales on a short term basis due to decreased

through traffic along Columbia Street. The projections were for a 2 year period after the report was produced (i.e. 2006) and forecasted no significant impact to retail sales as a result

2.2 Public Parking

In New Westminster, responsibility for City-owned publically-accessible parking is shared between the Downtown Parking Commission and the Engineering Department. The Downtown Parking Commission has responsibility for off-street parking structures (i.e. parkades). The Engineering Department, through Engineering Operations, is responsible for on-street parking, including permits, enforcement, and operations and maintenance of the on-street meters. The City has contracted a private firm to handle some operations at both parkades, including monthly parking passes.

Private land owners also provide off-street publically-accessible parking and there are a number of private off-street lots in Downtown New Westminster. These private operators set their own pricing and manage their own lots, often with the assistance of a private parking management firm.

The City's objectives for the City-owned publically-accessible parking system are related to operations and maintenance of on-street and off-street facilities and collection of revenues. In recent years, there have been initiatives to improve the use parking meter technology. There is an opportunity to incorporate the objectives for the City's publically-accessible parking system based on the OCP, Downtown Community Plan, and other key plans and policies.

2.2.1 Organizational Structure

The basic organizational structure for publically-accessible parking in Downtown New Westminster is illustrated in FIGURE 2. The orange blocks indicate the major parking operators: the Parking Commission, the Engineering Department, and Private Owners and Operators.

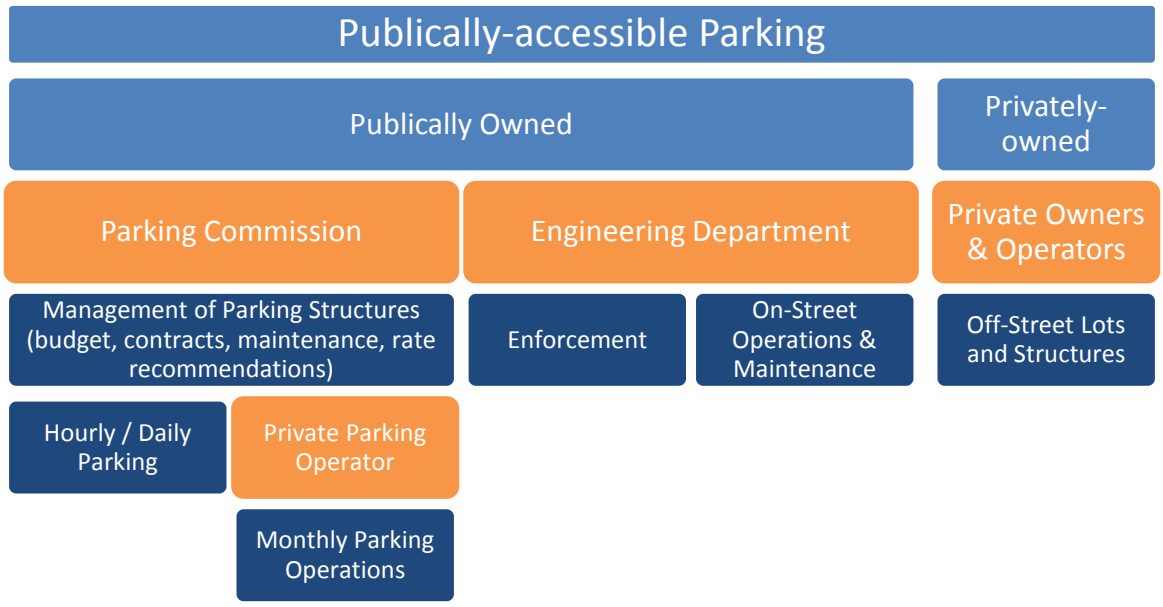


FIGURE 2 Publically-accessible Parking Organizational Structure

Off-street City-owned publically-accessible parking in Downtown New Westminster is managed by the Downtown Parking Commission. The Downtown Parking Commission was enacted through bylaw number 5769 in 1988. The Parking Commission is appointed by Council and consists of four citizens, one person recommended by the New Westminster Chamber of Commerce, one person recommended by the Downtown New Westminster Association, and one person recommended by Douglas College. A City staff member is responsible for the Commission's day-to-day operations.

The Downtown Parking Commission manages all off-street facilities owned or controlled by the City within the Downtown. The Commission oversees the supply of materials, equipment and services required for operation, maintenance, and administration of the parking facilities. Council reviews and approves the annual operating budget for the parking facilities as recommended by the Commission which also makes recommendations to Council regarding parking rates. The Commission prepares quarterly and annual financial statements of revenues and expenditures which are presented to Council. The Commission can operate parking facilities that are owned by a third party if the request is approved by Council. Currently, the Commission only operates City-owned parking facilities.

The Engineering Department manages all on-street parking across the City of New Westminster and is responsible for enforcement. The Parking Office is housed within Engineering Operations and issues resident permits, answers inquiries, and manages on-street parking enforcement. Engineering operations is also responsible for the operation and maintenance of the on-street parking meters, including collecting revenues from the meters.

There are six privately-owned publically-accessible off-street parking facilities in Downtown New Westminster: River Market, Larco, Plaza 88, Douglas College, the New Westminster Law Courts, and the condo board at the College Place Hotel. These facilities are managed by the property owners or by private parking management firms.

2.2.2 Publically-Accessible Parking Facilities

Publically-accessible parking facilities in Downtown New Westminster include off-street parking structures, off-street surface lots, and on-street parking spaces. As discussed above, all on-street parking is owned and operated by the City, while off-street lots and structures are operated by the Parking Commission or private owners. There are six off-street publically-accessible parking structures, three off-street lots, and approximately 1,500 on-street parking spaces in Downtown New Westminster. The largest parking facility is the City-owned and Commission-operated Front Street Parking Lot. The lots owned and operated by Douglas College and the Law Courts are primarily intended for employees, students, and visitors, but are open to the public. In the context of the Parking Strategy, a visitor is any person who is not a regular resident, employee, or student in a given building or area. Residents of New Westminster may be visitors to Downtown.

Locations of off-street parking facilities are mapped in **Error! Reference source not found.** and summarized in TABLE 1..

FIGURE 3 Publically-accessible Parking Facilities


Third Ave
Third Ave
Twelfth St
Eleventh St
Tenth St
Eighth St
Ash St
Seventh St
Sixth St
Fourth St
Third St
Second St
First St
McBride Blvd
Stewardson Way
Quayside Dr
Queens Ave
Queens Ave
Auckland St
Royal Ave
Royal Ave
Columbia St
Quayside Dr
Agnes St
New Westminster
Carnarvon St
Columbia
Front St
Brookes St
Off Street Public Parking
Albert Crescent Precinct
Historic Precinct
Tower Precinct
Waterfront Precinct
SkyTrain Precinct
Fraser River
1
2
3
4
5
6
7
8
9

TABLE 1 Off-street Publically-accessible Parking

Map #	Lot Name	Lot Type	Owner	Location	Number of Spaces
1	Front Street Parkade	Above ground structure. Monthly, daily, and hourly parking.	City of New Westminster	560 Columbia Street (over Front Street)	759
2	Columbia Station Parkade	Structure incorporated into residential building. Monthly parking only.	City of New Westminster	420 Carnarvon Street	183
3	Douglas College Underground Parkade	Underground structure. Monthly, daily, and hourly parking.	Douglas College	700 Royal Avenue	650
4	Lot 1627	Surface lot. Daily or hourly.	Douglas College	106 8th Street	35
5	New Westminster Law Courts	Underground structure. Monthly, daily, and hourly.	Province of British Columbia	651 Carnarvon Street	125
6	Larco Lot	Surface Lot. Monthly, daily, and hourly.	Private	750 Quayside Drive	175
7	660 Front Street	Surface Lot. Monthly, daily, and hourly.	Private	660 Front Street	n/a
8	Plaza 88	Structure incorporated into commercial development. Daily and hourly.	Private	898 Carnarvon-street	400
9	720 Carnarvon	Structure incorporated into residential building. Monthly parking only.	Private	720 Carnarvon-street.	n/a

Source: Parking lot owners via Stakeholder Group

Front Street Parkade

The Front Street parkade is a multi-level structure over Front Street. It stretches from Begbie Street to 4th Street with accesses to Columbia Street at McKenzie Street, 6 Street, and 4th Street. It was constructed in two phases. The west portion of the parkade is two levels and was constructed in 1958. The east portion is three levels and was constructed in 1965. The parkade supplies short- term parking to visitors to the

Downtown and it also provides long-term parking through monthly passes for both general and reserved spaces. The parkade is exhibiting significant corrosion related deterioration.[1] Significant investment in rehabilitation is needed if the parkade is going to be maintained for the long term. A life cycle cost analysis for various future scenarios is discussed later in this report.

The parkade has a special relationship with the private parking supply through "parking credits" associated with specific buildings in Downtown. This relationship and its effect on the private parking supply is explored further in a later section.

On-Street Parking

The City of New Westminster has approximately 1,500 on-street parking spaces in the Downtown. This includes around 560 metered spaces, which is around half of the metered spaces in the City as a whole. The remaining on-street spaces in the Downtown are a combination of time restricted spaces (e.g. 2 hour limit), time restricted with exceptions for residents, and unrestricted spaces. There are also loading zones throughout the Downtown area, intended to serve businesses and residents. Loading zones and on-street bicycle parking were noted as part of the on-street parking supply survey. Locations of loading zones and bicycle parking are illustrated in FIGURE 4.

FIGURE 4 Loading Zone and Bicycle Parking Locations



2.3 Private Parking

[1] Reid Jones Christoffersen Ltd., Front Street Parkade: Parkade Evaluation, New Westminster, BC, 2008.

In addition to publically-accessible parking that is open to anyone in Downtown New Westminster, many buildings have their own private parking, intended only for the residents, employees, customers, or other building occupants or users. Private parking is governed through the Zoning Bylaw and related policies, which are described in this section.

2.3.1 Zoning By-law

The City's Zoning Bylaw (6680, 2011) governs the number of private off-street parking spaces required for different building types. The bylaw outlines minimum and maximum numbers of spaces per residential unit, square foot of development, or other variables. Developers are required to supply the prescribed amount of parking, unless a variance is granted by the City or another acceptable substitute is provided.

The City's Zoning Bylaw includes specific parking provisions for key zones (e.g. C-4, C-8), as well as more general provisions for land uses across all zones that do not have more specific requirements (e.g. RM-6). Most of Downtown New Westminster is zoned C-4. Quayside and portions of the Albert Crescent Precinct are zoned RM-6 and other residential zones. Some blocks are Comprehensive Development Zones with their own requirements. The zoning bylaw stipulates the minimum and / or maximum (for some uses) number of parking spaces required by building type for each zone. It also includes a number of general requirements, which are outlined in the following section. TABLE 2 summarizes the parking requirements for the most common land use types in Downtown New Westminster.

There are certain cases where a building may not need to provide the parking required by the zoning bylaw. This includes cases where the City has permitted a variance to the parking requirements, cases where off-site parking has been permitted, and cases where the building existed before the bylaw came into force,. Variances are discussed further in a later section. Off-site parking falls into two categories: the first is off-site parking at another privately owned building. The second is off-site parking due to proximity to a publically-owned parkade. More information about the latter, as it relates to the Front Street Parkade, is presented in a later section.

A building owner in all Districts except C-4 may provide a portion or all of the required parking off-site. This provision is detailed in subsection 150.41.b of the Zoning Bylaw. The off-site parking spaces must be provided on a site used solely for parking purposes and be zoned CP-1 or CP-2. The parking spaces must be held by restrictive covenant and must not serve as the required parking for any other use.

Owners of buildings that fall within the area shown in FIGURE 5 may choose to provide some or all of their required parking off-site. This parking can be provided on another site belonging to the same owner, belonging to another private interest, or belonging to the City. The alternative parking must be within 257.2 metres (1,500 feet) from the building it is intended to serve.

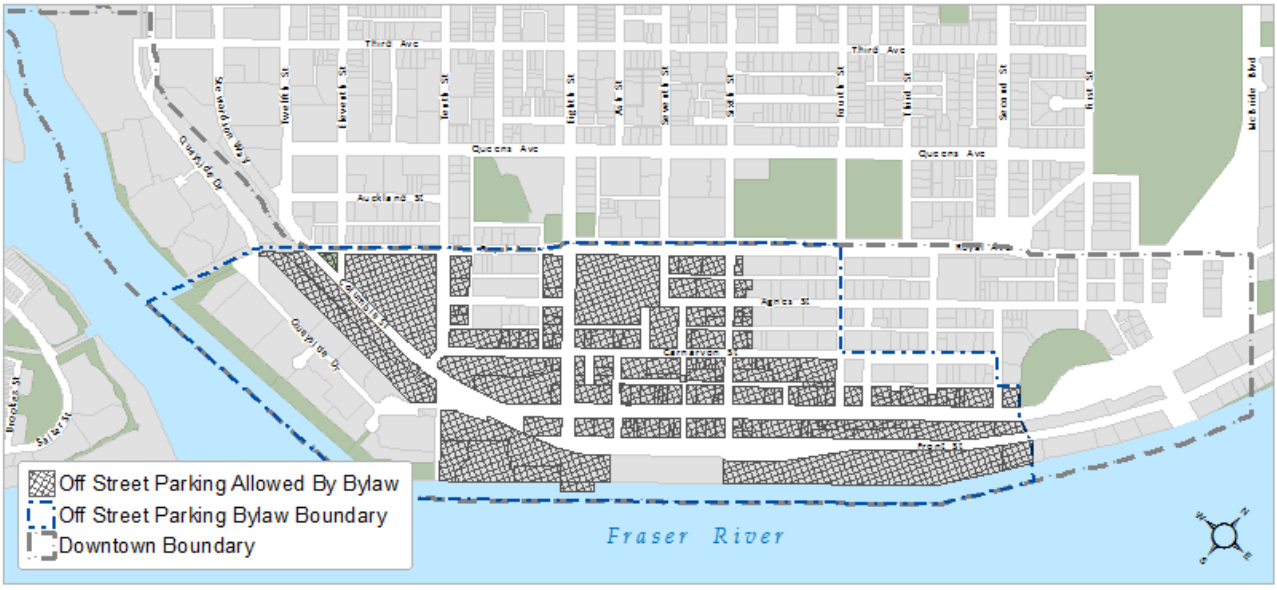


FIGURE 5 Area for which Off-Street Parking is Permitted

Finally, if a bylaw comes into force that requires more parking than is currently provided for a given building, that bylaw does not apply. If changes in the use of the building trigger the need for more parking, then the owner would be required to provide the incremental number of parking spaces associated with the new use.[2]

[2] Based on Memorandum from Buholzer to File, February 22, 2010.

TABLE 2 Parking Requirements for Typical Downtown New Westminster Land Uses

Zone	Unit Type	Requirement
Residential	All residential uses in Zone C-8 (excludes congregate housing and elderly citizens' homes)	1.0 space per dwelling unit, bachelor unit, or housekeeping unit
	Building containing three or more dwelling units	1.0 space per bachelor unit 1.2 spaces per one bedroom unit 1.4 spaces per two bedroom unit 1.5 spaces per dwelling unit with three or more bedrooms * a den or alcove which could be used for sleeping purposes will be considered a bedroom
	Building containing three or more dwelling units	0.2 Visitor spaces per dwelling unit
	Sleeping units or dormitory units	1 space per 350 sq.ft
	Elderly Citizens homes (all zones)	1.0 space per 5 bachelor units 2.0 spaces per 5 one bedroom units
Commercial	All non-residential uses in zone C-4 (includes office, bank, restaurant, retail)	1.4 spaces per 92.9 square metres
	All non-residential uses in zone C-4A (includes office, bank, restaurant, retail)	1.9 spaces per 92.9 square metres
	All non-residential uses in zone C-8 (includes office, bank, restaurant, retail)	1.0 space per 92.9 sq. metres
	General Offices	1.0 space per 50 sq. metres. Maximum of 1.0 space per 32.25 sq. metres
	Bank or credit union	1.0 space per 50 sq. metres floor area for a standalone building 1.0 spaces per 33.33 sq. metres for banks or credit unions that are part of a mall or other larger development
	Restaurants	1 space per 50 sq. metres up to 100 sq. metres 1 space per 40 sq. metres above 100 sq. metres up to 500 sq. metres 1 space per 33.33 sq. metres above 500 sq. metres
	Retail Stores	1 space per 50 sq. metres up to 10,000 sq. metres 1 space per 40 sq. metres above 10,000 sq. metres Maximum parking: 1 space per 33.33 sq. metres

Source: New Westminster Zoning Bylaw

2.3.2 General Requirements

The general requirements for off-street parking are:

- If a building or site has more than one use, the total requirement for off-street parking is the sum of the requirements for the individual uses.
- Where two or more uses share parking, the total number of parking spaces can be reduced when the maximum parking demand of the uses occur at different times of the day.
- Where a co-operative off-street parking project has been completed to the City's satisfaction, the parking provided may qualify in whole or part as required off-street parking for a building.
- If off-street parking has been provided for any building or use, the number of spaces may not be diminished as long as the building or use remains unchanged. The spaces may be reduced if the number of spaces provided is in excess of what is required.
- If a co-operative vehicle and an off-street co-operative vehicle parking space are provided for a multiple dwelling, commercial, or industrial use, then the parking requirements are reduced by 3 parking spaces.

Commercial and industrial parking requirements may be reduced in some cases specified by the zoning bylaw. These cases include:

- If 24 hour pay parking is in place and maintained by the occupier of a commercial building, then the number of parking spaces may be reduced by 3%.
- If 10% of the required spaces are equipped with electrical outlets for recharging electrical vehicles, then the number of required spaces may be reduced by 3%.

2.3.3 Front Street Parkade and Private Parking Requirements[3]

The area of Downtown New Westminster surrounding the Front Street Parkade seems to have been exempt from off-street parking requirements until around 1988. Because of the exemption for existing buildings that was noted earlier in this section, buildings that were in place before 1988 and which were exempt from parking requirements, remain exempt as long as the use of that building does not change. After 1988, parking bylaw exemptions began to refer to the Front Street Parkade. The current bylaw, Bylaw 6680, identifies Front Street Parkade parking credits for specific addresses. There are around 800 of these credits listed in the Bylaw.

The parking credits listed in the bylaw are not necessarily reflective of the use that is currently in place in the building at that address. In fact, because buildings that were in existing before the bylaw came into effect are exempt from the parking requirements in the bylaw, most of the buildings in the Historic Precinct legally require zero parking stalls. The parking credits provide a 'discount' against future parking requirements should the use of the building change. For example, take Building A. Building A's existing use and floor area would require 20 parking spaces according to the provisions of Bylaw 6680; however, Building A has been in place since 1960 and was exempt from all parking requirements when it was constructed. This means that Building A still requires zero parking spaces to maintain its current use. Now, Building A's owner plans to change the use and floor area of a portion of Building A. According to

[3] Legal opinions reflected in this section are based on a February 22, 2010 Memorandum from Bill Buholzer to File.

Bylaw 6680, Building A should now require 30 spaces. Because Building A has a historic exemption for the 20 spaces that would have been required by the existing bylaw, the owner would only be required to provide 10 new parking spaces. If Building A has 20 Front Street Parkade parking credits, no new parking would be required. The building owner could change the building use in a way that would require up to 20 new spaces and all of the required spaces would be provided via the parking credits.

If the parkade is removed, the credits on the parkade cease to exist. This means that new buildings constructed after the parkade is removed no longer have the option of exercising credits in lieu of building new parking. Further, any building uses that generate a greater parking requirement than what was in place when the building was constructed would contravene the bylaw.

New buildings that are within 457.2 metres (1,500 ft) of a City-owned parking facility (i.e. Front Street or Columbia Station parkades) are permitted to reduce their off-street parking requirement by paying the City a cash-in-lieu of parking amount of $35,000 per space prior to issuance of the building permit. This area is shown in FIGURE 6. This cash-in-lieu program is separate from the credits and does not grant new credits to the existing parking structures. When the City accepts cash-in-lieu, it does so with the intention of providing appropriate parking within a reasonable distance from the site for which the payment was accepted.

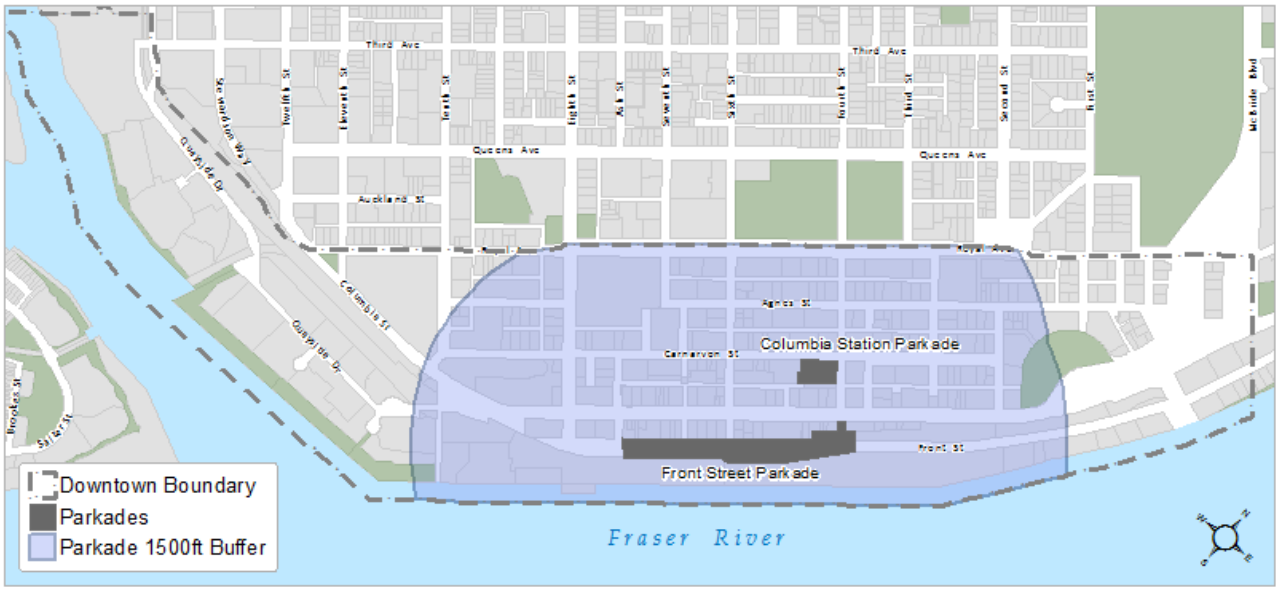


FIGURE 6 Area of Cash-in-Lieu

2.3.4 Variances

At Council's discretion, the City may permit a variance to the parking requirements outlined by the Zoning Bylaw. Between 1993 and 2007, the City approved approximately 55 off-street parking variance applications in the City as a whole. All of these variances permitted fewer than the required amount of parking. Some permitted less parking in exchange for on-site trip reduction strategies, such as one co-op car space in lieu of 3 regular parking spaces.

In practice, developers submit development proposals for variance. These are considered along with supporting traffic studies and then discussed with City Staff. For example, reductions tend to be supported if developments are in close proximity to SkyTrain stations.

2.3.5 Parking Cash-in-Lieu

The intent of parking cash-in-lieu policies and regulations are to allow developers to transfer responsibility for some or all private parking capacity to the City in-Lieu of providing parking on-site. The City's cash-in-lieu regulation was originally enacted in 1988. At that time, the Zoning bylaw was amended to permit owners to pay the City $11,000 for each off-street parking space. Buildings within 1,500 feet of a City-owned collective parking facility were able to utilize the cash-in-lieu provision. This permission is not discretionary on the part of the City; i.e. the City must accept the payment as being equivalent to the provision of a parking space. Consistent with all cash-in-lieu programs, agreeing to reducing on-site private parking and collecting moneys implies that the City will build parking within a reasonable walking distance to that development. In this regard, planning for off-street parking is a responsibility of the City as long as a cash-in-lieu system is in place.

The 1988 bylaw amendment specified that the money collected through the cash-in-lieu regulation would be used to construct collective off-street parking facilities. The funds collected through the cash-in-lieu program were regulation in the Parking Cash in-Lieu Reserve Fund. Council increased the cost per space to $35,000 in 2008 and broadened the potential uses for the Parking Cash in-Lieu reserve to include all uses permitted under the Local Government Act (LGA) amendments, which includes alternative transportation infrastructure. The Parking Cash in-Lieu fund contained just under $1,000,000 at the time of publication of the City's 2012 Annual Report.

In March 2012, the City developed a new Cash-in-Lieu parking policy that is applicable to all developments within the City. This includes developments that are beyond 1,500 feet of a City-owned parkade. This allows the City to request contributions to either the Parking Cash-in-Lieu Reserve or a new Alternative Transportation Reserve Bylaw for all properties that do not meet the required parking provisions in the Zoning Bylaw. This fund is discretionary and subject to Council approval of the revised development application.

3 PARKING INVENTORY

3.1 Supply

As previously noted, there are three types of parking supply in Downtown New Westminster. These are described below and include:

1) **On-street parking**: on-street parking is owned and operated by the City of New Westminster. This parking may be metered, have time restrictions, be restricted to certain users, or be free and available for all users at all times.

2) **Off-street publically-accessible parking**: publically-accessible off-street lots are pay lots that are available for anyone to use. There are two types of off-street publically-accessible parking lots:
    a. City-owned: The City of New Westminster owns two off-street public parking lots in Downtown New Westminster. The Front Street parkade serves both monthly pass holders and hourly parkers, while the Columbia lot provides monthly parking only.
    b. Privately-owned: Private land owners may operate publically-accessible pay parking lots. These lots include underground parking lots, like the newly opened Plaza 88, which has spots open to the public for a fee.

3) **Privately-owned off-street private parking:** Buildings are typically required to provide off-street parking as a requirement for development. This parking is reserved for private use. For example, the customers of a restaurant are permitted to use the restaurant's off-street parking or a resident may have a parking stall within their apartment building.

The supply of on-street and publically-accessible off-street (City-owned and privately-owned) public parking stalls by precinct is summarized in TABLE 3. The number of publically-accessible City-owned stalls was surveyed during this study. The number of publically-accessible private parking stalls in the Downtown is more difficult to estimate. Private owners of publically-accessible pay parking in the Downtown provided the City with the estimates, which are also included in TABLE 3.

TABLE 3 Publically-accessible Parking in Downtown New Westminster

Precincts	On-street		Off-street		Total
	Metered	Not Metered	City-Owned	Privately-owned	
	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)
Waterfront	66	177		175*	418
Albert Crescent	62	571			816
Columbia Station Parkade			183[4]		
Tower Precinct	256	124		1210*	1,590
Historic Precinct	179	24			953
Front Street Parkade			750		
Sub-Total – City-owned	**563**	**896**	**933**		***2,392***
Sub-Total – Privately-owned				**1,385**	***1,385***
Total:	**1,459**		**2,318**		**3,777**

*Number of off-street privately-owned parking stalls is estimated based on best available information at the time of publication.
Source: Survey and reports by private lot owners.

Based on the City's land use records, there are approximately 15,600 off-street spaces associated with buildings in Downtown New Westminster. This includes the approximately 3,800 publically-accessible parking spaces summarized in TABLE 4 as well as more than 11,800 private spaces. The 3,800 publically-accessible parking spaces include the approximately 1,400 spaces on private property and the 950 City-owned off-street spaces. This includes spaces on the surface, in underground parking, in garages, in parking structures, and in carports. The total parking spaces by precinct are summarized in TABLE 4, below.

TABLE 4 Existing Off-Street Private and Publically-accessible Parking Spaces by Precinct

	Existing Off-Street Parking Stalls		
	Publically-accessible	Private	Total
Tower Precinct	1,200	6,090	7,300
Albert Crescent Precinct	180	2,790	3,000
Historic Precinct	750	440	1,200
Quayside	-	3,130	3,100
Waterfront Precinct	180	880	1,000
Downtown Total	**2,320**	**13,310**	**15,600**

Source: City of New Westminster

[4] The New Westminster Police Department pays a fee for around 100 monthly parking passes, although not all of these spots are used. The remaining passes are sold by the City to the public at large.

The number of off-street parking spaces amounts to 1.5 spaces per capita in the Downtown area. Approximately 15% of off-street spaces are available to the public at large as pay spaces, while the remaining 85% are private parking for use by residents, employees, and customers. Residential parking accounts for roughly 70 to 80% of private parking requirements in the Downtown with commercial, office and retail uses making up the balance. Examining parking per capita allows a comparison of the supply in each precinct. This is shown in TABLE 5. When including publically-accessible off-street parking, there are 5.0 spaces per capita in the Tower Precinct. When the 1,200 off-street public parking spaces provided by Douglas College and Plaza 88 are removed from this calculation, the Tower Precinct still provides more than 4.0 spaces per capita. This provides a sharp contrast between the Tower Precinct and the Quayside and Albert Crescent precincts, which all have approximately the same number of residential units. By this measure, the Tower Precinct is very much in a state of oversupply.

TABLE 5 Off-Street Parking Spaces per Capita

	Total Off-Street Spaces Per Capita	Private Off-Street Spaces Per Capita
Tower Precinct	5.0	4.2
Albert Crescent Precinct	1.0	0.9
Historic Precinct	1.0	0.4
Quayside	0.6	0.6
Waterfront Precinct[5]	n/a	n/a
Total	**1.5**	1.2

Source: City of New Westminster

[5] Waterfront Precinct, excluding Quayside has no existing residential buildings and therefore no population.

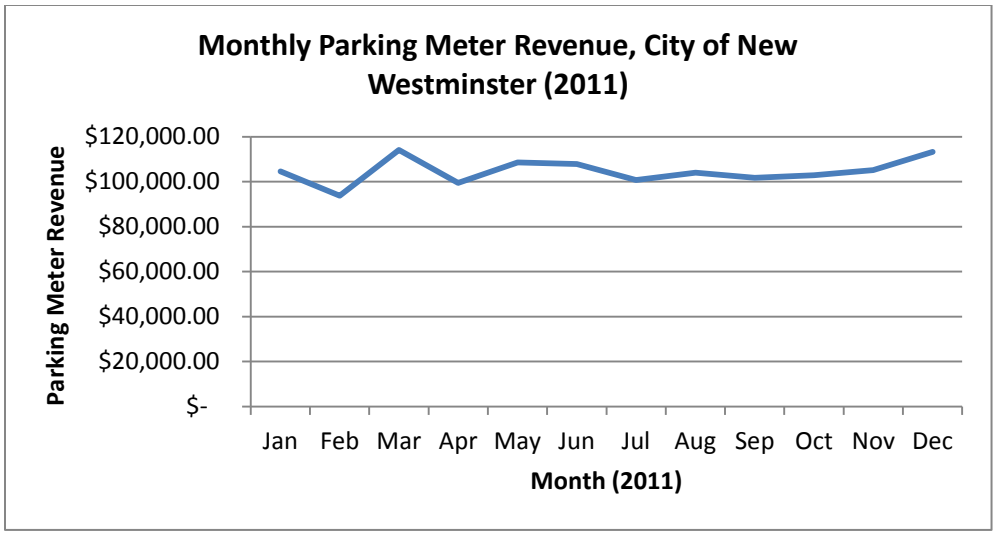
3.2 Demand

For the purpose of this assignment, the demand for parking is the observed number of vehicles utilizing parking spaces in a given area within a particular time frame. Parking demand varies by time (month of year, day of week, hour of day) and by location. Although parking demand varies throughout the day and has different patterns on weekdays and weekends, peak periods are normally used for planning purposes. Peak periods for downtown areas are typically midday during the weekday and weekend. This section provides an assessment of parking demand in Downtown New Westminster based on data collected as part of this study, augmented with historic data provided by the City.

Parking occupancy and turnover surveys to support this project were carried out on Tuesday, June 19 and Saturday, June 23. A parking data collection team surveyed on-street and off-street parking activity in Downtown New Westminster between 11:00 and 6:00 on Tuesday, June 19 and on Saturday, June 23. The occupancy survey recorded the number of vehicles parked in each block every half an hour through the data collection period. For the turnover survey, the parking data collection team recorded the last three license plate numbers for each vehicle parked in each block of the turnover assessment area every half hour. The analysis team used these license plate records to estimate the length of stay for each vehicle at half hour intervals. While collecting occupancy and turnover data, the parking data collection team also recorded observations concerning issues and challenges and noted special parking patterns, such as loading zone use / misuse, illegal parking, and other issues.

3.2.1 Monthly Parking Demand Patterns

Parking meter revenue can be used as a proxy to identify monthly variations in parking demand. Monthly revenue for all on-street parking meters in New Westminster throughout 2011 are illustrated in FIGURE 7. Monthly parking meter revenue in New Westminster does not vary dramatically and is typically anywhere between $100,000 and $120,000 per month. As illustrated, parking activity levels appear to be slightly higher during the months of December and March and lowest in February. The survey period during the month of June is considered a typical month for parking meter revenue, being very close to both the monthly average and the median.



Source: City of New Westminster

FIGURE 7 Monthly Parking Meter Revenue, City of New Westminster (2011)

3.2.2 Daily Parking Patterns

Parking demand can be expressed as the percentage of spaces in use (i.e. utilization). The utilization in half hour increments is illustrated in FIGURE 8 (weekday) and FIGURE 9 (Saturday). In each figure, the thick black line illustrates the utilization for all on- and off- street City-owned parking in the Downtown as a whole, while the thinner coloured lines represent the utilization in each precinct. The Front Street Parkade is summarized separately because the utilization in this facility shows a very different pattern than the surrounding Waterfront precinct. As a rule of thumb, 85% utilization is generally referred to as the practical capacity of the publically-accessible parking system in downtown areas and is a suitable target to balance a high degree of availability while maximizing the available inventory. The 85% utilization rate is marked with a dotted line on the figures.

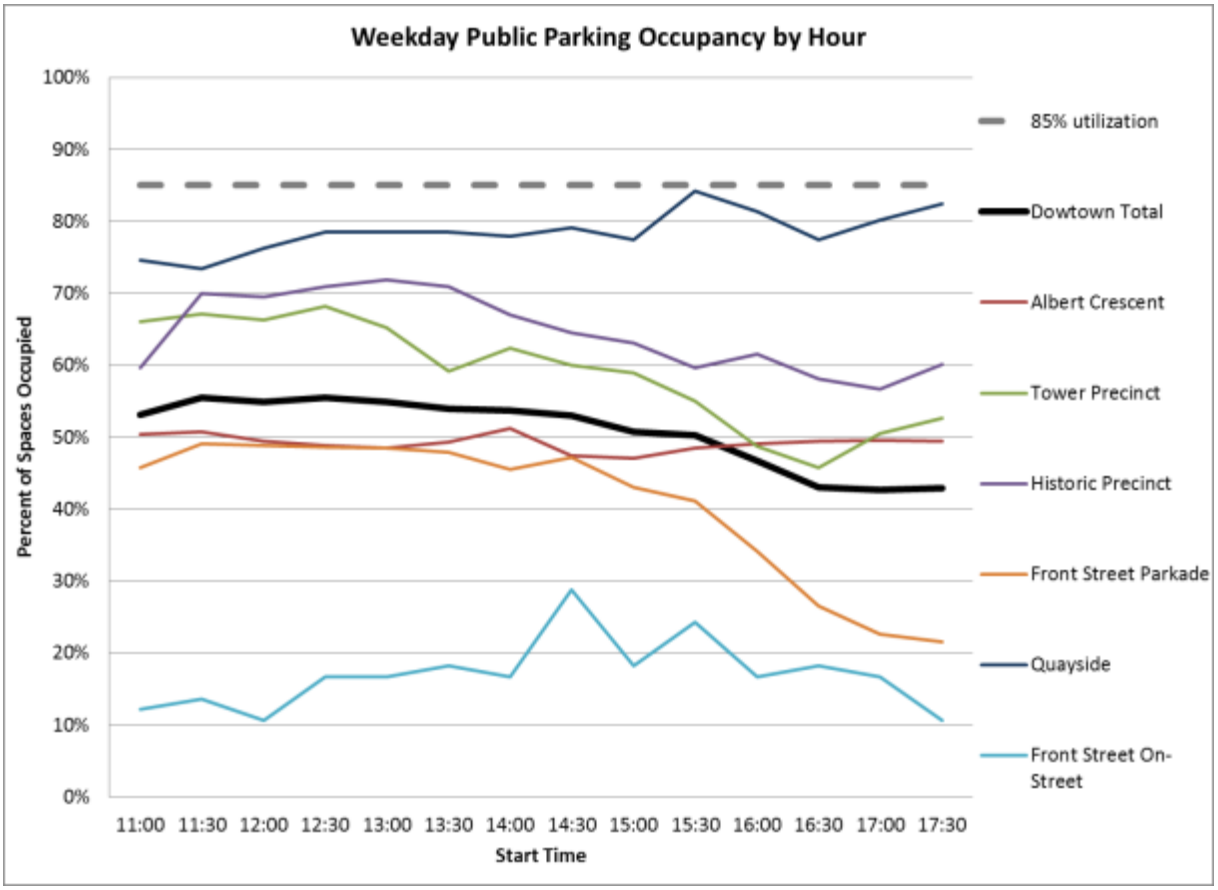


FIGURE 8 Weekday City-owned Parking Occupancy by Hour

These patterns would indicate that the overall demand for parking in New Westminster downtown ranges from approximately 40% to 55% of the available City-owned parking supply. In fact, the peak occupancy levels of 55% occur between 11:30 am and 1:00pm during the weekday afternoon. Further review of these patterns indicates that occupancy levels vary significantly by precinct, with the Historic precinct having the highest utilization of 72% at 13:00. The utilization of the Front Street Parkade is less than 50% throughout the day, dropping sharply from 47% at 14:30 to only 22% at 17:30. This analysis shows that, overall, the supply of parking exceeds existing demands in the Downtown as a whole, with all areas falling well under 85% occupancy limit. Some areas of the Downtown face more pressure on-street parking during specific times of day which is discussed in greater detail below.

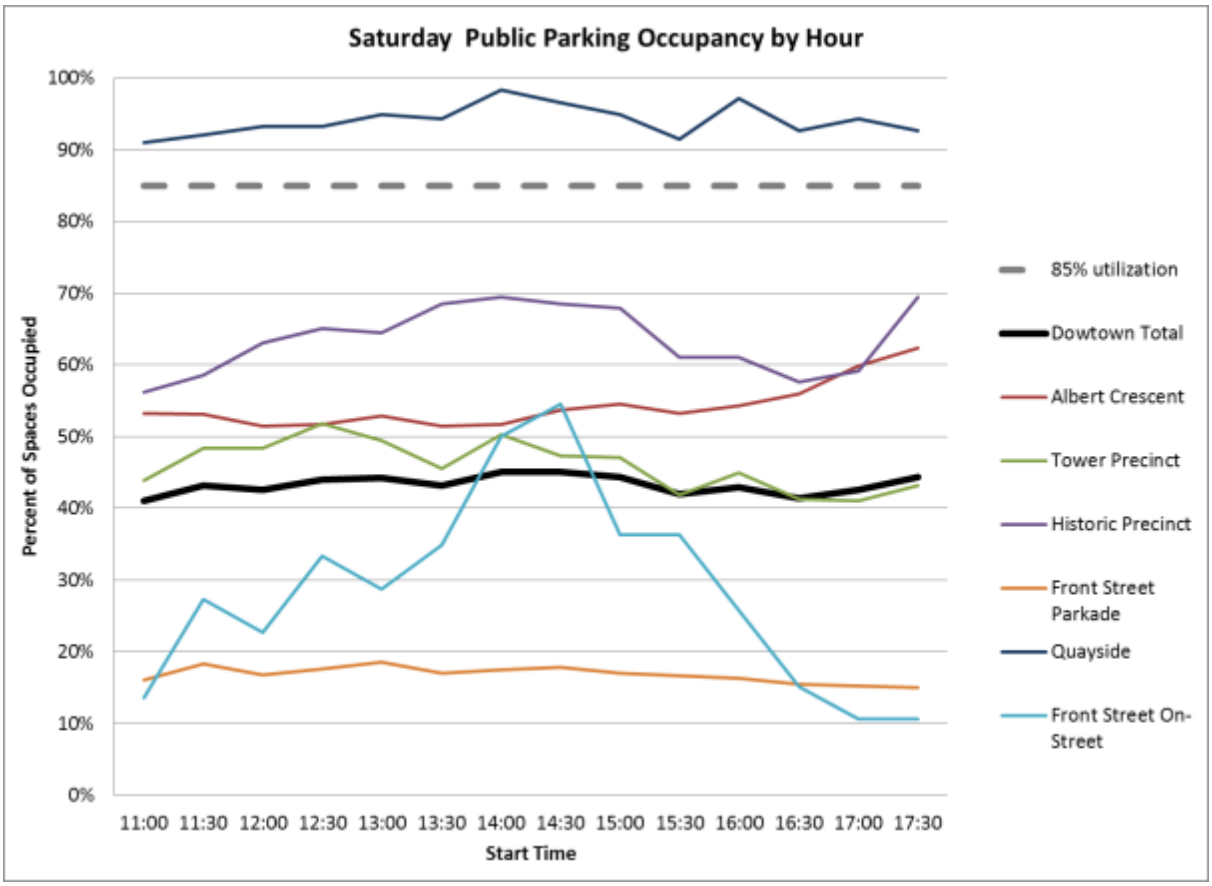


FIGURE 9 Saturday City-Owned Parking Occupancy by Hour

Parking occupancy patterns for the weekend are very different than the weekday. Once again, utilization was steady at around 45% throughout the day with a slight peak between 14:00 and 14:30. Within the downtown, each precinct showed distinct patterns of demand. The Waterfront Precinct (excluding the Front Street Parkade) and the Historic Precinct have a clear peak between 14:00 and 15:00. At this time, parking in the Waterfront Precinct is highly utilized, with 85% of spaces occupied, while the Historic Precinct has moderate occupancy of 69% of the supply. The Historic Precinct has a second peak of 69% occupied at 18:00 and utilization in the Albert Crescent Precinct steadily increases throughout the afternoon to a peak of 62% occupancy at 18:00. The Front Street Parkade is less than 20% occupied through the whole day on Saturday. Again, as a whole, there is excess supply on Saturday, although some specific areas approach the theoretical 80% capacity limit during certain time periods.

At the peak period for the Downtown as a whole, the occupancy of the whole area is much less than 85% on both the weekday and the Saturday. During the weekday peak of 14:00 – 14:30 the utilization of the Downtown as a whole is 56% and during the Saturday peak period from 12:30 – 13:00 the utilization is 56%. Over the course of a day, utilization in individual precincts ranges from 49% to 86% on the weekday and from 18% to 87% on the weekend. It is interesting to note that the SkyTrain Station precincts exhibit either the highest or second highest utilization during the Downtown peaks periods. The utilization of each precinct during the Downtown peak period is summarized in TABLE 6.

TABLE 6 Peak Period Utilization by Precinct

	Number of Stalls	Peak Period Utilization	
		Weekday	Saturday
Peak Period		*12:30 - 12:00*	*14:00 - 14:30*
Downtown Total	**2,218**	**56%**	**45%**
Albert Crescent Precinct	633	49%	52%
Tower Precinct	380	68%	50%
Historic Precinct	203	71%	69%
Quayside	177	79%	98%
Waterfront Precinct (without Parkade or Quayside)	66	17%	50%
Front Street Parkade	759	49%	18%
New Westminster Station Precinct	55	84%	80%
Columbia Station Precinct	162	63%	48%

On-street parking represents the most valuable parking supply in the downtown area for visitors as it is often the first choice because of its visibility and convenience. Parking utilization patterns also change on a block by block basis. FIGURE 10 and FIGURE 11 show weekday and weekend parking occupancy by block during the peak periods for the Downtown which can influence the planning and management of on-street parking facilities. These figures must be reviewed with caution as short blocks can overstate results due to the small number of available spaces (e.g. 3 of 3 stalls occupied results in 100% occupancy rate). Many blocks have an average utilization of less than 50% on both the weekday and the Saturday. Most of Royal Avenue, for example has a peak period utilization less than 50%. The blocks shown in red exceed the 85% utilization capacity threshold. Carnarvon-street between 6th Street and 4th Street is an example of an area with high peak period utilization. The peak period utilization on Columbia Street is higher on Saturday than on the weekday. This may indicate higher demand for parking on weekends to access the retail services on Columbia as compared to weekdays. A large portion of Quayside Drive has high utilization during the weekday and the utilization of most of this area exceeds 90% during the weekend peak period.

As noted above, different locations experience local peak occupancies at different times. The peak occupancy for each precinct is shown for the weekday in FIGURE 12 and for Saturday in FIGURE 13. These figures also show that the areas around the SkyTrain stations have distinct occupancy patterns. The SkyTrain precincts, which are shown with dotted lines, overlap with other precincts. The peak periods in the SkyTrain precincts have much higher occupancy than the peak periods in other precincts.

These trends reflect the tendency for consumers to park within close proximity to their destination. A two to three block radius has been shown to the most attractive distance. Other cities, such as Toronto, recognize this and use a three block radius to estimate the viability of constructing new parking facilities.



FIGURE 10 Weekday Peak Period Occupancy by Block (14:00 – 14:30)



FIGURE 11 Saturday Peak Period Occupancy By Block (12:30 – 13:00)

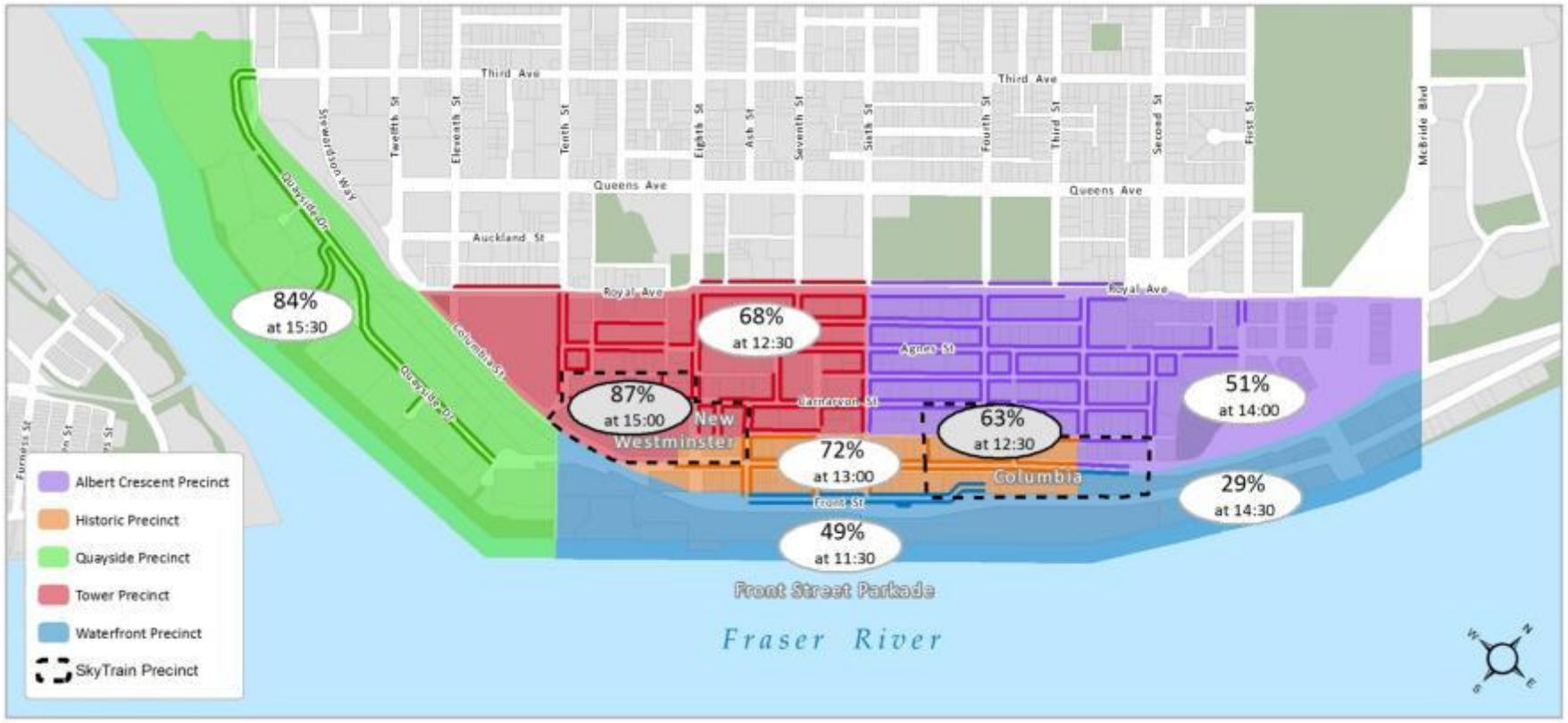


FIGURE 12 Weekday Peak Occupancy by Precinct (time)

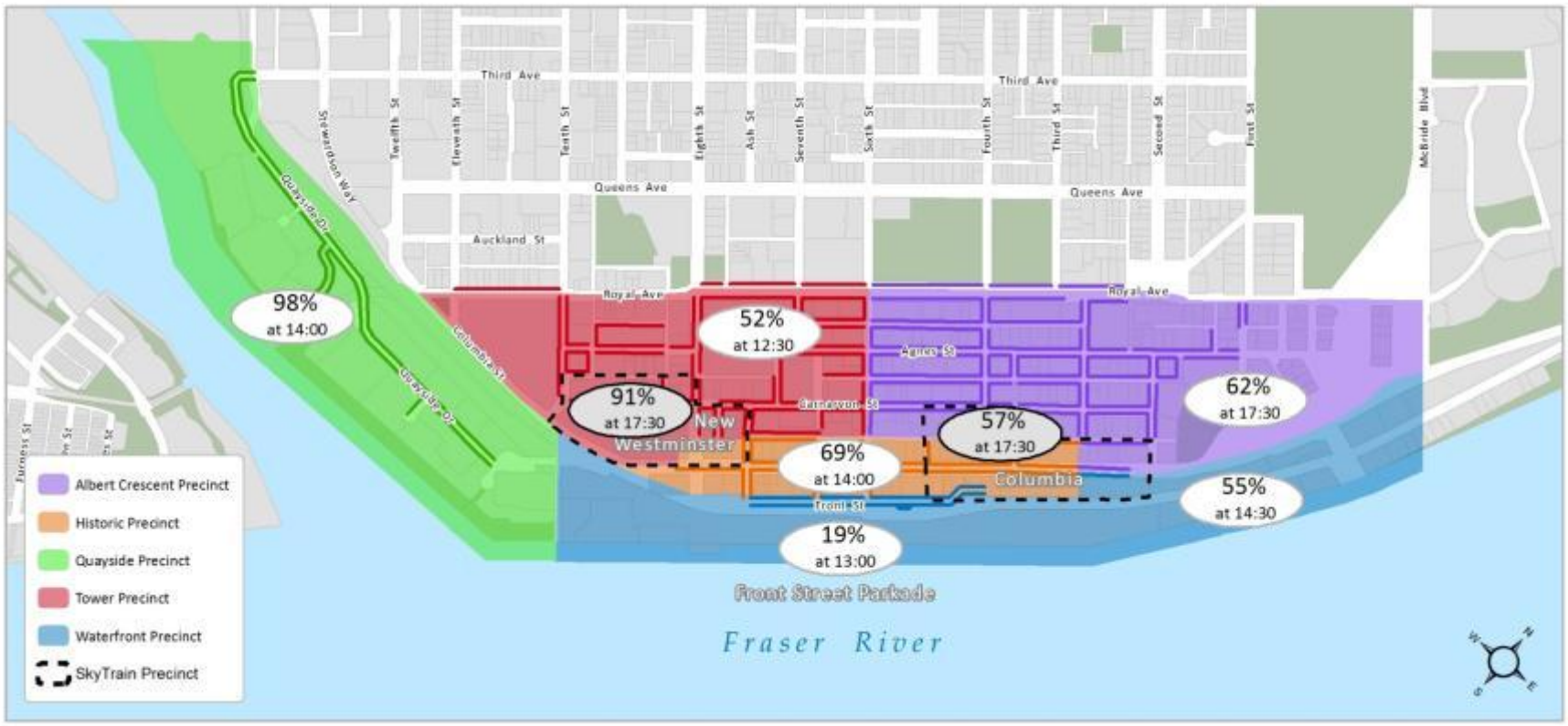


FIGURE 13 Saturday Peak Occupancy by Precinct (time)

In addition to there being a difference in how parking spaces are used depending on time of day, day of week and location, the type of parking space also affects the use. On-street metered and non-metered spaces have different purposes within an overall parking system. The following graphs represent all on-street parking spaces in Downtown New Westminster, a total of almost 1,500 spaces. Approximately one-third of these spaces have meters, while two thirds are free. Free parking spaces are a combination of time restricted spaces, residents-only spaces, and spaces with no restrictions.

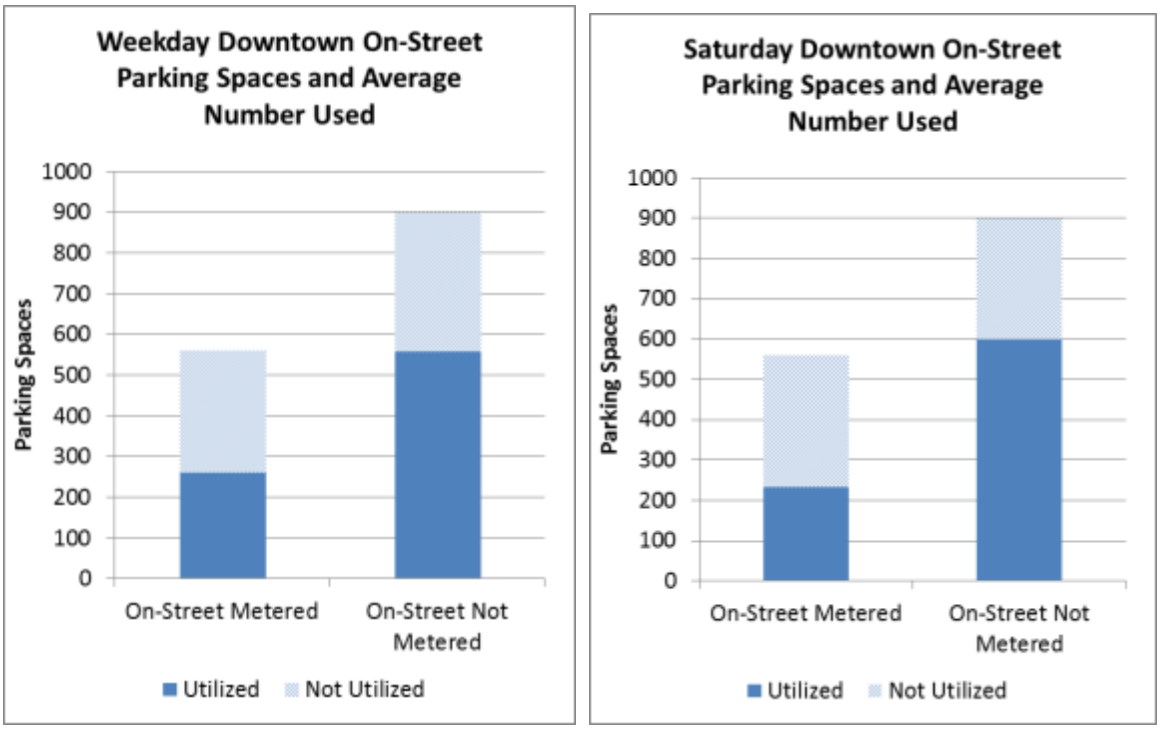


FIGURE 14 Parking Space Types and Average Number Used

The graphs show that, although non-metered parking spaces are in demand in certain blocks, approximately 40% of these spaces are not utilized during the weekday. This number drops to around 30% on the Saturday. The figures also show that there are around the same number of unused non-metered parking spaces available in the Downtown as there are unused metered parking spaces. This illustrated that people are willing to pay for parking if it is in the right location.

Parking turnover is another measure of how on-street parking spaces are used. Turnover measures how long vehicles stay in a parking space which is a reflection of whether it is serving short-term visitor use or longer-term employee or residential use. This is an important part of the assessment since vibrant downtown areas typically exhibit high parking turnover rates with low time spent per vehicle. High turnover means that more people are coming to New Westminster, doing business, and then leaving. This maximizes the use of valuable land and increases economic vibrancy for businesses. The value of a

high turnover parking stall in central areas is worth approximately $50,000 to the local business economy.[6]

For Downtown New Westminster, the turnover assessment included a two block area around Columbia Street and a two block area around 6th Street, as shown in FIGURE 15. Turnover was recorded between 11:00 and 18:00.



FIGURE 15 Turnover Assessment Areas

Turnover patterns for Downtown New Westminster are shown in FIGURE 16. Overall, the metered spaces experienced a reasonably high turnover, with around 85% of parkers leaving the metered spaced within the allotted 2 hour limit on both the weekday and the Saturday. Non-metered parking spaces have lower turnover, with around 60% of parkers (weekday and Saturday) in free spaces staying less than 2 hours. During the weekday, around 15% of parkers stayed for 2 to 3 hours in free spaces, while on the Saturday around 15% of weekend parkers stayed more than 6 hours in free spaces.

[6] Sandahl, L, Parking as Income Generator for Commercial Activities in Town Centres, Institutionen Foer Infrastrucktur Och Samhaellsplanering, 1997.

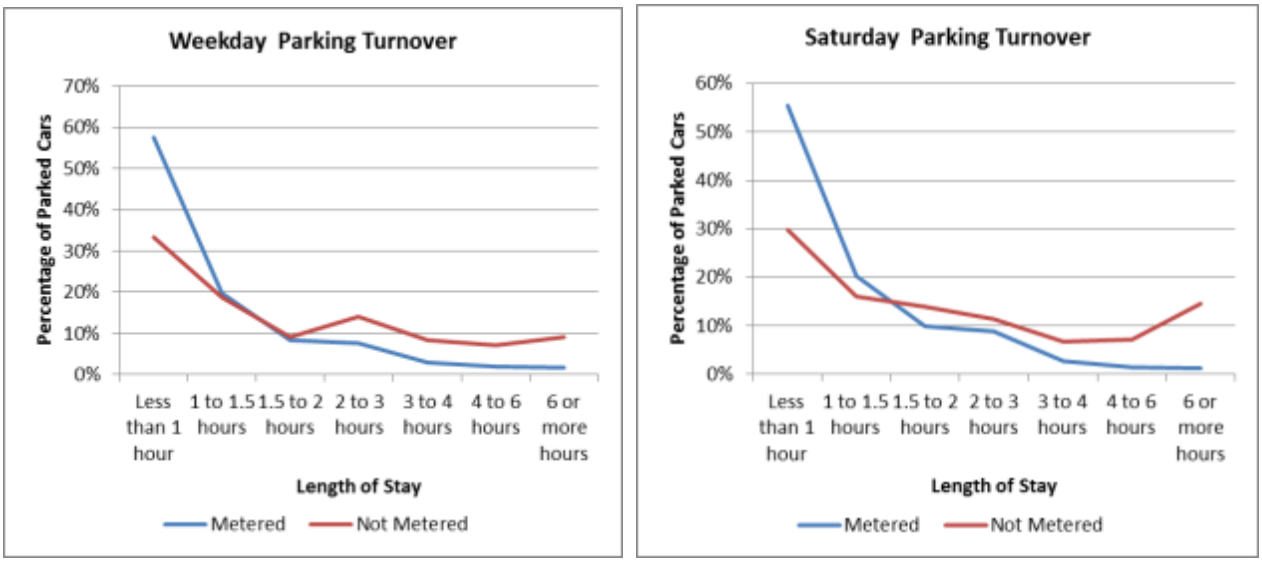


FIGURE 16 Downtown Parking Turnover

Turnover was much higher in the "combined area" where the 6th Street assessment area and the Columbia Street assessment area overlapped. Around 85% of parkers in the combined area stayed for less than 2 hours on the weekday and on the weekend. Turnover rates are lower in the areas outside the combined area, with the difference being more pronounced on weekends than on weekdays. This shows that the core business area of Downtown New Westminster experiences reasonably high turnover, which is good for economic vibrancy.

Although the turnover patterns are good for the combined area and for metered spots around Downtown, there are also parked cars that stay beyond the regulation time for the parking space. Most parking meters through the Downtown have a two hour time limit. Other meters have 15 minute time limits, three hour time limits or 10 hour time limits. Non-metered spaces may not have time limits (unrestricted) or be limited to stays of two hours, one hour, 30 minutes, or 15 minutes. On both the weekday and the weekend, around 20% of parked cars exceeded the time limit. The percentage of cars that overstayed the time limit was much higher in non-metered spaces (around 40% for non-metered and 15% for metered). This is true for both weekdays and weekends. The high violation rates for non-metered spaces may be related to the frequently observed use of loading zones for activities other than loading.

3.3 Parking Charges

There are three types of pay parking in Downtown New Westminster: City-owned off-street pay parking, privately-owned off-street pay parking, and on-street metered parking. All of these sources of pay parking are publically-accessible. Each has its own parking rate structure. The Parking Commission

recommends parking rates for City-owned off-street lots and staff recommends parking rates for on-street parking. Both require City Council approval.

Metered parking spaces have both payment and price regulations. Downtown New Westminster has meters with time limits of 15 minutes as well as one, two, three and ten hours. The cost per hour is consistent for meters with time limits of one hour or more. Meters with 15 minute time limits cost $0.25 for fifteen minutes, which is equivalent to $1.00 per hour. At all other meters, $1.00 purchases 44 minutes of time, equivalent to $1.40 per hour. Costs do not vary by location or time of day.

The City's two Downtown Parkades have their own pricing structure. Monthly passes are available at both the Front Street Parkade and the Columbia Station Parkade. A monthly pass for a random space at the Front Street Parkade costs $60.00, while a reserved space costs $80.00 per month. Students can obtain monthly passes for random spaces at a rate of $40 per month. A monthly pass for the Columbia Station Parkade is $55.00 per month. Hourly and daily parking is not available at Columbia Station Parkade. At the Front Street Parkade, daily rates are $1.25 per hour or $7.00 all day.

There are a number of private parking lots in Downtown New Westminster, each with their own parking rate schedule. Douglas College operates three parking lots in Downtown New Westminster: one underground lot at the college campus, a smaller lot on Carnarvon-street, and a very small lot at Royal Avenue and 8 Street. Parking passes are available only to students and employees. The lot on Carnarvon-street is open only to student permit holders. Hourly rates for Douglas College's parking lots are summarized in TABLE 7.

TABLE 7 Parking Rates, Douglas College Lots

	New West Underground		Royal and 8th
	Students & employees	Public	All Parkers
Hourly rate - 6:00 to 18:00	$1	$2	$2
Daily maximum to 18:00	$3.50	$8	$8
Evening flat rate	$1.50	$3	$3

Source: Private lot owners.

The Law Courts and Plaza 88 both have publically-accessible pay parking; their rates are summarized in TABLE 8. A monthly parking pass at the Law Courts costs $70 / month plus tax. The daily rate at the Law Courts is $3 per hour or $10 per day until 17:00. In Plaza 88, the first hour of parking is free. Stays exceeding one hour are rounded up to the nearest hour. On weekdays, the cost for up to 2 hours is $1 per hour, up to 3 hours is $2 per hour. Each additional hour after 3 hours is $3 per hour. On evenings and weekends, costs are lower, with up to three hours costing $1 per hour. Parkers exceeding three hours pay $3 per hour for each additional hour. Reviewing the rates for parking at the publically-accessible privately-owned parking lots shows that, in some cases, parking at a meter is less expensive than parking in a private lot.

TABLE 8 Parking Rates, Law Courts and Plaza 88

	Law Courts	Plaza 88
Monthly rate	$70	n/a
Daily rate		
First hour	$3	Free
Up to 2 hours (per hour)	$3	$1
Up to 3 hours (per hour)	$3	$2
Each additional hour after 3 hours	$1 (to a max of $10 per day)	$3
Evening rate (per hour)	Not open	$1

Source: Private lot owners.

All providers of paid publically-accessible parking in the TransLink service area, including Downtown New Westminster, pay an off-street parking tax. The parking tax is 21% of the purchase price of the parking before HST On-street meters are exempt from the parking tax.

Parking rates vary from city to city in Downtown areas throughout Canada. Observed parking rates from Downtown areas in selected Canadian cities are summarized in Table 2. In many of these cities, the cost of metered parking varies by location, with the core area being more expensive than the periphery.

TABLE 9 Comparison of Parking Rates

		Period of Parking			
		Hourly	Daily	Monthly	
				Reserved	Random
New Westminster					
	On-street	$1 to $1.40	n/a	n/a	n/a
	Off-street	$1.25	$7	$80	$40 to $60
Vancouver (Downtown)					
	On-street	$1 to $6	n/a	n/a	n/a
	Off-street	$3.25	$6 to $23	$375	$275
Vancouver (other areas)					
	On-street	$1 to $6	n/a	n/a	n/a
	Off-street	$1 to $3	$5 to $10	$90	$70
Calgary (Downtown)					
	On-street	$3 to $5	n/a	n/a	n/a
	Off-street	$6	$46	n/a	$389
Edmonton (Downtown)					
	On-street	$2 to $3.5	n/a	n/a	n/a
	Off-street	$5	$28	n/a	$295
Richmond					
	On-street	Max $2.50	n/a	n/a	$50
	Off-street	n/a	n/a	n/a	$40
Burnaby					
	On-street	$1	n/a	n/a	n/a
	Off-street	n/a	n/a	$60	n/a
Coquitlam					
	On-street	$0.75 to $1	n/a	n/a	n/a
	Off-street	$0.75	$4	$35	$18
Victoria					
	On-street	$2.50	n/a	n/a	n/a
	Off-street	$1 to $2	$13.50	$213	$123 to $196
Kelowna					
	On-street	$0.5 to $1	n/a	n/a	n/a
	Off-street	$1	$3 to $4	$88	$47 to $63
White Rock					
	On-street	$1 to $3	n/a	n/a	n/a
	Off-street	$1 to $3	$8 to $24	n/a	n/a

Source: Municipal websites.

4 PARKING FINANCE

This section of the report examines the historical finances for the municipal parking systems in (Downtown) New Westminster. As discussed in an earlier section, City-owned publically-accessible parking in New Westminster is managed by two organizations. On-street parking is managed by the City's Engineering Department, while off-street City-owned publically-accessible parking is managed by the Parking Commission. The Parking Commission manages two lots: the Front Street Parkade and the Columbia Parkade. This section presents a general assessment of the historical revenues and expenses for both groups, based on available financial information. In many cases, financial reporting for parking managed by the Engineering Department and by the Parking Commission is summarized separately in this report in alignment with the current governance structure.

The Engineering Department reports on-street parking meter revenues. Reporting for on-street parking meters is done for the City as a whole and it is important to note that all figures provided for parking meters account for all meters in the City, including Downtown. As a point of reference, approximately half of the City's parking meters are located within the Downtown.

Parking funds, revenue, and expenditure are divided into several categories within the City's annual report. Day-to-day parking revenues and expenditures are assigned to the City's General Revenue Fund. Expenses for both groups are reported in the Engineering Services expense category. Revenue from parking meters and revenue from the parkades are included in the general revenue category.

There are two funds dedicated to parking provisions within the City. Council has set aside an Off-street Parking Provisions reserve fund which has a current balance of over $2,500,000. Transfers into this fund are made from the Operating and Trust Funds and some has already been allocated within the City's financial plan. Use of the funds was broadened in March 2012 to include any use approved under the Local Government Act. This allows funds to be spent in one of two ways:

1. New and existing off-street parking spaces, or
2. Transportation infrastructure that supports walking, bicycling, public transit or other alternative forms of transportation.

There is also a statutory reserve generated from Parking Cash in-Lieu. This fund has a current balance of just under $1,000,000. The Parking Cash in-Lieu fund contains funds provided by developers in lieu of providing parking established in the city's bylaw. This is held by the City in statutory reserve until such time as it is spent on the construction of off-street parking in the Downtown. The Cash in-Lieu fund was expanded in March 2102 to include monetary compensation for parking variances granted anywhere in the City (i.e. beyond 457.2 m (1,500 ft). of City-owned parkades). Accepting Cash-in-Lieu payment obligates the City to plan and build parking, within a reasonable proximity to the site location, to off-set demands. It is important that the City begin to plan for off-street facilities in order to provide options as parking demand saturates existing City-owned publically-accessible parking supplies.

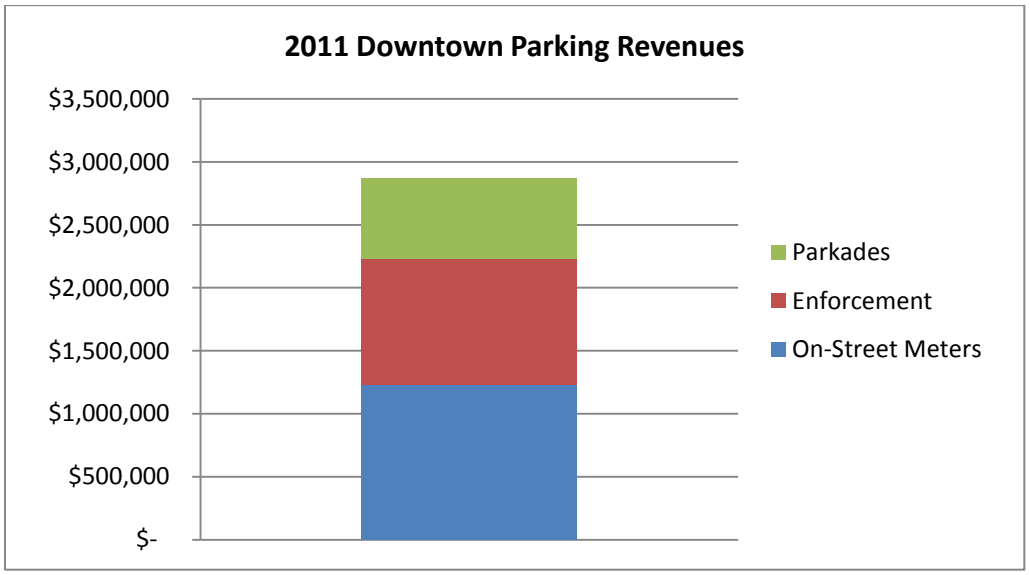
The remainder of this section provides more detailed information about parking system revenues and expenditures in the City of New Westminster.

4.1 Parking System Revenues & Expenditures

Each year, the City of New Westminster collects revenue from parking meter use and fees at the Front Street and Columbia Street Parkades. At the same time, expenses are incurred in the form of enforcement, staff time for maintenance, parts, equipment, third party repairs, and supplies. This section summarizes available information about revenues and expenditures from 2004 to 2011.

4.1.1 Parking Revenues

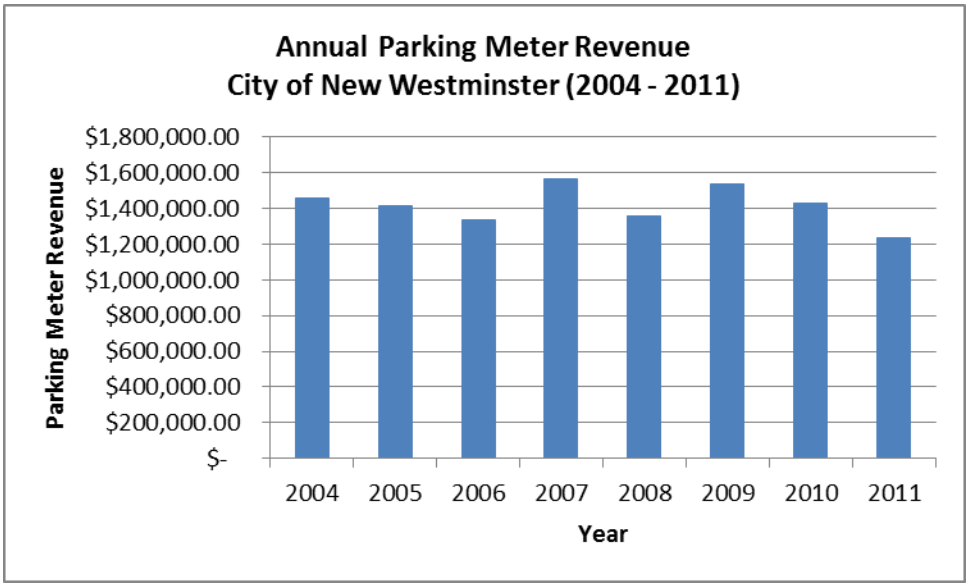
There are four categories of revenues collected by the City for parking purposes. The first is parking revenue from on-street parking meters. The second is parking revenue generated at off-street parking lots. The third is revenue generated through enforcement (e.g. parking tickets). The forth is cash-in-lieu paid by developers instead of providing required off-street private parking; these funds support the provision of City-owned publically-accessible off-street parking. Cash-in-lieu is treated differently than revenue and is held in a separate fund. The total revenue from the on-street meters and Downtown parkades in 2011 was around $1,900,000. 2011 Parking revenue by type is shown in FIGURE 17.



Source: City of New Westminster

FIGURE 17 2011 Parking Revenue

Parking meter revenues are collected daily from parking meters across the City. Revenues have been relatively steady from 2004 to 2011, with a small decrease over the last three years, as illustrated in FIGURE 18. Total parking revenue for the City in 2011 was around $1,200,000.

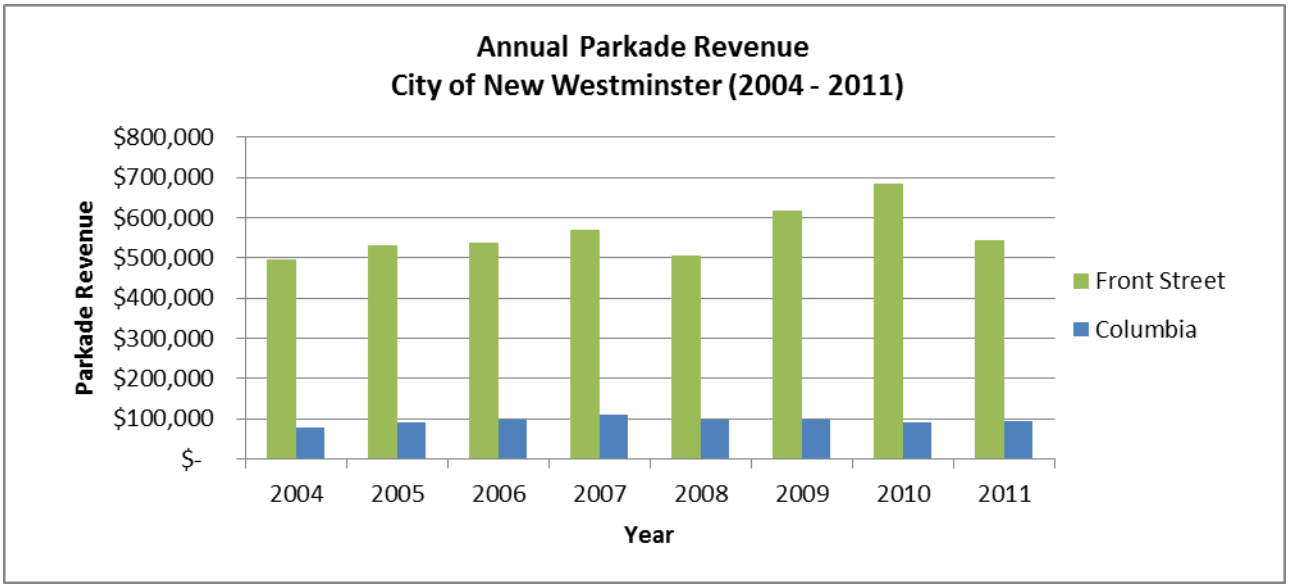


Source: City of New Westminster

FIGURE 18 Annual Parking Meter Revenue, City of New Westminster (2004 – 2011)

The enforcement group consists of 5 full-time equivalent staff. Their role is to help manage the parking system. Tickets for parking infractions are $30 to $50 and increase with time if not paid within 34 days. In 2011, approximately $1 Million in fines was collected.

The parkades collect revenue through monthly pass sales and short-term parking payment. Front Street Parkade has both types of parking, while the Columbia Parkade permits monthly parking only. Monthly parking in both parkades is contracted to a private company that provides the City with monthly parking revenues in exchange for a management fee. Short-term parking in the Front Street Parkade was managed in a similar way until 2012, when the City installed new pay stations. The City now collects revenue from the pay stations directly. The annual revenue collected from monthly and short-term parking in 2011 was $540,000 for the Front Street Parkade and $95,000 for the Columbia Station Parkade. Historic revenues for the Front Street and Columbia Station Parkades are illustrated in FIGURE 19.



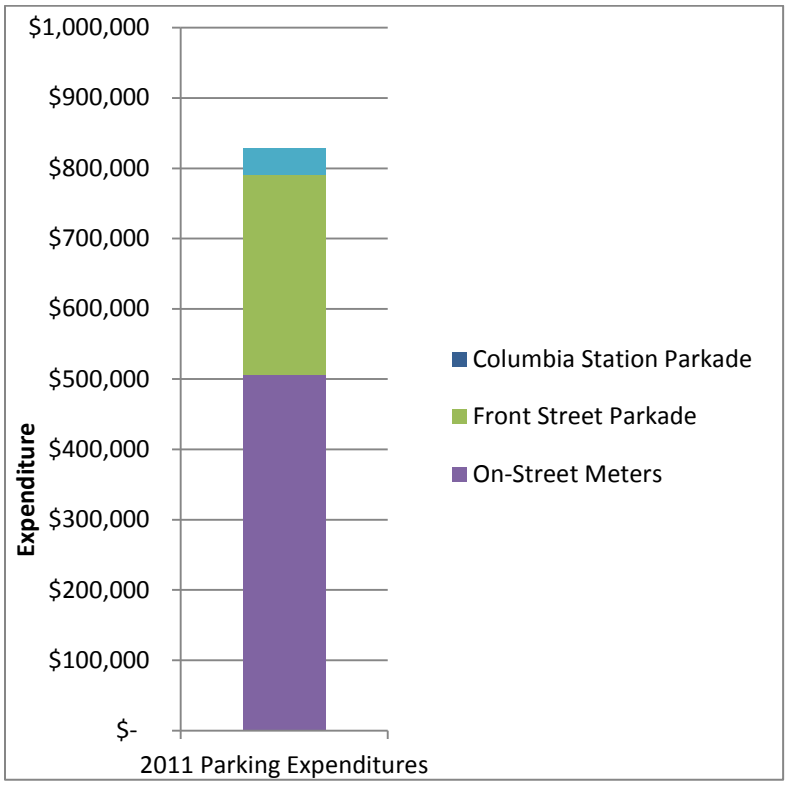
Source: City of New Westminster

FIGURE 19 Parkade Revenue

The City employs enforcement staff to monitor on- and off-street City-owned parking. These officers ticket vehicles that violate parking time restrictions, meter payments, and loading zones. Enforcement staff covers the City as a whole, including Front Street Parkade. There are two enforcement staff working from Monday to Friday, three working from Tuesday to Saturday, and one working on Sunday. This means that there is a staff of five enforcing parking regulations from Tuesday to Friday. In 2011, enforcement issued around $1,000,000 in parking tickets across the City as a whole.

4.1.2 Expenditures

The City incurs expenditures due to the operation, maintenance, and enforcement of the parking system. The City must also fund capital investments, such as equipment and buildings relating to parking. These costs do not account for the opportunity cost of using land for parking. Total parking-related expenditures for Downtown New Westminster in 2011 are summarized by type in FIGURE 20.

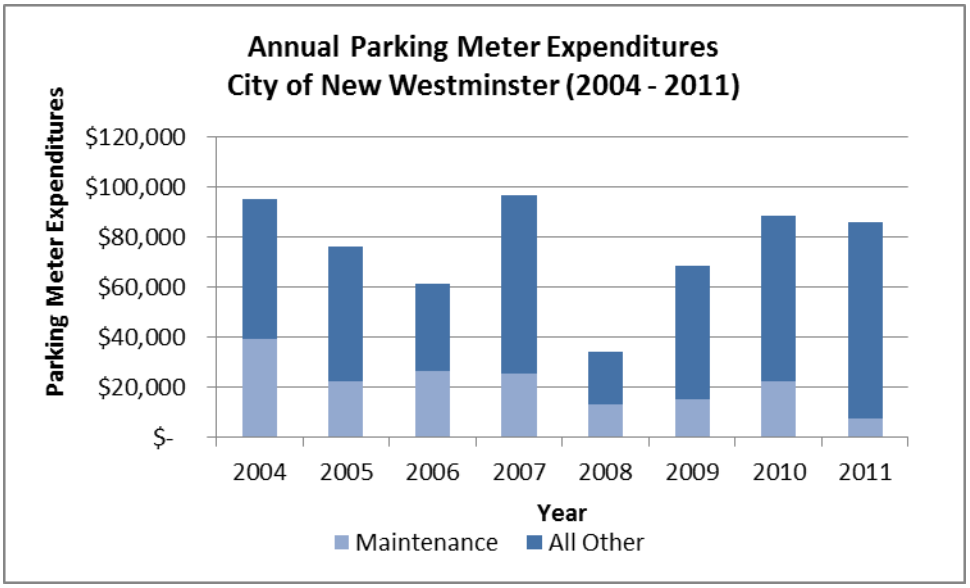


Source: City of New Westminster

FIGURE 20 2011 Parking Expenditures

Managed operations of the Front Street and Columbia parkades comprise about two thirds of their annual expenditures with the balance including office expenses, janitorial services and security. The Engineering Department tracks operations and maintenance costs for the on-street parking meters. These costs include equipment costs (including vehicles), staff hours for maintenance and revenue collection, meter parts, batteries, third party repairs, shipping and handling, and supplies. The on-street meters attract higher costs associated with enforcement staffing which makes up over 80% of the annual expenditures. Related operations and equipment for the parking meters account for about 15%.

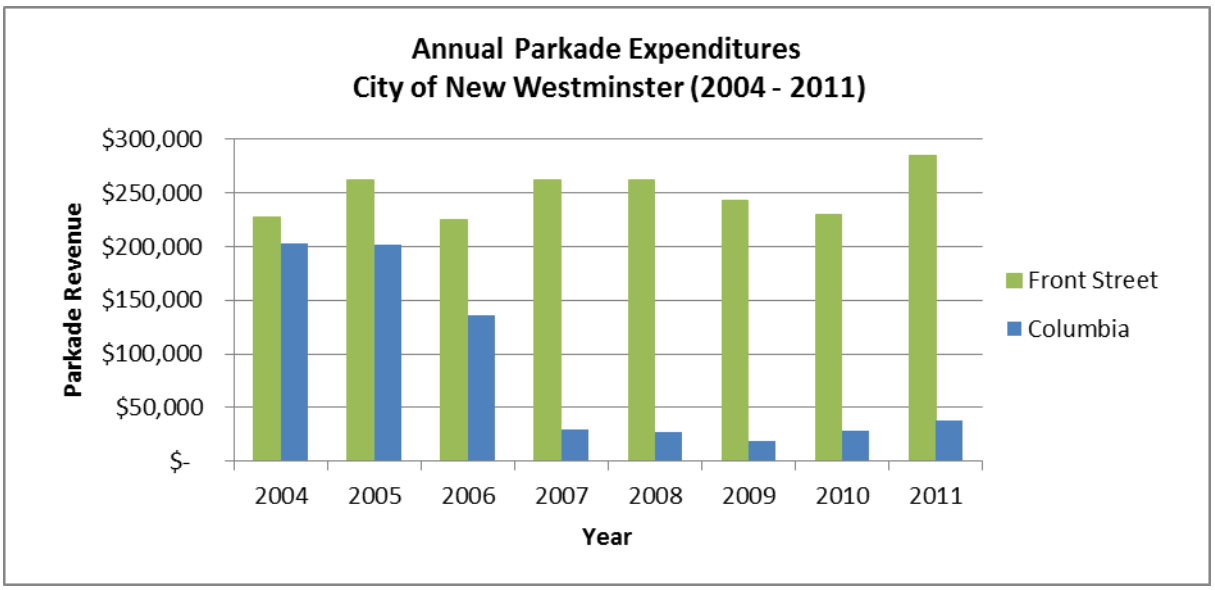
FIGURE 21 illustrates the annual expenditures for parking meters from 2004 to 2011. Expenditures relating specifically to maintenance are highlighted in the bottom portion of the graph. This shows that maintenance costs have been decreasing over time as the City does not repair meters on the old system, which has passed the end of its useful life. These meters will be replaced in 2013.



Source: City of New Westminster

FIGURE 21 Annual Parking Meter Expenditures, City of New Westminster

The two parkades have ongoing expenditures for operations managed by a private firm, salary costs, minor maintenance and security, and debt service load. The final debt payment for the Columbia Station parkade was completed in 2006, while the cost of developing the Front Street Parkade has been fully paid. With the installation of the new parking pay stations at Sapperton Station, which are operated by the City, costs are shifting away from on-site operations towards time and expenses incurred by City staff. Monthly parking is still managed by a private firm contracted to do so. Historic annual expenditures for the Front Street and Columbia Station parkades are shown in FIGURE 22. The effect of debt repayment ending on the Columbia Station Parkade in 2006 can be seen.

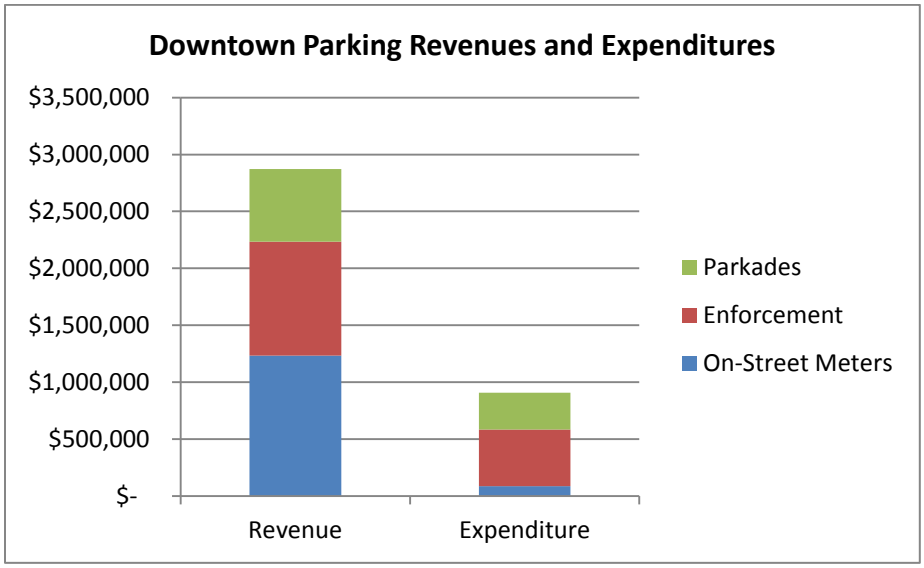


Source: City of New Westminster

FIGURE 22 Parkade Expenditures

4.1.3 Comparison of Revenues and Expenditures

Both the parking commission and the on-street parking system currently operate at a positive return to the City. Neither system costs more to operate and maintain than it generates in revenue. In 2011, the two systems together returned around $1,500,000 in net revenue to the City. It is important to note, however, that this position is possible because the parkade structures are fully paid with no debt load. It is also important to note that the Front Street Parkade may require significant investment in rehabilitation if it is to be maintained for a mid-term or long-term life cycle, as described below. The 2011 annual parking revenues and expenditures are summarized in FIGURE 23.



Source: City of New Westminster

FIGURE 23 Downtown Parking Revenues and Expenditures

4.1.4 Front Street Parkade Rehabilitation

In 2008, the City commissioned a report evaluating the Front Street Parkade. The review found that the parkade is “exhibiting significant corrosion related to deterioration”. The report offers 13 rehabilitation alternatives that consider the life-cycle cost of maintaining the parkade under different scenarios. Because the assessment was based on life cycle cost analysis, the cost of demolishing the parkade at the end of its life was included in all scenarios. The scenarios range from short-term (e.g. only the minimum maintenance for public safety would be completed) to long term (e.g. where the intent would be to maintain the structure in excess of 15 years). Four partial deconstruction scenarios were also assessed. In these scenarios, a portion of the parkade would be deconstructed and the remaining section would be rehabilitated for a mid- or long-term lifespan.

The report recommends that the City complete only maintenance required for public safety and move forward with the short term scenario. No action has been taken at this time, pending the development of the parking strategy which will outline longer term directions. The short-term scenario allows for the parkade to be safely used for up to 15 years, but recommends a guardrail replacement and an annual assessment. If the structure is maintained for more than five years, concrete repair may be required to maintain structural integrity and to eliminate tripping hazards. The cost of this scenario, including eventual deconstruction of the parkade, is between $4.1 and $4.3 Million in 2008 dollars. The report also notes that demolishing the eastern portion of the parkade and rehabilitating the western portion for a 15 year life-cycle is a viable solution. The life cycle cost of this scenario is $4.0 Million in 2008 dollars.

The longer term strategy for the parkade will be considered in the context of overall parking demand patterns in the downtown area based on current usage and planned growth in demand for City-owned publically-accessible parking facilities.

4.2 Issues & Opportunities

An understanding of the issues and opportunities surrounding parking in Downtown New Westminster is essential to the development of an effective, long-term strategy. Several methods and approaches were used to develop this understanding. Some issues were identified in the initial study scope and approach. Additional issues and opportunities were developed through discussions with City Staff, Council, the Stakeholder Advisory Group, and with the public at large. The exploration of existing policy and data collection and analysis described above provided additional, more detailed insight into existing conditions. Together, all of these sources provide a complete view of the existing issues, upcoming challenges, and future opportunities related to parking in Downtown New Westminster.

At the outset of the study a presentation was made to Council to provide an overview of study scope and approach. A number of issues and concerns were raised by Council during a question and answer period. In addition, a stakeholder group was established as part of this study. The group includes participation from the Parking Commission, the Downtown BIA, the Downtown Residents Association, the Quayside Community Board, Douglas College, the Urban Development Institute, the Law Courts, the City's Engineering Operations group, Impark, Larco, Columbia Square, and River Market. The stakeholder group participated in an exercise to identify the top issues and challenges that are important to the community. Common to Council, the stakeholder group and input from City Staff, the primary issues and opportunities to address in this study include:

- Supporting the Downtown Plan including the ability to influence single occupant travel demand through provision of sufficient parking supply to maintain economic vibrancy
- Maintaining a strong balance between parking availability and appropriate pricing while being sensitive to the unique characteristics of the Downtown precincts and future growth
- Determining the future of the Front Street parkade

- Exploring opportunities for innovation within the current bylaws and the development process (e.g. variances, parking maximums, parking for alternative modes)
- Exploring means by which to effectively communicate parking availability to users to avoid parking being perceived as a barrier

Analysis of available data and further discussions with the Stakeholder Group led to the development of a more detailed list of specific issues and concerns. Where these issues apply to specific locations, they were mapped. The issues were discussed and refined with the public at an Open House and are summarized in FIGURE 24.

As the Downtown grows and evolves, parking policies will need to play a shaping role to ensure that mode share targets shift in the right direction and that the most effective use is made of on and off-street parking.

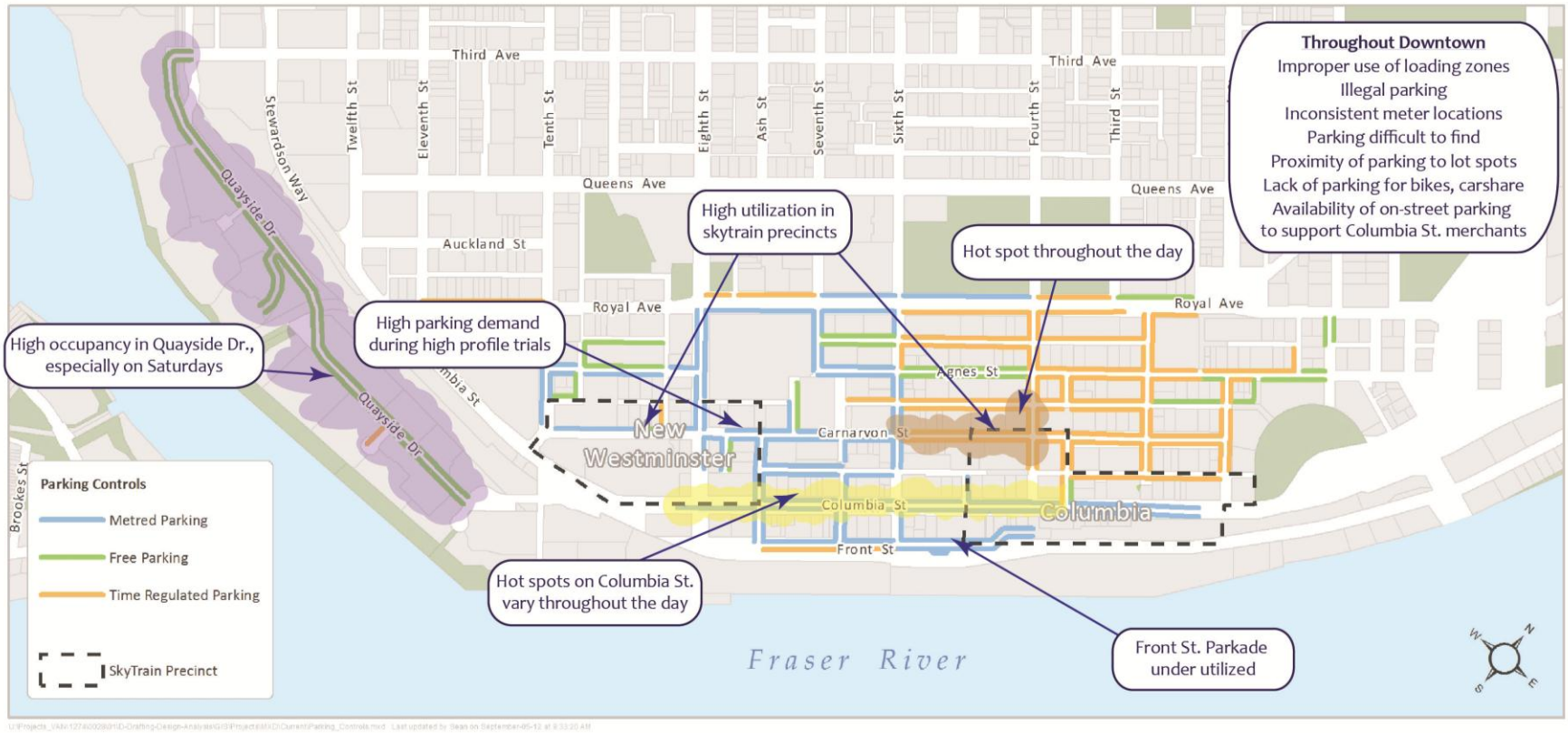


FIGURE 24 Demand Patterns and Other Issues

5 VISION, ASPIRATIONS, AND GUIDING PRINCIPLES

This section outlines the guiding principles that will provide the overall structure for the development of the Parking Strategy. These guiding principles allow for careful consideration of packages of strategies in order to determine if they meet the needs and objectives of the community. Parking strategies are often incremental in nature and as such, later sections will provide ranges within which the City may wish to implement recommended strategies. For example, pricing is a strong means by which to ensure parking turnover in key locations and the City may wish to start implementing pricing strategies more aggressively in key locations or gradually across the City. Overall, the Guiding Principles will provide the framework within which the strategy will be developed.

5.1 Visions

As noted in earlier sections, there are a number of existing visions with direct applicability to the Parking Strategy. These include the vision for Downtown outlined in the Downtown Community Plan and the vision for the transportation system being considered as part of the Transportation Master Plan. These visions provide the basis for the Parking Strategy. Together, these visions and more specific aspirations around parking answer the question, "what is success?" and provide the basis for the guiding principles and strategy development.

> The Downtown is a unique neighbourhood within the City. It functions as the economic, cultural, historic and residential hub of New Westminster. Its natural amenities along the riverfront and historic streetscapes enhance its tourism, entertainment and retail appeal. Its high density residential and commercial buildings in close proximity to transit provide a showcase for the attributes of sustainable and responsible growth in the Metro Vancouver region.
> – Downtown Community Plan, 2011

> New Westminster's multi-modal transportation system will support the development of a compact, sustainable and resilient community, maintaining the City's role as an important historic centre and economic hub within the region, while ensuring that New Westminster's diverse neighbourhoods are healthy, active, livable and vibrant.
> – Proposed vision from the Draft Transportation Master Plan, 2012.

In September of 2011, Council approved a vision for Front Street for public consultation. The vision is much broader than the Parking Strategy, but has direct impact on the future of parking in Downtown New Westminster. Through the public consultation process, the Downtown Parking Strategy sought input from the public on Council's long-term vision for Front Street. This vision is included in the box below. The vision seeks to connect the waterfront to Downtown and remove the physical barrier of the Front Street Parkade.

Proposed Vision for Downtown's Front Street and Rail Corridor

As the City implements the Downtown Community Plan, Front Street will be returned to a pedestrian friendly retail street with historic storefronts. Seamless connectivity to the Waterfront will be achieved by an elevated Sixth Street Overpass allowing for barrier-free movements to the Waterfront and the Westminster Pier Park for pedestrians and cyclists. Over time, the Front Street Parkade will be replaced with new public parking decentralized throughout Downtown. The rail corridor will be cleaned up and train whistles will be eliminated. When the Pattullo Bridge is reconstructed, direct access will not be permitted to Front Street. In addition, the City will seek to prohibit or restrict commercial truck traffic from Front Street. - *Approved by Council on September 19th 2011 for community review and endorsement*

Challenges notwithstanding, there was general support from the public of this vision for Front Street and the waterfront. This includes support for the gradual replacement of the Front Street Parkade with City-owned publically-accessible parking decentralized through Downtown. The general support for this vision will inform strategy development.

5.2 Aspirations

When asked what success looks like, the Stakeholder Advisory Group shared the following visions, which were generally supported by the public during consultation:

- Everyone understands how parking policies are linked to overall transportation, economic, and livability goals
- Residents and businesses support each other, with more local use of local businesses
- Parking is available in the right place, at the right time, at the right price and people know where to find it
- Downtown New Westminster is a unique destination, like Main Street or Gastown
- Businesses, residents, and students all benefit from being located together in a vibrant Downtown
- A balance of retail with offices to increase local daytime shoppers
- Retailers providing options to local travellers who use alternative modes

5.3 Guiding Principles

The visions provided in the Official Community Plan, Downtown Community Plan, Transportation Master Plan, and Climate Change Plan, along with the aspirations described above outline a future for land use and economic vibrancy and for transportation and environment in the Downtown. These were used as the basis for development of the Guiding Principles, which in turn will be used to develop the Downtown Parking Strategy. The figure below highlights these guiding principles.

Ensuring the right balance of the right type of parking to meet the needs of residents, businesses and visitors to promote Downtown New Westminster and achieve policy objectives.



These principles were supported by the Stakeholder Advisory Group and by the public during consultation.

6 FUTURE BASE CONDITIONS

This part of the study examines future base conditions. The intention is to determine future changes in parking demands based on anticipated growth and development plans. Once existing issues are identified and future demands established appropriate parking strategies can be generated that support the guiding principles. This phase analyzes available information, growth patterns, and parking trends to understand the future needs to be addressed in the development of the strategy.

New Westminster's Downtown is undergoing a period of revitalization. New development is being attracted that takes advantage of great access to transit via SkyTrain, a mixed-use and high-density environment, strong community amenities such as access to the waterfront, Pier Park, and an historic backdrop. The Downtown is expected to experience significant population and employment growth in the coming years. The following sections discuss growth projections and other changes anticipated within Downtown, present private parking provisions from other communities for consideration, and identify anticipated future demand patterns for City-owned publically-accessible parking.

6.1 Downtown Growth Projections

The Downtown Community Plan identifies the opportunity for continued growth, densification, and diversification in the Downtown Core. One of the strategic themes of the plan is that the Downtown's economic growth will be fueled by maximizing strategic opportunities. The City has commissioned a number of studies to investigate the opportunities for development within the downtown and to develop forecasts for growth in housing, commercial, industrial, and institutional building space in the Downtown and for the City as a whole. These studies have resulted in development forecasts that can be used for planning a wide range of services and infrastructure, including the Parking Strategy that is the subject of this report.

The Downtown Commercial Land Use Marketability Study[7] identifies a significant number of development opportunities. It recommends that the City aggressively encourage new residential development in and around the Downtown. The report also states that increasing employment opportunities through the development of office space is imperative. Downtown New Westminster has a number of advantages that will allow the development of residential and office space: the heritage feel of Columbia Street, the demand for a "village-like environment", its location in the centre of Metro Vancouver; and access to rapid transit. The City's growth forecasts reflect these needs and opportunities and the Downtown Community Plan stresses the importance of building a complete community.

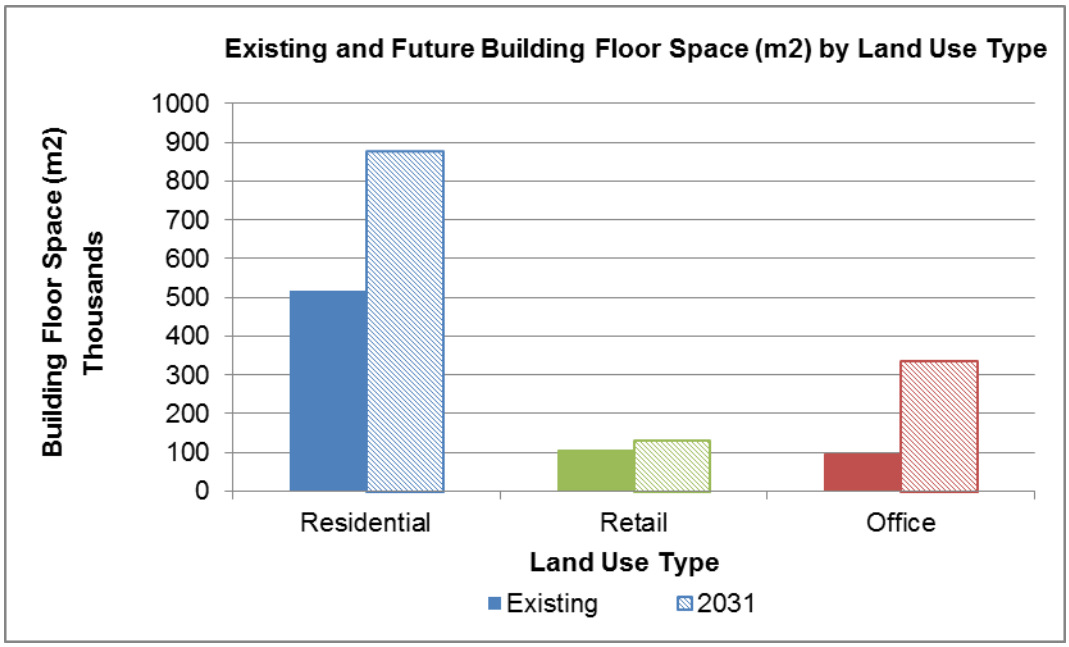
The development forecasts provided by the City allow for an understanding of the future form and density of the Downtown. The amount and type of built floor space is closely connected with parking demand and

[7] Urbanics, 2009.

understanding planned future development is important to creating a Parking Strategy. Existing and future built floor space is illustrated in FIGURE 25. The majority of existing built area in Downtown New Westminster is residential, with around 70% of building area designated for residential units. Retail and office space are approximately equal in overall scale and represent a much lower share of land use.

In the future, the amount of residential space is expected to grow by 90%, while most of the non-residential growth will be comprised of office space. Built floor space for office use is expected to more than triple by 2031, while retail is expected to increase by about 25%.

As noted in the Downtown Commercial Land Use Marketability Study, increased employment in the Downtown will increase pedestrian traffic throughout the day and provide more opportunities for New Westminster residents to work close to home. Locating employment and residential land uses together will result in a mixed-use Downtown where people can live, work, learn, and play in a livable, walkable core.



Source: City of New Westminster

FIGURE 25 Downtown Development to 2031

Overall, the City is planning for a more diverse and dense Downtown core. Growth patterns are expected to vary by precinct, as shown in FIGURE 26.

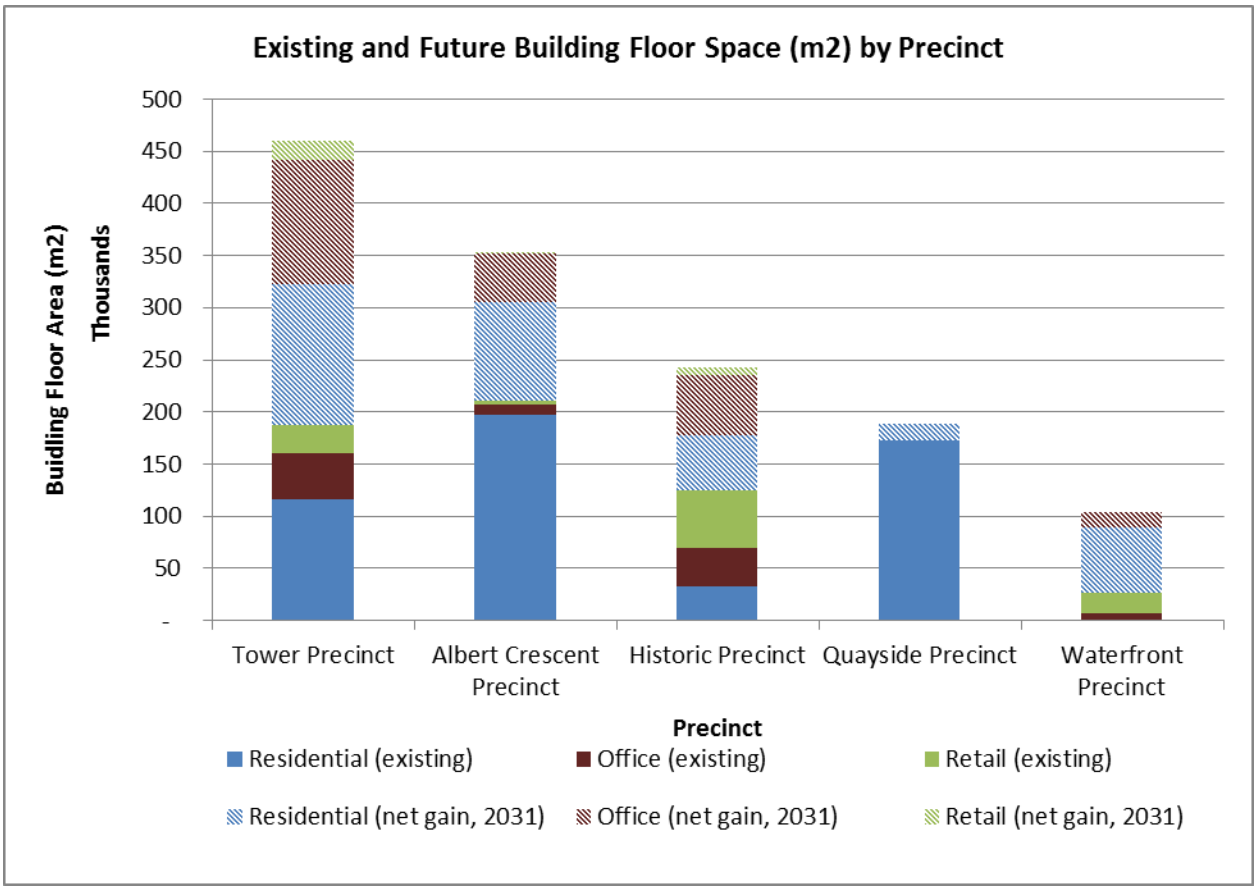
Albert Crescent Precinct **-** The Albert Crescent Precinct currently has the highest amount of built space comprising more than 200,000 square metres of residential floor space. This precinct currently has a very small amount of office space, which is expected to grow significantly by 2031.

Tower Precinct - In the future, the Tower precinct will have the most development, with the amount of residential space doubling, office space tripling, and retail space growing by about 70%.

Historic Precinct - The Historic Precinct will experience significant growth in residential and office.

Quayside - Quayside will remain residential, experiencing a very small amount of growth.

Waterfront Precinct - Residential and office land use will be added to the existing retail built area in the Waterfront Precinct.



Source: City of New Westminster

FIGURE 26 Development by Precinct to 2031

FIGURE 27 shows the expected development patterns on a lot-by-lot basis throughout the Downtown. This model was developed by the City and reflects the development estimates summarized above. Neighbourhood character for each precinct is defined in the Downtown Community Plan. Most of the development in the Tower, Albert Crescent, and Historic Precincts will be densification of developed sites, with 15 to 35 story towers replacing existing one to four story buildings. Planned heights are lowest in the Historic Precinct as development in this precinct must respect neighbourhood height, massing, form, and character. Some properties are on the Historic Register and must comply with detailed development regulations.

Developments in the Albert Crescent Precinct are generally limited to 20 stories and the intention is for the neighbourhood to keep its residential feel, with most of the office and retail development concentrated around 6th Street. The densest development will take place in the Tower Precinct, where towers are expected to reach up to 33 stories. This precinct will be a high-density neighbourhood and employment centre. In the Waterfront Precinct and Quayside most development will be infill on currently undeveloped land. The Larco property near the Fraser River Discovery Centre and New Westminster Quay Public Market is the most significant example of this type of development.

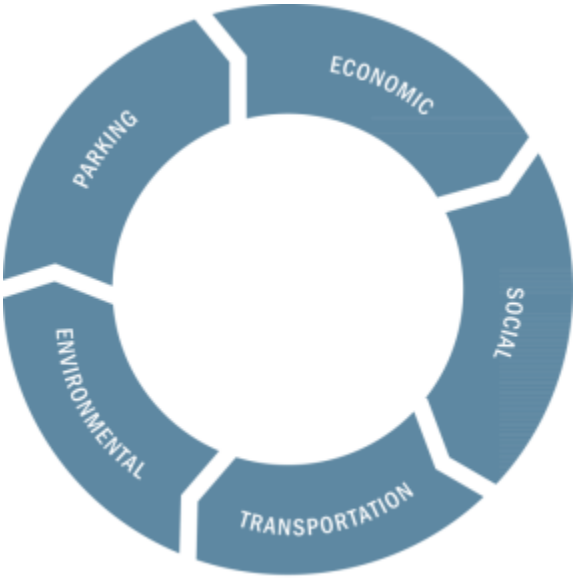


Source: 3D Model, City of New Westminster, Background map, Google Earth.
NOTE: Locations of buildings are conceptual. Actual development locations and built form are yet to be determined.

FIGURE 27 Downtown Development Model (City of New Westminster, 2012)

The development plan for Downtown New Westminster, as described above, has many economic, social, environmental benefits for Downtown. The required parking supply and transportation infrastructure will be influenced by these demand patterns, and will in turn influence the success of development in the Downtown core.

The mixture of uses, with emphasis on increased office and residential land use, will encourage the further development of a community that is oriented towards transit use, is pedestrian friendly, and is easy to cycle. New Westminster already has one of the highest sustainable mode shares of any municipality in the region and the proposed growth and development patters will continue to support this.



The Master Transportation Plan Update was still in progress at the time of publication of this report; however, the mode share goal for sustainable modes of transportation for all trips in New Westminster is expected to be 50% by 2041. This is a significant increase from the current sustainable mode share of 35%. This target represents a net zero increase in vehicle trips, as all new trips generated by growth are accommodated by sustainable modes. The targets for the Downtown core, as identified in the Downtown Community Plan, are even more substantial; the Downtown Community Plan envisions that by 2031 60% of all trips in Downtown New Westminster will use sustainable modes of transportation. This is an increase from about 40% of all trips in 2004. As the mode share for sustainable modes increases, the percent of trips using private vehicles is expected to decrease by about 30% and consequently, requirements for parking for private vehicles should also drop.

These targets may seem optimistic; however, the combination of proposed land use mix, density, and access to rapid transit make them achievable. Downtown New Westminster will increasingly provide an environment where people can work, live, play, and learn in the same neighbourhood. Travel to other centres in the Lower Mainland, including Downtown Vancouver and Downtown Surrey will be accommodated by rapid transit. Increased office and residential space will result in an active pedestrian environment, with a vibrant and active streetscape throughout the day. All of this will support the success of the local economy, with residents and workers frequenting local businesses and contributing to Downtown New Westminster's role as a vibrant regional destination.

6.2 City-owned Publically-accessible Parking Demand Patterns

As summarized in the previous section, significant growth is expected in Downtown New Westminster by 2031. Residential floor space is expected to grow by 90% and non-residential growth is expected to nearly double. Most of the non-residential growth is expected to be office use, while the retail floor space is expected to increase by about 25%.

The growth in parking demand associated with growth in floor space will be accommodated through private parking requirements, as dictated through bylaw. The City is challenged to achieve the overall aspirations for

the Downtown through the levers that allow it to influence the amount and approach to managing parking within privately owned property. This is discussed further in the next section of the report.

The City's other role, and the focus of this section, is to continue to bolster the provision of publically-accessible short-term parking supplies in the Downtown area as growth and development occurs. In particular, as the commercial retail activity grows in the City, so too will the demand for short-term parking supplies. As such, the projected increase of retail activity (25% growth) can be used as an indicator, or proxy, for the change projected in the demands for short-term parking activity in City-owned publically accessible parking.

Applying the retail growth rate for each precinct to the existing demand for public parking provides insight into potential future demands. this relationship is illustrated in **Error! Reference source not found.**. The projected retail growth each precinct is shown in FIGURE 29. The Tower Precinct has the most significant growth in retail at 71% increase over existing by 2031. The entire Waterfront Precinct, including Quayside, is not expected to have any new retail development.



FIGURE 28 Forecast Public Parking Demand Method

T

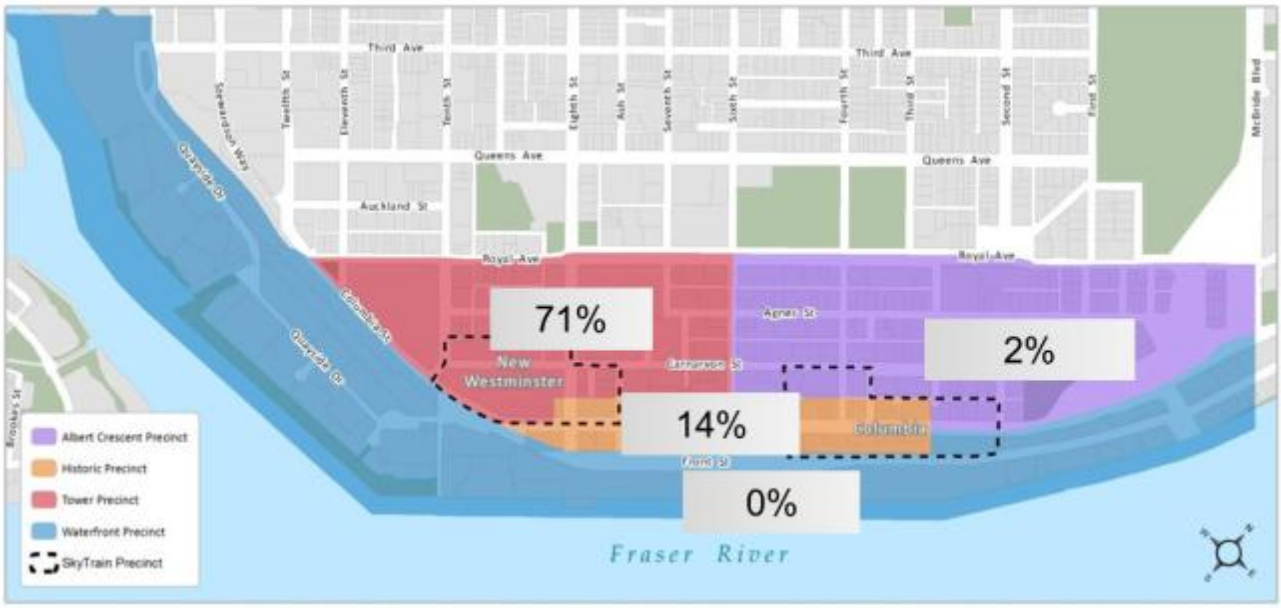


FIGURE 29 Projected Retail Growth By Precinct.

Demand patterns are based only on City-owned publically-accessible parking, as detailed earlier in this report.

Existing city-owned publically-accessible parking demands, expressed as occupancy, were collected in half hour increments for each precinct. Applying the growth rate for each precinct to the daily occupancy patterns provides insight into potential future demands. The results of this analysis are illustrated in FIGURE 30 (weekday) and FIGURE 31 (Saturday). These graphs show that, for the Downtown as a whole, there is sufficient on-street and off-street City-owned publically-accessible parking supply to meet future demands. Specific precincts will face more localized challenges. The graphs below show that Tower Precinct and Quayside will require special strategies to manage the balance between supply and demand.

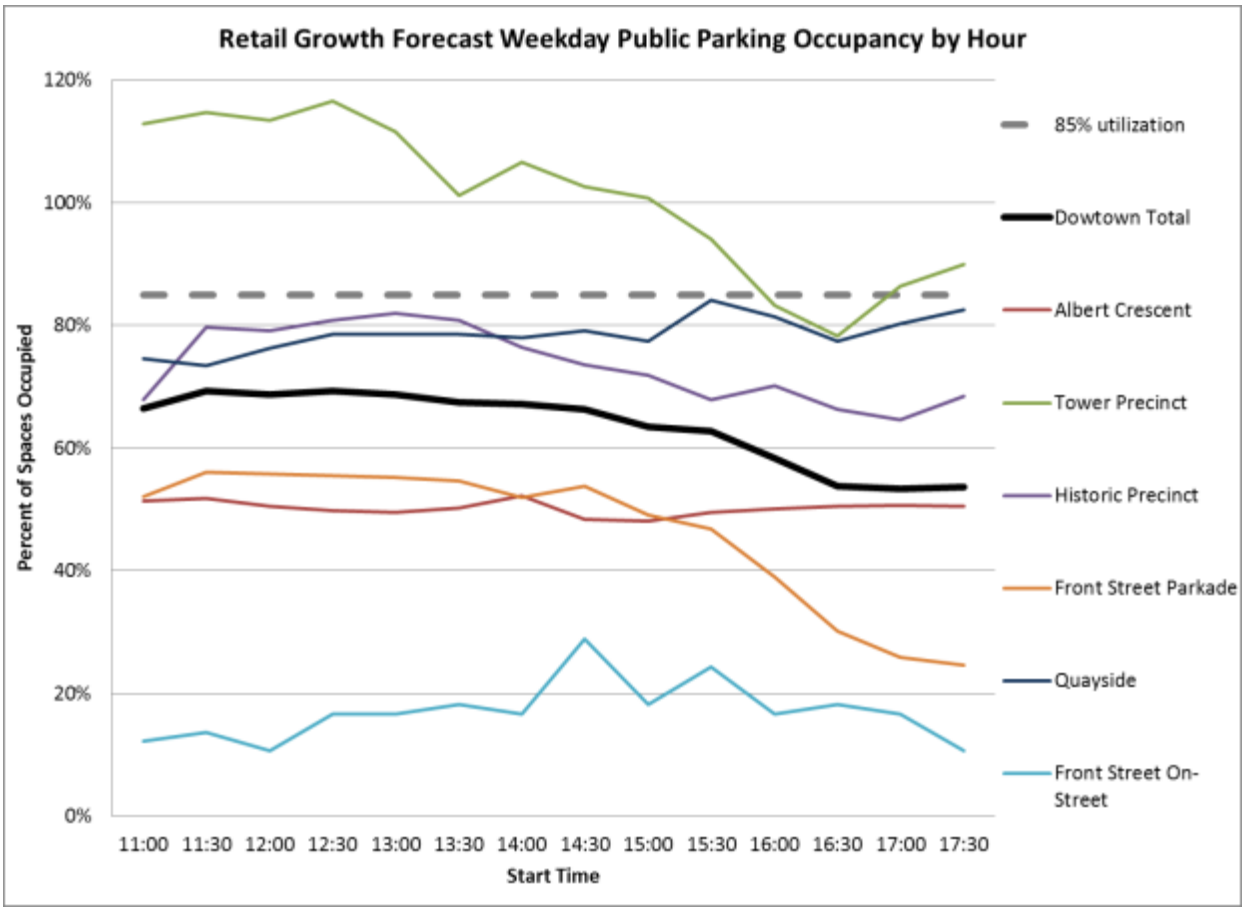


FIGURE 30 Forecast Weekday Public Parking Occupancy by Hour

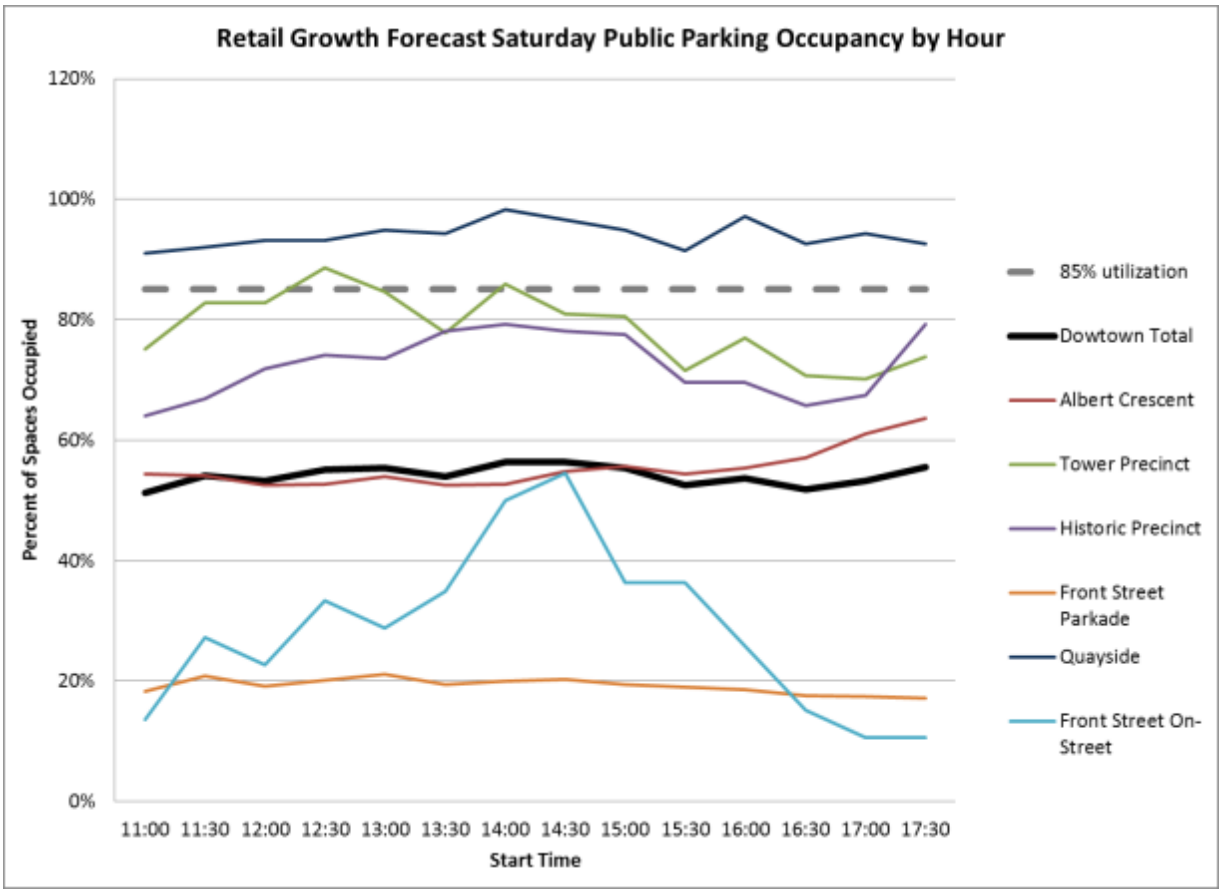


FIGURE 31 Forecast Saturday Public Parking Occupancy by Hour

Overall, the expected growth in parking demand is expected to lead to about a 250 vehicle increase in peak period parking demand, as shown in FIGURE 32. This growth does not result in a shortfall of 250 parking stalls, since some areas are currently well below the desired utilization of 85%. This projected demand is conservative, since it assumes that people continue to make the same mode use choices as the do today. That is, these forecasts assume that the same percentage of travellers choose to drive in the future, despite improvements to alternative transportation choices and transportation demand management measures. Trends that influence parking demand are explored further later in the report.

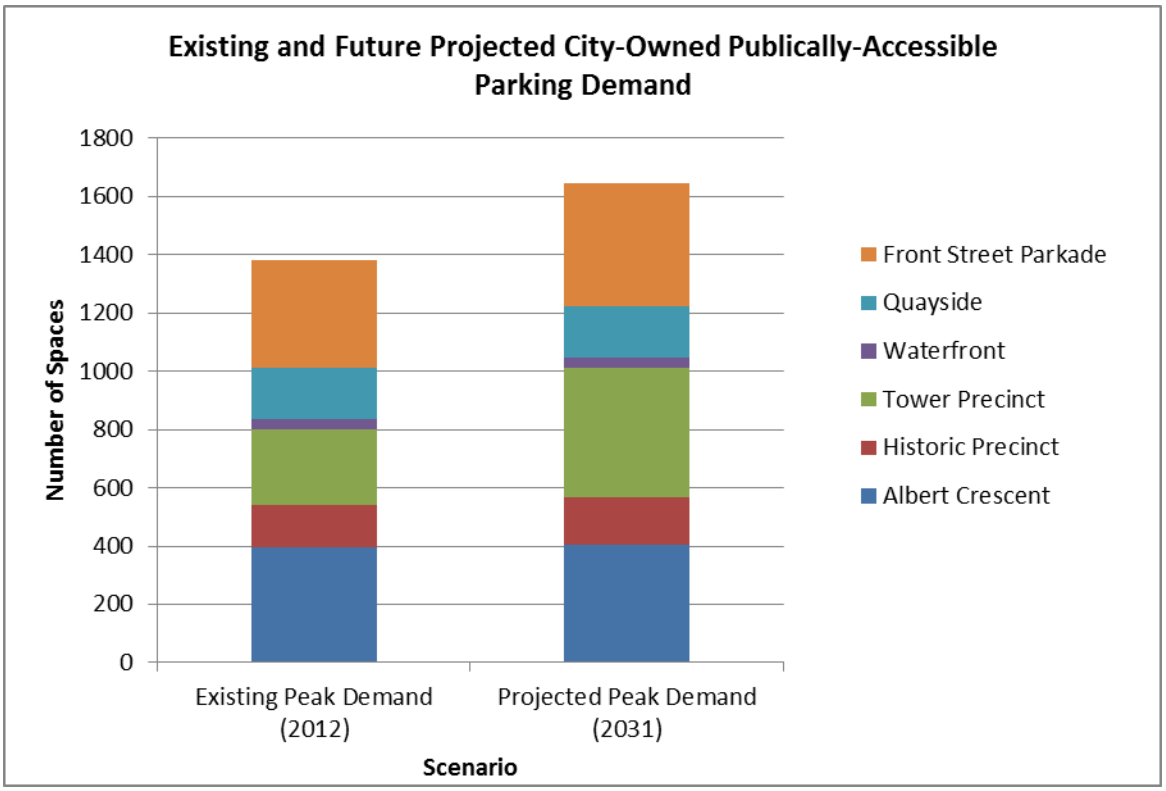


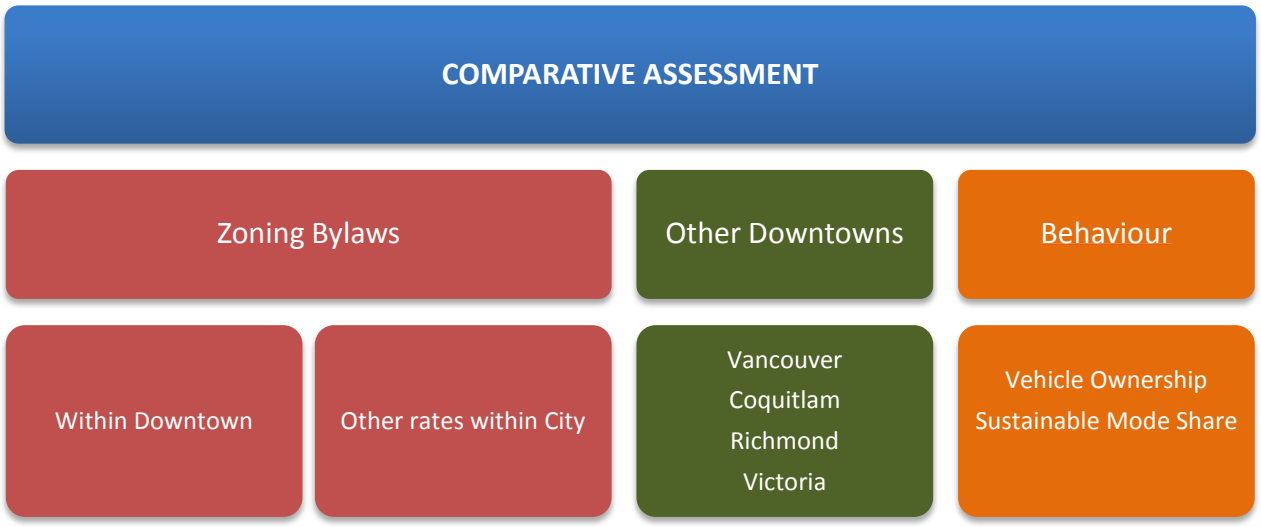
FIGURE 32 Existing and Future Projected City-Owned Publically-Accessible Parking Demand

This forecast provides guidance on the expected parking patterns in the future. The final Parking Strategy will use these forecasts as indicators of the types and intensities of actions that are needed. Combined with the understanding of existing challenges, issues, and opportunities developed earlier, they will guide the development of the Parking Strategy.

6.3 Private Parking Requirements

As a part of development for a particular building, private parking is provided for the use of the residents, employees, and visitors of the built area. The parking required for a development is determined by the off-street parking regulations within the Zoning Bylaw. Parking requirements specified within the Zoning Bylaw are the City's primary tool for influencing private parking. The City of New Westminster's parking bylaw rates, as applicable to the Downtown, are presented in Section 2.3 of this report. This section is a discussion of the future conditions surrounding private parking in Downtown New Westminster, including the trends that are expected to influence the demand for private parking. The strategies for private parking will be based on the research summarized in this section. The section includes a brief overview of existing rates throughout the City and within the Downtown and discusses the effect these rates would have given

expected growth. It also includes an exploration of rates in other downtown areas and an explanation of the relationship between behaviour changes and private parking requirements.



6.3.1 Current City of New Westminster Bylaw Rates

New Westminster's Zoning Bylaw addresses off-street parking requirements in two ways: for specific zones in their own sections and more generally for other land uses in the introduction. Parking minimums for most land uses are provided in the introduction section; these values govern development of specific land use types across the City. These values can be superseded where there are parking minimums provided within the specific requirements for a given zone. Zones C-4 (Central Business Districts), C-4A (Central Business Districts (Restricted), and C-8 (Columbia Street Historic Comprehensive Development Districts) are three of the most common zones within the Downtown and all have their own parking requirements. Parking requirements in these Central Business District zones are lower than requirements in the rest of the City.

As discussed earlier in the report, there are currently around 15,600 off-street parking spaces in the Downtown. This includes private parking and both privately and City-owned publically-accessible off-street parking. Using the existing building area, it is possible to estimate the amount of off-street parking required by bylaw and compare to the amount provided. TABLE 10 summarizes the existing off-street private parking provided, contrasted with what would be required based on building areas and current bylaw rates. Coincidentally, the overall number of spaces provided matches the number required by bylaw; however, on a precinct by precinct basis, there are differences. For instance, the Tower Precinct has a large supply of privately-owned off-street parking in addition to a supply of private parking that is well over the bylaw rate. This estimate reaffirms that the Tower Precinct is currently oversupplied with private parking. Both the Albert Crescent Precinct and the Historic Precinct have a large proportion of development within 457.2 m (1,500 ft) of the Front Street Parkade, and have a portion of their private parking off-set by the availability of City-owned publically-accessible parking. If the private parking provided in the Albert Crescent Precinct was insufficient for the land use mix within it, a much higher demand for on-street parking would be expected. However, as shown earlier in the report, peak parking demand in the Albert Crescent Precinct is 62% occupancy of on-street spaces during its peak at 17:30, which is much less than the available on-street

capacity. This provides an indication that the combined supply of on-street, off-street private, and off-street publically-accessible spaces are more than sufficient to accommodate demand in this precinct.

TABLE 10 Private Parking Required Supply Based on Current Bylaw Rates

	Existing Private Parking Supply	Zoning-based Parking Requirements	Difference
Tower Precinct	6,100	4,600	1,500
Albert Crescent Precinct	2,800	3,400	-600
Historic Precinct	450	1,350	-900
Quayside	3,100	3,350	-250
Waterfront Precinct	850	600	250
Downtown Total	**13,300**	**13,300**	**-**

Source: Existing stalls, City of New Westminster. Parking requirements, City of New Westminster Zoning Bylaw.

Existing bylaw rates can be used to determine the number of spaces required by expected future development. Based on the rates included in the Zoning Bylaw and described earlier, the forecast new development in the Downtown is expected to require around 13,200 spaces. This is a minimum amount, as developers can provide more parking than required by bylaw. New Westminster does not currently have maximum parking requirements for most land use types outlined in the Zoning Bylaw.[8]

Parking management has a strong role to play as a means of achieving a reduction in single occupant vehicle (SOV) trips. There is acknowledgement within regional and municipal governments that a "supply-oriented" approach to parking does not foster a decrease in automobile travel. Parking management is viewed as a key support strategy for other Transportation Demand Management (TDM) measures, when combined together can reduce SOV travel and increase use of alternative modes.

The publically-accessible parking systems owned and operated by the City are an essential part of the economic health and vitality of the downtown area and are often undervalued in many ways. In many 'mature' communities, the municipally-owned on-street and off-street publically-accessible parking supply is primarily serving short-term parking needs for three principal reasons. First, a well-managed system of short-term parking supply will contribute to the economic aspirations of a downtown area where access to retail uses is needed and supported. In fact, it has been documented that well managed short-term parking can provide over $50,000-$70,000 per stall per year in retail sales to a core area. Second, the focus on short-term parking supplies provides the financial resources to re-invest in, operate and maintain off-street parking systems that is required to build a resilient City-owned publically-accessible parking system. Finally, the emphasis on short-term parking supplies will support the broader transportation goals that discourage people from driving and encourage alternative modes such as walking, cycling and transit. In this regard, a well-managed parking system will support the stated objective for 60% of all travel to the downtown area to be by sustainable modes of transportation.

[8] General office use does have a maximum of 1.0 space per 32.25 square metres.

6.3.2 Existing Rates from other Municipalities

Exploring the rates used in other Municipalities provides an understanding of regional trends in parking bylaws and identifies what is working elsewhere. Rates in Downtown cores and in areas with rapid transit are particularly applicable because they have conditions that are similar to Downtown New Westminster. It is also important to understand rates in areas that are denser with a wider mix of land uses since these reflect New Westminster's aspirations for the future. For these reasons, bylaw rates in the following municipalities have been summarized:

- City of Richmond
- City of Coquitlam
- City of Victoria
- City of Vancouver

TABLE 11 summarizes rates used for various land use types across municipalities. Additional details are available in **Appendix C**.

TABLE 11 Parking Requirements by Municipality

Land Use	New Westminster	Richmond	Victoria	Coquitlam	Downtown Vancouver
Residential	1 – 1.5 spaces per unit (bachelor to 3+ bedrooms) Additional 0.2 spaces for visitor parking	1 – 1.4 spaces per unit (town house, apartment, mixed commercial residential) within City Centre	1 – 1.4 spaces per unit (single, two-family, multiple dwelling) depending on zone	1.35 spaces per unit (2 bedroom, apartment) within Transit Core Shoulder and Station Areas	Lesser of 1 space per 140 m^2 gross floor area or 1 per dwelling unit (i.e. max of 1 space per dwelling unit)
Office	1 – 2 spaces per 100m^2, maximum of 3.1 spaces per 100 m^2	3 spaces per 100 m^2 for first two floors in Downtown, then 1.5 spaces per 100 m^2 above	n/a	n/a	Min 0.7 spaces and max of 0.9 spaces per 100 m^2 for non-residential uses Downtown
Retail	1 – 2 spaces per 100 m^2	3.75 to 4.4 spaces per 100 m^2 for first two floors (then as per non-City Centre rates)	2.7 spaces per 100 m^2	2.2 spaces per 100 m^2 for Transit Village Commercial Zone	Min 0.7 spaces and max of 0.9 spaces per 100 m^2 for non-residential uses Downtown

Source: New Westminster, Richmond, Victoria, Coquitlam, and Downtown Vancouver City Bylaws

The Metro Vancouver Apartment study looked at private parking supply and demand for multi-family dwellings across Metro Vancouver. The study provides useful insight into how well the parking provided by bylaw is actually being utilized in New Westminster and other municipalities. The study found that sites in Burnaby and New Westminster were oversupplied by 13% - 35%. Apartments in close proximity to transit were also found to be over-supplied, with areas within 400 metres of both frequent bus and SkyTrain stations oversupplied between 23% - 38%. Vehicle ownership and parking requirements were found to be less sensitive to 'proximity to transit' for units with three or more bedrooms. Purpose-built rental apartments were found to require less parking than strata units.

The study also found that automobile ownership has been decreasing overtime. Low automobile ownership is being offset by increasing use of car-share programs (more prominent within Vancouver and UBC). With most residential growth expected to be multi-family, car-share programs may become increasingly important in New Westminster.

The rates recommended by the Metro Vancouver Apartment Parking Study for various types of residential development are shown in TABLE 12. The minimums recommended here are lower than what is currently in place in Downtown New Westminster, most of which is within 800 metres of the New Westminster and Columbia SkyTrain Stations and very well covered for bus-based transit.

TABLE 12 Parking Bylaw Rates Recommended in Metro Vancouver Apartment Parking Study

Geography	Bachelor Suite		One Bedroom		Two Bedrooms		Three+ Bedrooms		Visitor Parking
	Min	Max	Min	Max	Min	Max	Min	Max	Min
Apartments not near the Frequent Transit Network	0.50	–	0.50	–	0.75	–	1.00	–	0.10
Strata Apartments near the Frequent Transit Network	0.50	1.00	0.50	1.25	0.50	1.50	1.00	2.00	0.10
Purpose-Built Market Rental Apartments near the Frequent Transit Network	0.25	1.00	0.25	1.00	0.50	1.00	1.00	1.50	0.10
"Near Frequent Transit Network": within 400 metres of a Frequent Transit Network bus stop and/or within 800 metres of a Frequent Transit Network station									

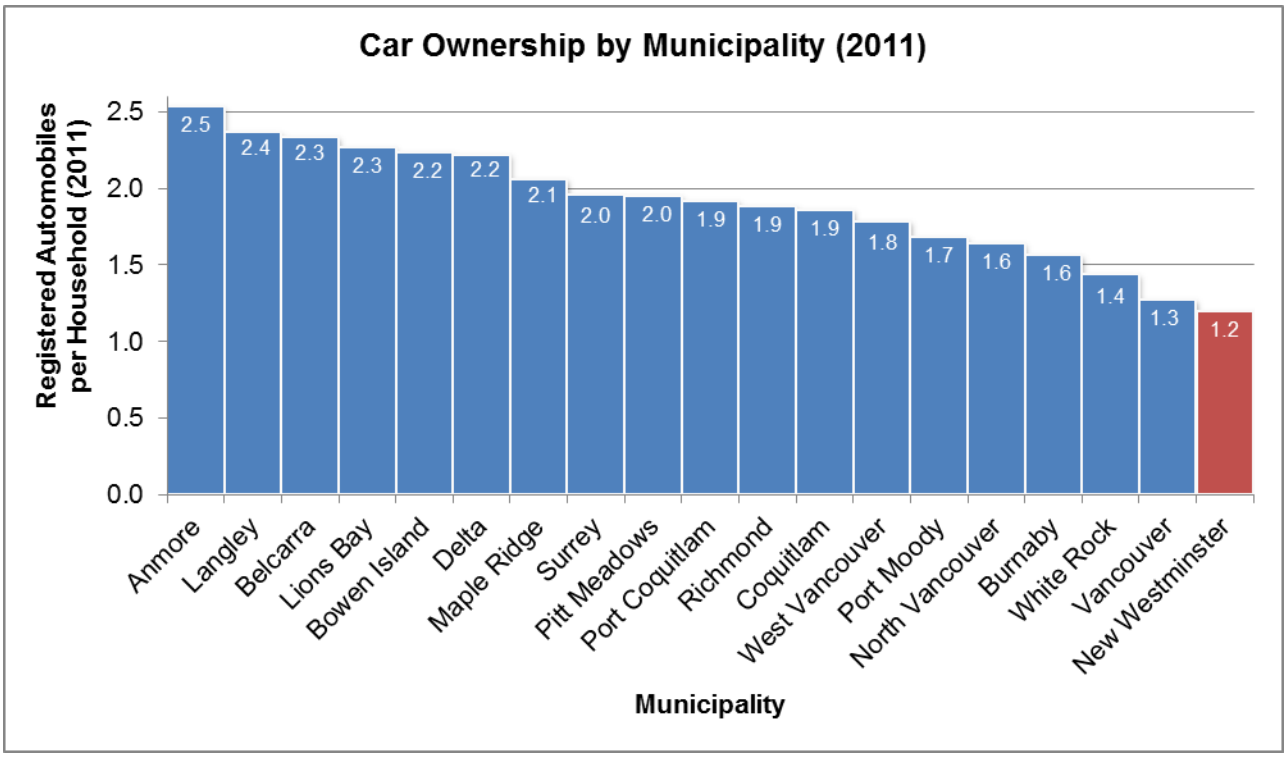
Source: Metro Vancouver Apartment Parking Study (2012).

The report also recommends that maximum rates are put in place for developments near the Frequent Transit Network, as well as visitor parking minimums of 0.10 spaces per unit. These rates, along with the rates from other municipalities summarized earlier, will be used to guide the development of a parking bylaw strategy for Downtown New Westminster.

6.4 Trends in Travel Behaviour, Economics, and Parking

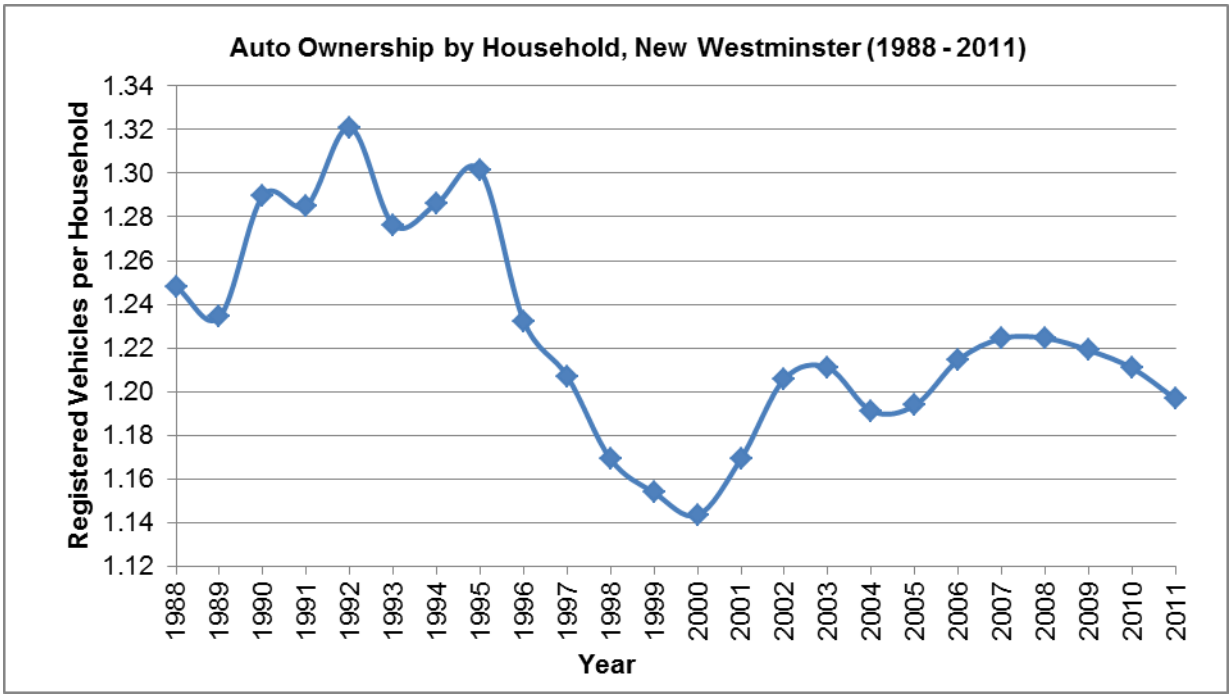
Travel behaviour and the use of parking infrastructure are clearly connected. Both publically-accessible and private parking demands are influenced by mode choice, vehicle ownership decisions, and economic trends. Parking supply and pricing influence the demand for parking which, in turn, influences the mode share for private automobiles. A lower auto mode share means that less parking is required for the same level of population and employment and that the supply of parking per capita can decrease over time. Car ownership is directly connected to the need for residential parking. Trends in ownership and mode share are important elements to understand in the development of private parking bylaws. At the same time, assumptions surrounding economic conditions and growth can change, changing the resulting need for parking supply.

Parking demand is influenced by the level of car ownership per household. FIGURE 33 illustrates household car ownership for the municipalities in Metro Vancouver and FIGURE 34 shows car ownership patterns in New Westminster from 1988 to 2011. New Westminster has the lowest car ownership in Metro Vancouver at 1.2 vehicles per household. This is even lower than Vancouver which is at 1.3 vehicles per household. Car ownership in Downtown New Westminster is even lower, at less than 0.8 vehicles per household. Overall, car ownership in New Westminster has been decreasing over time. The low car ownership rate and downward trend suggest that the amount of parking required per household for residential land use will remain low in New Westminster.



Source: Number of insured vehicles, Insurance Corporation of British Columbia (2012). Households, BC Stats (2012).

FIGURE 33 Car Ownership per Household by Municipality



Source: Number of insured vehicles, Insurance Corporation of British Columbia (2012). Households, BC Stats (2012)

FIGURE 34 Historic Auto Ownership by Household, New Westminster (1988 – 2011)

Car ownership per household reflects the number of cars that are stored in New Westminster and are available for travel; however, households that own one or more cars may not use them for every trip. Further, visitors to the Downtown may choose to drive alone, or they may choose to carpool, take transit, cycle, or walk. Understanding mode share trends is an important factor in developing an understanding of current and future parking needs. Mode share is especially important to determine parking requirements for retail and office land uses. The existing and target 24 hour mode share from the Downtown Community Plan is illustrated in FIGURE 35. The low auto mode share reflects the Downtown's convenient **access to rapid transit**, the **mix of land uses**, and existing **density**. As these three factors continue to improve over time, the auto mode share and parking demand per capita can be expected to continue to fall. The increasing use of **car-share** programs within Metro Vancouver will also have implications on parking requirements, particularly within or near new apartment developments that also have good access to transit.

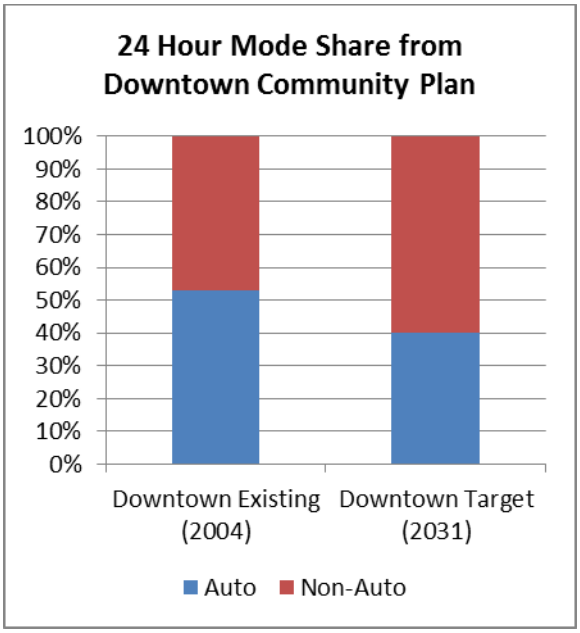


FIGURE 35 Existing and Target 24 Hour Mode Share for Downtown

As note earlier, the picture of future demand for City-owned publically-accessible parking developed for this report is conservative. It assumes that the percentage of people choosing sustainable modes of transportation does not change. As noted above, New Westminster has some substantial targets for decreasing dependence on single occupancy vehicles. If the City meets its targets for the Downtown, the demand for publically accessible parking could be expected to decrease significantly.

7 CORE PARKING STRATEGIES

The “core” parking strategies included in this section describe the overall categories and types of activities that are proposed to address current and future challenges within Downtown New Westminster. It is imperative that the strategies be consistent with the overall vision for the Downtown (land use, transportation, economic vibrancy, etc.). The strategies should also address the issues and challenges facing the parking system where demands are variable throughout the downtown area, recognizing that growth will place different demand pressures on each area and also that there is a need to replace and perhaps expand City-owned publically-accessible parking in the downtown area. The management of parking generally includes strategies on supply, pricing and other supportive strategies to minimize and even reduce parking demand patterns.

The proposed strategies work together to achieve these goals. The first section in this chapter summarizes the overarching strategies that touch all aspects of parking: private, publically-accessible, on-street, off-street, privately-owned and publically owned, as well as parking-adjacent strategies, such as demand management. These strategies are organized into four categories: demand management, supply, pricing, and support. The second section presents the four basic parking governance models and identifies the steps the City of New Westminster would need to take to review and possibly update their parking governance structure. The remaining two sections provide more detailed strategies relating to two specific categories of influence for the City: location based strategies for City-owned publically-accessible parking and bylaw-based strategies for privately-owned parking. As shown in FIGURE 36, the City needs overarching strategies with broad impact, but there are also a number of special focus areas that require more attention. Many of the strategies within these focus areas are related to the overarching strategy, but they warrant more detailed exploration.



FIGURE 36 Core Parking Strategies

The intent is for all of these potential strategies to be considered by the community and Council. It should be noted that while many of the strategies within the City-owned and Public groupings would be implemented as a package with consistent principles, they generally must evolve over time to ensure that they are having the intended results and protecting the City from the unintended outcomes.

This section discusses the range of potential strategies that can be adopted while the second section discusses specific treatments applicable to City-owned publically-accessible parking and private parking.

7.1 Overarching Parking Strategies

The range of potential strategies available to the City to manage and influence parking behaviour is broad and spans the areas of demand management, supply, pricing, and support strategies. The framework of strategies is illustrated in FIGURE 37.

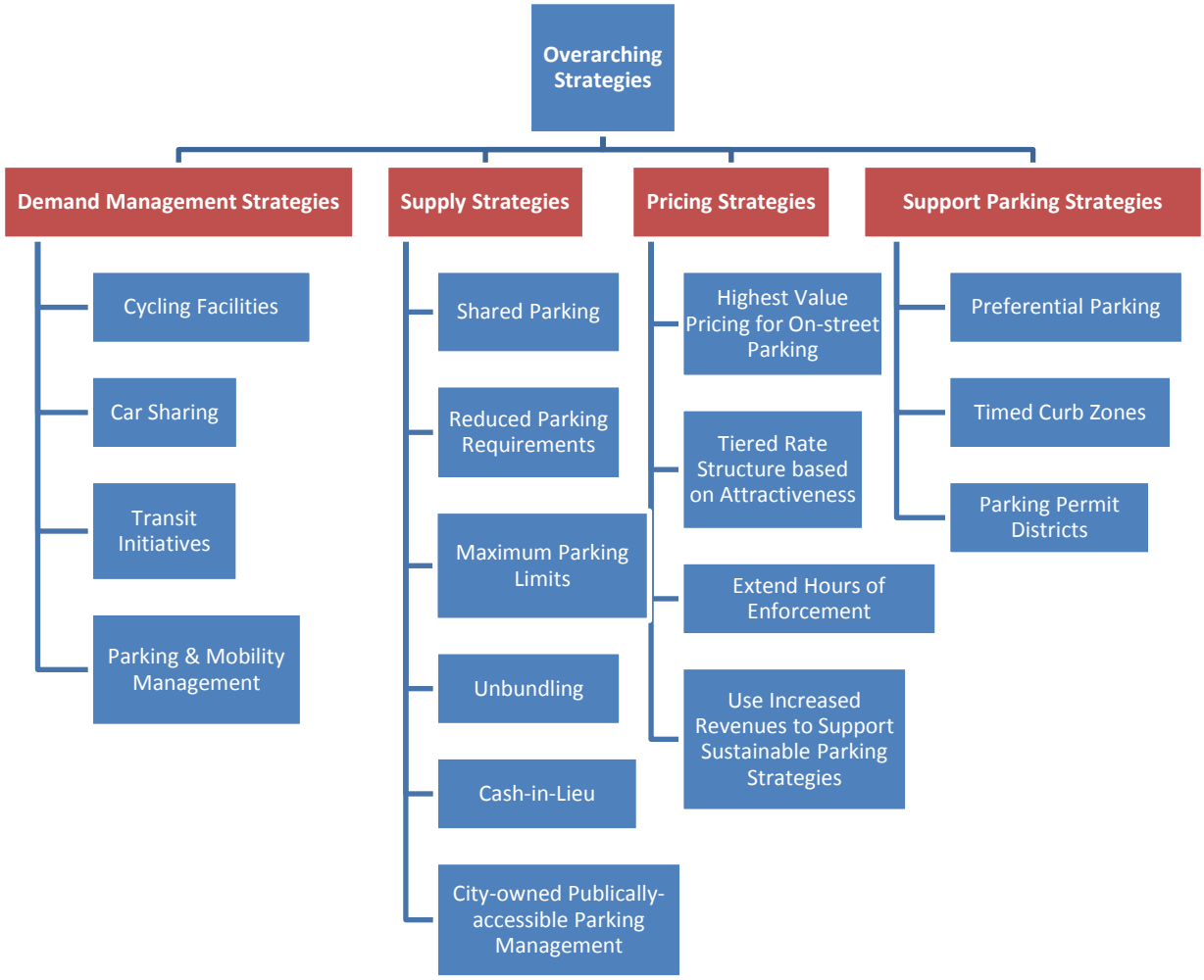


FIGURE 37 Framework of Overarching Parking Strategies

7.1.1 Demand Management

Increasingly, municipal agencies are responding to higher travel demand pressures by employing strategies that encourage use of alternatives modes and discourage Single Occupant Vehicle use as a commuter mode of travel. Transportation demand management initiatives are then coordinated with key improvements to more effectively increase transportation system capacity.

The vision and aspirations for Downtown indicate that transportation demand management strategies are an important aspect of the overall strategy for of managing city-owned publically-accessible parking. Demand management techniques shift trips to other modes, making the existing system more effectively, or shift trips to off-peak times of day. For the Parking Strategy and for the broader visions New Westminster, shifting trips to other modes is a fundamental principle to managing the impacts of vehicle travel on the community. Some of this shift toward more sustainable modes will be accomplished through non-parking related strategies, such as denser, more diverse land use with more office space in combination with improvements to other modes of transportation. The Parking Strategy includes four categories within the area demand management:

1. Cycling Facilities
2. Car Sharing
3. Transit Initiatives
4. Parking & Mobility Management

1. Cycling Facilities

The City can make strides in improving cycling mode share and access to downtown businesses by providing high-quality, convenient and secure on-street public bicycle parking and also facilitating the provision of "end of trip" facilities within residential and office developments (e.g. change rooms, showers, bicycle lockers). This is a parking demand management strategy that complements other transportation strategies. Some of the others are either related to public policies for private development or merely transportation related investments (e.g. cycling infrastructure).

Improving bicycle facilities can shift parking demand by reducing the auto mode share and by encouraging people to walk or cycle between destinations within the Downtown. There are a few components to these strategies relative to parking:

- Improvements funded through parking revenue and development contributions,
- Improvements required through development requirements, and
- Additional on-street bicycle parking provided by the City.

Parking revenue and alternative transportation cash-in-lieu can both be used to improve bicycle and pedestrian facilities to better connect on-road cycling infrastructure to key destinations. The revenue from parking operations can be reinvested in the alternative transportation network and beautification of the area in which it was collected. Developers may contribute to alternative transportation funds in lieu of providing private parking.

The City already requires developers to provide short- and long- term bicycle parking by bylaw as a part of new construction; however, on-street observations and stakeholder input suggests that there are bicycle parking shortages in some areas of the City. During data collection, many of the bicycle parking facilities on Columbia Street were observed to be full during peak times of the day. Stakeholders report a lack of off-street secure bicycle parking in older residential buildings. The City should work with existing building owners and strata to find new solutions for off-street bicycle parking. There is an opportunity to install more bicycle parking in busy retail areas, such as Columbia Street. The bicycle parking supply should be monitored throughout the Tower Precinct and along 6th Street as the retail sectors in these areas continue to develop.

2. Car Sharing

Car sharing is a means by which a number of drivers share the use of a fleet of vehicles instead of owning their own. If driving needs are infrequent, individual user costs are lower than owning a vehicle since maintenance and operating costs are shared. In many instances one car can be shared by more than a dozen drivers, greatly reducing the overall need for private vehicles. New Westminster exhibits all the right characteristics for greater uptake of car sharing; it has a high level of transit service and a dense, walkable downtown. There is currently only one car share group operating in New Westminster (Modo) with five vehicles located Downtown. Increased use of car share vehicles is supported by the City and efforts to encourage greater adoption should be pursued. New Westminster can support car share programs by:

- Promoting parking reductions for private developments that have car share vehicles and/ or include preferential parking for these vehicles.
- Providing on-street and off-street City-owned car-share parking spaces, and
- Partnering with car share organizations and promoting use of car share vehicles by staff.

The Metro Vancouver Apartment Study found that the availability of car share vehicles is connected to lower car ownership. Car share programs have been gaining ground in the Lower Mainland and several companies have active programs. Encouraging more car sharing in New Westminster will give residents and employees more travel choices and reduce dependence on cars, allowing office and residential land uses to more effectively provide their own off-street parking and reducing reliance on the City-owned publically-accessible parking system.

3. Transit Initiatives

The City can better manage transportation demand and thus reduce parking requirement by continuing to encourage transit use. Close proximity to either SkyTrain or the Frequent Transit Network is a good means to reduce reliance on Single Occupant Vehicles. Parking requirement reductions can be up to 20% depending on distance to high order transit. More than half of Downtown New Westminster is within 400 m of a SkyTrain Station and most of the area is within 800 m. The area of Downtown within 400 m and 800 m of a SkyTrain Station is shown in FIGURE 38. A base reduction for transit proximity is embedded in the Downtown parking requirements outlined later in this section; however, it is appropriate to provide an additional reduction of 5% for parcels within 400 m of a SkyTrain Station.

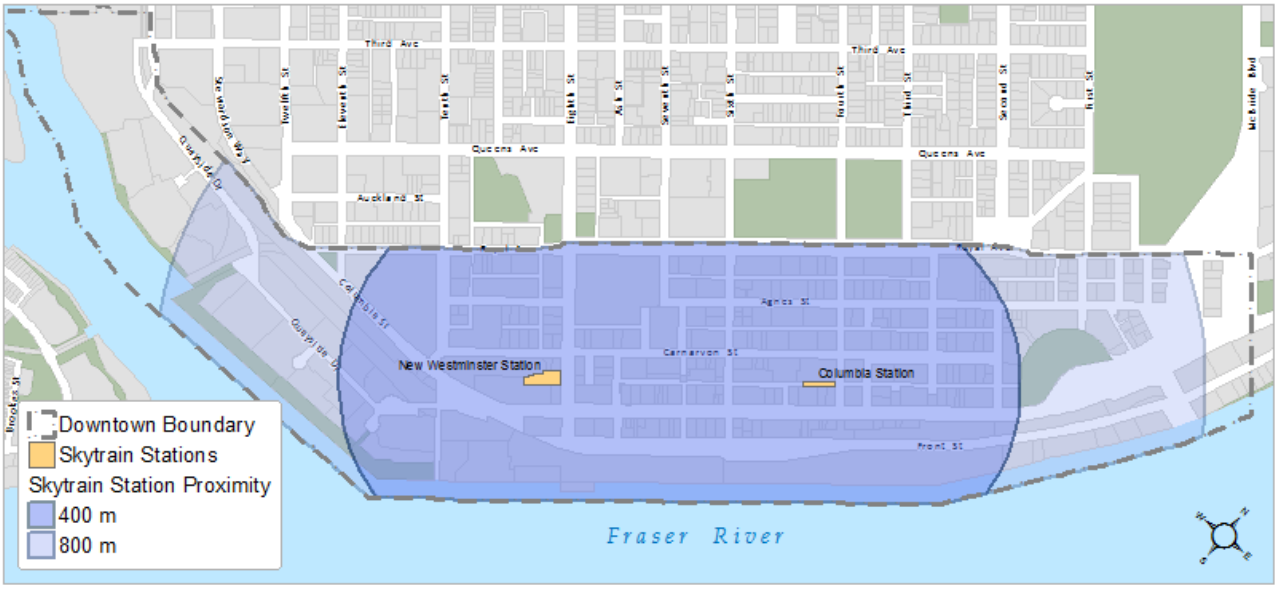


FIGURE 38 Distance from SkyTrain Station within Downtown New Westminster

There are many improvements and initiatives that may further reduce parking demand by improving access to transit. The City should pursue means by which to improve access to transit from various points in the downtown, for example through improved pedestrian connections or use of wayfinding signage. The City should also encourage the provision of transit passes by offering parking requirement reductions at the time of development approvals if transit passes are offered to residents or building occupants. The agreement to provide transit passes would need to be transferable beyond the original building owner so that the reduction in demand is maintained over the long term.

4. Parking & Mobility Management

The parking supply in Downtown New Westminster can be managed more effectively to make best use of available parking resources. The following are potential strategies:

- Parking ITS and wayfinding
- Employer shuttles

Parking ITS and Wayfinding

A number of parking issues and challenges in the Downtown can be addressed through improved parking intelligent transportation systems (ITS) and wayfinding. One of the most significant challenges noted by stakeholders and the public was that visitors to the Downtown have trouble locating parking. A wayfinding strategy would help guide visitors to parking facilities that are available within the area they wish to frequent. This would be done through signage that could change dynamically based on available supply. This may include cooperation from private owners of publically-accessible parking facilities. ITS technology allows for active signs that can be updated with the number of available spaces at each publically-accessible lot. This combats the perception that there is no parking available and minimizes the impacts of additional driving in search for parking by directing people towards available parking. At a minimum, this strategy would require consistent signage at key entry points to the downtown and at intermediate point along the way, informing motorists of publically-accessible parking locations and the number of available spaces at key

facilities (e.g. Front Street). Improved user information and marketing has been shown to allow for a 5 – 15% reduction in private parking requirements.

Other issues observed relate to the misuse of loading zones, illegal parking and lack of enforcement of time restrictions. ITS can work in combination with pay parking system to gain insight into locations requiring a higher degree of enforcement as well as high demand areas. Parking sensors can be used to track how spaces are used and parking meter data can be downloaded for analysis. These types of tools would allow the City to monitor parking use and to examine rates and time restrictions more regularly. Pricing and time limits should be reviewed in blocks where peak period utilization often seems to exceed 85%. This will promote turn-over and ensure that there is always parking available in high demand locations, as discussed in the next section of the report.

Parking smart stations and / or meters with ITS can enable more effective parking management. On-street meters can be replaced with parking pay stations with more advanced data management technology. T Pilot installation of parking sensors in key locations, such as loading zones or high occupancy blocks, can enable a better understanding parking patterns and use on an ongoing basis.

Improved parking ITS can enhance enforcement efforts by decreasing the time required to monitor the Downtown, allowing for broader coverage. Technology that more closely monitors activity in loading zones can assist with loading zone enforcement and reduce illegal parking, freeing the loading zones for their intended purpose.

The City is moving towards these ITS solutions. The paragraphs below describe the City's current plans to implement parking ITS in Downtown New Westminster, including the key attributes of the proposed system. Examples of other ITS technology that could be considered in the future are summarized at the end of this subsection.

Current Plans to Implement Parking ITS in Downtown New Westminster

At the time of preparation of this report, the City was preparing to release a request for proposals to replace the parking meters in the Downtown with a new system of pay stations and improved enforcement technology. The new systems will have the following features:

- Pay station / pay-by phone system that is license plate based. This allows for simpler, more effective enforcement and ease of use for cell phone payments.
- Ability to allow businesses to pay for parking on their client's behalf.
- Ability to vary rate structure by block and / or time of day.
- Licence-plate recognition based enforcement for both time restrictions and payment. This enables faster, more effective enforcement.
- Availability of statistics concerning utilization.
- Enabled for near field communication (NFC).
- Ability to register permits with the City's database and compare using enforcement software. This will allow the City to allow residents with permits or special users (e.g. car shares, registered visitor's permits) on blocks that have time or payment restrictions.



The Calgary Parking Authority (CPA) has a similar parking payment and enforcement system based on license plate registration and recognition. Drivers are required to have a permit for the location or pay for parking. To pay for parking at a meter, the driver must input his or her license plate number. Drivers also have the ability to register their vehicle license plates in a mobile phone application, which allows for payment without having to go to a meter. CPA's enforcement uses cameras mounted to the rear of a Parking Enforcement Officer's (PEO) vehicle to scan and record images of vehicles. License plates are automatically scanned. These images are tied to a specific set of GPS coordinates using the onboard GPS in the enforcement vehicles. Each licence plate is checked against the CPA database to determine if the vehicle is permitted to park. If an offender is found a ticket is issued and mailed to the registered owner of the vehicle. A 2009 survey by Ipsos Reid found that 75% of Calgary drivers who have used the system are "somewhat satisfied" or "very satisfied" with it. Drivers who use the cell phone application are even more satisfied with the system (97% very satisfied or somewhat satisfied).[9]

Examples of Other ITS Tools

The immediate plans to implement a new payment and enforcement system with enhanced ITS capabilities is an excellent first step for the City. In the longer term, there are other technologies that the City may want to consider enhance its wayfinding and monitoring abilities. Some of these technologies are identified below.

Occupancy sensors



Occupancy sensors can be used in a wide range of situations where it is useful to understand the number or location of parked cars. They can be applied to on-street or off-street contexts.

The City of San Francisco installs sensors in individual parking stalls. These sensors are paired with meters that adjust pricing based on demand. The sensors determine whether or not the space is vacant or occupied and transit notice of violations to the Parking Enforcement Officers. [10] This type of technology is most effective in cities with individual meters; however, the same technology could be used in Downtown New Westminster to aid enforcement of loading zones and the use of other spaces with high demand and short time limits.



A similar types of occupancy technology can

[9] Ipsos Reid, Calgary Parking Authority ParkPlus Evaluation (FINAL) Executive Summary, September 2009.
[10] sfpark.org [accessed May 28, 2013]

also be used to monitor the use of specific stalls in parking structures. In this case, a mobile phone app or signage can guide drivers to specific spaces based on their type of payment or pass, and the availability of spaces.

Gate sensors

Video-based sensors and other types of monitoring devices can be installed at gates and at the ramps between levels of a parkade structure. These devices allow monitoring of the number of spaces available in the parkade as a whole, or even on individual levels. This technology can be used to actively monitor the occupancy of the parkade in order to adjust fee structures by time of day or other criteria. They can also be linked with variable messaging signs at key areas to communicate the location of available parking to drivers.

Variable messaging signs

Variable messaging signs are signs that have one or more parts where the message can be changed to reflect changing conditions. In other cities, they have been effectively combined with gate sensors or occupancy sensors to provide drivers timely and effective information about the location and availability of parking. Two examples of the use of variable messaging signs for parking wayfinding are shown below. The first is from Worcester, United Kingdom[11] and the second is from San Jose, California[12].





Employer Shuttles

Employer shuttles are sometimes offered within business parks difficult to reach by transit or where parking supplies are limited. This might be an option for the Law Courts or Douglas College to pursue given their parking constraints and the pressure exerted on the publically-accessible parking supply within the City.

[11] http://www.worcesternews.co.uk/news/10368514.Drivers_to_benefit_as_parking_signs_go_up/
[12] REFERENCE FROM TALEN!

7.1.2 Supply Strategies

Parking policies of the past four decades have resulted in a plentiful supply of parking throughout much of Greater Vancouver. In general terms, over-abundant supplies of parking have restricted attempts to create sustainable communities within urban and suburban environments. Additionally, the supply of parking is an important factor underlying mode choice of a trip maker. Limiting the supply and convenience of parking would reduce vehicle travel and encourage use of alternative modes as long as they are available. In the interest of reducing SOV travel, therefore, there is an urgent need to reshape our approach to responding to the parking supply issue.

Parking policies are a fundamental component of a successful parking management strategy. As long as the parking supply exceeds demand for parking, it will be extremely difficult to manage transportation demand, influence travel behaviour, and achieve land use goals. Only when the supply is less than demand is there a real opportunity to use TDM to reduce vehicle trips. Figure 33 illustrates these broader impacts of high parking requirements, which reinforces the generally held perception that a generous supply of parking is required.

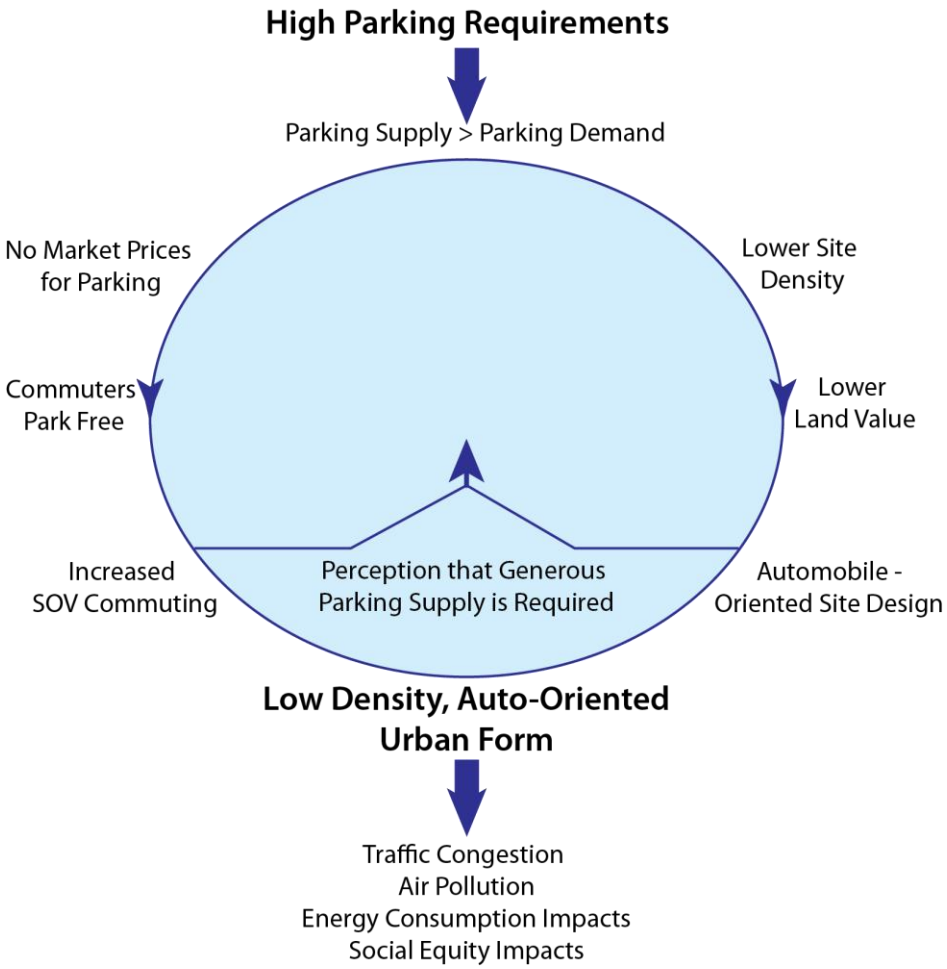


FIGURE 39 Impacts of High Parking Requirements

When the parking supply exceeds the demand, the market value of this particular good is reduced well below its actual cost, and may even be free. Because the market prices cannot be sustained, parking subsidies, or the difference between the actual price paid and the real cost for parking, encourage solo driving. The overall transportation impact is that commuter travel by automobile will increase, contributing to the ever growing problems of congestion and pollution. Meanwhile, high parking requirements also foster lower density development and land values. Excessive parking supply reduces usable space and contributes towards higher costs for building space. In the final analysis, urban form and density continue to be more automobile-oriented through parking policies that treat the parking supply as a utility with little or no value. Expectations are such that parking is a right, rather than a valued privilege or benefit. Parking must be viewed as a good or service with value that can significantly impact local and regional systems.

1. Shared Parking

Shared parking is when a number of land uses within a single parcel or development have access to a common parking facility. For example, a building that has office space, retail space and residential units may share the same underground parking facility. The advantage of shared parking is a reduction in supply in the range of 10 to 30% due to peak use periods that are offset. There are several examples of shared parking within the City, the most recent being the Anvil Centre, a new multi-use civic facility. It includes entertainment, meeting facilities, community space and office space. The public amenities in the building are

expected to generate higher parking demands on weekends and evenings. Parking is expected to be shared between uses.

The City can permit developers to provide lower levels of parking if uses are expected to share a single parking facility. This is only applicable to uses where individual spaces are not restricted to owners (i.e. retail, restaurant, entertainment, and other commercial uses). It may also apply to unbundled office and / or residential space in a mixed use building. Unbundling is discussed further below. Where uses are expected to share parking, an parking study with time profiles for each use should be completed to determine the maximum expected utilization from overlapping land uses. The City already permits developers to apply for a reduced number of parking spaces based on this principle. Shared use parking can be expected to reduce the number of parking spaces required by 10% to 30%.[13]

2. Reduced parking requirements

Municipalities exert control over parking supplies for new or redeveloped lands through zoning codes. "Minimum" parking requirements are commonly used to regulate the amount of supply that developers must provide. Municipalities may also permit reductions to these minimums, sometimes referred to as "flexible requirements," based on the location features of a site relative to other modes of travel, or in return for agreements to support local or on-site initiatives for transit, carpooling, vanpooling, cycling or transportation demand management initiatives.

Flexible requirements would be particularly effective in reassessing the demands on existing supply as part of development expansions. For example, the initial supply of parking may be underutilized as a result of excessive minimum zoning, improvements to alternative travel modes, or merely the particular land use. The broader strategy approach to flexible requirements would permit developers to use that portion of underutilized parking supply as part of their future requirement.

3. Maximum parking limits

Municipalities regulate the supply of parking through zoning codes. Parking "maximums" limit the amount of parking that developers build in order to ensure that an overly abundant supply of parking is not provided. These maximums can be used in coordination with minimum requirements, or they can be stand alone policies.

Parking maximums can be applied to both new and existing developments. New developments would adhere to the zoning maximum as set out in the bylaw unless the proponent demonstrates that more parking is required through a parking study. If more parking is required, the developer would request a variance to the bylaw. Similarly, a parking maximum would also apply to development expansions, but would be measured against the entire facility, including the existing development, in order to limit the effect of any oversupply of existing parking.

4. Unbundling

Unbundling parking primarily means detaching the cost of parking stalls from office or apartment building units, whether through the sale or rental of those units. Unbundled parking gives the building occupant the

[13] Victoria Transport Policy Institute, www.vtpi.org/tdm/tdm28.htm.

choice of selecting the number of parking stalls they wish to rent or buy, if any. Given that owning or renting a parking stall tends to be a sunk cost, there is no financial incentive under the "bundled" model of owning fewer vehicles. As such, by making obvious the costs associated with parking and giving occupants the choice, unbundling parking can reduce the overall number of vehicles owned per unit and reduce overall demand for parking and driving. Literature suggests that parking requirements can be reduced by 10 – 20% for buildings with unbundled parking.[14] A San Francisco-based study found that unbundled parking in combination with on-site car sharing vehicle access reduced average vehicle ownership rates significantly (from between 1.0 and 1.15 vehicles per household to around 0.76 vehicles per household).[15]

Developers in British Columbia are already permitted to unbundle parking. There is no mechanism for cities to require this type of parking arrangement; however, cities can encourage unbundling by providing a reduction in the total number of parking spaces required for developers who unbundle parking within their site.There are no examples of unbundled parking within the City of New Westminster.

5. Cash-in-Lieu

The City's current cash-in-lieu system gives developers (within 457.2 m (1,500 ft) of the Front Street Parkade) the option of voluntarily paying the City $35,000 per parking stall that they do not wish to provide as part of their development. In return, the City commits to building, at some future time, a parking facility in close proximity to that development. No developer has ever opted to pay cash-in-lieu for an entire building; generally the reduction is for a small percentage of the overall parking required for a site. However, this could be a means by which the City could begin to transition to a municipally-run distributed parking model. The City has not received any Cash-in-Lieu contributions since the governing bylaw was updated in 2008.

6. City-owned Publically-accessible Parking Management

The City's on- and off- street parking supplies should be managed in a unified, fiscally responsible, and sustainable way. On-street and off-street publically-accessible parking are complementary supplies and should be managed as one system with a number of assets. Off-street publically-accessible parking facilities, such as underground parking and parking structures require on-going investment in maintenance, operations, and long-term rehabilitation. Off-street publically-accessibly parking facilities are typically only viable when primarily used for short-term parking. Understanding this, the City must manage and fund off-street parking in a way that acknowledges life-cycle costs. Generally, a business model that focuses on the City providing long-term parking is not conducive to the viability of the parking system.

7.1.3 Pricing Strategies

Pricing strategies facilitate demand management and help maintain a desired 85% peak occupancy level in high demand locations. In combination with time restrictions, pricing communicates the intended purpose of a parking spot to users. Appropriate pricing strategies also encourage turnover of parking spaces such that most visitors stay for 2 hours or less, making the space available for others.

[14] Victoria Transport Policy Institute, www.vtpi.org/tdm/tdm28.htm.
[15] FHWA, *Contemporary Approaches to Parking Pricing* (2012)

Monthly parking fees do not typically cover the costs of operations and maintenance. This results in City operating funds generated by the tax base subsidizing the cost of providing long-term parking. Generally, long-term parking should be priced in a way that encourages long-term parkers to use private facilities and reserves publically-accessible parkade space for short-term parking. The City has an agreement to provide long-term parking to employees of some buildings in the Historic Precinct and the transition for these spaces needs to be carefully managed to reflect greater control of short-term parking.

Demand also differs by time of day, while parking rates are constant until 6:00 p.m. when parking meters, time limits, and enforcement end. The City should adjust parking rates by location and time of day (e.g. beyond 6 p.m.) and more closely monitor demand patterns. Potential City-owned publically-accessible parking pricing strategies should balance pricing based on convenience and ensure rates are reviewed and updated regularly. The objective is to price parking at the lowest possible price such that there is always one space available per block.

1. Highest Value Pricing for On-Street Parking

Rates should be established such that short-term parking rates are more attractive in off-street facilities as compared to more conveniently located on-street spaces. In New Westminster, on-street parking is currently $1.00 per hour at most locations, with $1.40 per hour rates at locations that are limited to 15 minute stays. Off-street parking is priced at $1.25 per hour or $7 per day. The current pricing scheme for City-owned publically-accessible parking in New Westminster most values off-street parking spaces in the parkade which have a higher rate than spaces on-street. A realignment of pricing and time restriction would help address anomalies. For example Columbia between Sixth Street and McKenzie Street has the same cost as lower demand blocks, such as Columbia Street between Blackwood Street and Elliot Street.

2. Tiered Rate Structure based on Attractiveness

Parking stalls have differing values to drivers depending on the convenience the location to their destination. Some blocks have higher demand because of the desire to park close to near-by land uses. Within a given block or area, prices should be based on the principle of maintaining around 15% of spaces free. A tiered rate structure for pricing can be considered depending on location of parking stalls. The location of the Front Street parkade does not make it very competitive with on-street spaces. However, once more centrally-located parking facilities are available they may compete in terms of attractive locations. Should that become the case on and off-street parking will compete with each other when prices differ in a given area. The same principle applies to on-street spaces for blocks with varying demand. Some blocks may have highly occupied parking all day, while other blocks are largely unoccupied. One strategy to counter this is to develop a tiered rate structure that reflects relative attractiveness, for example:

- **Highest demand areas - $4/hr**
- **Medium demand areas - $2.5/hr**
- **Low demand areas - $1/hr**

The principle of this pricing mechanism is to maintain around 85% occupancy in each block or facility. Pricing can be varied by block or lot to distribute demand appropriately.

3. Extend Hours of Enforcement

The need to effectively manage the demand for parking does not end at the close of the business day. On-street parking serves retail and recreational uses that attract customers in the evenings. Within some

precincts of Downtown New Westminster, parking utilization peaks midday, but there is a sharp increase in utilization between 5:00 p.m. and 6:00 p.m. extending the hours of enforcement to 8:00 p.m. can help ensure that pn-street parking continues to support economic vibrancy and is maintained for visitors to the Downtown into the early evening.

4. Use Increased Revenues to Support Sustainable Parking Strategies

The City's on- and off-street parking supply require ongoing expenditures for operations, maintenance and long-term rehabilitation. New facilities require additional investment in land acquisition and construction. The Parking revenues should be used to support the long-term health and viability of the parking supply. This type of connection between revenues and expenditures also eases the transition to increased fees, as the public are more likely to support fee increases if the revenue is tied to reinvestment.

7.1.4 Support Parking Strategies

Support strategies are essential for the success of any parking management strategy and TDM plan. The support parking management strategies discussed within this section complement both the parking supply and parking pricing management strategies, and include *preferential parking, timed curb zones and parking permit districts.* As stand alone initiatives, they are not anticipated to reduce vehicle travel. However, as complementary policies, they are necessary components to strengthen the effectiveness of other strategies.

1. Preferential Parking

Preferential parking emphasizes that some vehicles have a higher importance than others. In this hierarchy parking spaces for disabled patrons, car share users, car pool users and bicycles all take precedence over space for single occupant vehicles. This primarily serves to encourage ridesharing and to support the features of other parking management and TDM strategies. A portion of the parking supply would be allocated for vehicles involved in carpooling and vanpooling. The allocated spaces are reserved specifically for participants and are more conveniently located than those set aside for SOV. The goal of this strategy is to provide an incentive for single occupant drivers to switch to HOV modes of travel and is most effectively used with flexible parking rates and site specific trip reduction strategies.

Preferential parking strategies could be uses for both on and off-street facilities, although they would be more commonly used for off-street parking. They would be most appropriate for areas of lower density, with minimal transit options available to commuters. Initiatives supporting HOV travel in high transit areas could attract more automobile activity as people may be drawn from transit. In areas where the demand for parking meets or exceeds the supply, there will be more incentive for commuters to look for alternative travel options. In British Columbia, the B.C. building code requires 1 space for every 100 parking spaces to be reserved for disabled parking, independent of land use. The City's requirements for disabled parking are outlined in the Zoning bylaw; these requirements surpass the provincial requirements and vary by building type. The City's Zoning Bylaw also encourages the provision of preferential parking for car share users. The City currently provides on-street and off-street City-owned publically-accessible preferential parking through the use of signage.

2. Timed Curb Zones (related to on-street)

The goal of timed-curb zones would be to regulate the use of on-street parking with time restrictions, typically through signage identifying the duration of permitted parking. Timed curbed zones are important in residential communities adjacent to commercial zones in order to control infiltration of non-residential

parking. This strategy may be viewed as a support to other parking management and TDM strategies to control spillover parking.

Time curb zones are most often used in commercial zones to encourage a relatively high degree of parking turnover of shoppers, while discouraging the practice of long-term commuter parking. They are also used in residential areas where long-term commuter parking is a problem. In this case, residents are exempt from the parking time limits through the use of parking permits. Resident-parking only zones can similarly be created to reduce the degree of "spillover" near a downtown or activity centre. Timed curb zones are already in effect within the City, however a review is required given changes in land use and high utilization areas identified.

3. Parking Permit Districts

Parking Permit Districts, also referred to as Parking Benefits Districts[16], may be established as another method of controlling spillover parking that may result from the implementation of other parking and TDM strategies. Parking Permit Districts would be similar to the residential parking permit system currently operated within many communities throughout Greater Vancouver. However, permits to park within a community (i.e. daily, weekly, or monthly) would be made available to employees of businesses at a cost comparable to nearby off-street facilities and could provide a financial benefit to the community which may be re-invested in neighbourhood programs. Essentially, parking permit districts establish a value on curb parking and return that value to the community. Residents of the community would establish the number and location of eligible parking spaces based on desirability.

Similar to timed curb zones, parking permit districts would be established in residential areas where long-term commuter parking is a problem. In this case, residents would be exempt from the parking time limits or restrictions through the use of residential parking permits. The number of parking permits issued and the location of use would be established by the neighbourhood as a method of controlling degrees of acceptability.

[16] Shoup, Donald. An Opportunity to Reduce Minimum Parking Requirements. *APA Journal*: Winter, 1995

7.2 Parking Governance Models

The Downtown Parking Strategy is focused on the current and projected parking needs of the New Westminster's core area in support of the City's economic aspirations as well other transportation and land use goals. In very broad terms, the recommended directions of the Parking Strategy imply the need to effectively integrate the finance, planning, management, operations and decision making for the public parking supply as well as policies and regulations affecting the provision of private off-street parking serving individual developments.

	PUBLICLY OWNED		PRIVATELY OWNED	
	On-street	Off-street	Off-Street Public	Off-street Private
Planning & Policies	✓	✓	✓	✓
Bylaws & Regulations	✓	✓	✓	✓
Provision	✓	✓	x	x
Pricing	✓	✓	x	x
Operations/ Maintenance	✓	✓	x	x
Enforcement	✓	✓	x	x
Financing	✓	✓	x	x
Public-Private Partnerships	✓	✓	x	x

In 1988, the City established a Parking Commission that is responsible for all off-street publicly owned parking in Downtown New Westminster. The Parking Commission is appointed by Council and consists of four citizens, one person recommended by the New Westminster Chamber of Commerce, one person recommended by the Downtown New Westminster Association, and one person recommended by Douglas College. A City staff member is responsible for the Commission's day-to-day operations. Council reviews and approves the annual operating budget for the parking facilities as recommended by the Commission which also makes recommendations to Council regarding parking rates. The Commission can operate parking facilities that are owned by a third party if the request is approved by Council. Currently, the Commission only operates City-owned parking facilities.

The City's Engineering Department manages all on-street parking across New Westminster and is also responsible for enforcement. The Parking Office is housed within Engineering Operations and issues resident permits, answers inquiries, and manages on-street parking enforcement. Engineering is also responsible for the operation and maintenance of the on-street parking meters, including collecting revenues from the meters. All costs and revenues for the planning, operations and maintenance remain separated for on-street and off-street parking.

Policies and bylaws regulating the provision of off-street private parking are the responsibility of planning as part of the City's zoning bylaw.

Although the intent of this study is not to review the existing governance framework for decision making for publicly owned parking facilities in Downtown New Westminster, the City wishes to understand more about the other models available for a future discussion beyond the Parking Commission. In general, there is a range of other parking governance models used in Canada as briefly highlighted below.

- ***Parking Advisory Committee*** generally consists of community stakeholder representatives that report to Council. Depending on the community, the Advisory Committee can include representatives from groups such as the Chamber of Commerce, Downtown Business Association as well as other stakeholders such as resident associations and major employers or uses as appropriate. The Advisory Committee will provide input and feedback on all parking matters of the downtown from strategic plans through to operational matters. The Committee would not have decision-making authority, but a staff person would be available to work with the Parking Advisory Committee and report dialogue. The Committee can only advise staff and Council on parking matters and preferences based on input and feedback from the constituents that they represent.

  The principle advantages of an Advisory Committee governance model is that it brings together stakeholders of the downtown area and allows them to discuss matters of common interest as well as differences. The ad-hoc nature of an Advisory group can sometimes lack consensus on parking matters to represent the views of constituent stakeholders.

- ***Downtown Parking Committee*** is similar to an Advisory Committee in that it is largely made up of representatives from various groups of the downtown businesses and community at large. The principle and important difference from an Advisory Committee is that this is a Committee of Council. In this regard, a Committee of Council has a specific mandate to provide guidance and recommendations on key matters related to parking, but does not have decision-making authority. One or more Councillors are assigned to lead the Committee which can involve key public stakeholders that are representatives from the community.

  Membership on the City of Burlington's Downtown Parking Committee includes two councillors and representatives of the downtown area in order to:
  - Provide comments and advice to a Committee responsible for the development and delivery of downtown parking services
  - Operate as a multi-stakeholder group on municipal parking service items requested by Council or brought to it by staff
  - Seek input from stakeholders to review City policies, by-laws and reports
  - Convey advice to Council and staff on matters where there is consensus among stakeholders and where there are differences

  The principle advantage of the Parking Committee is that finance, planning, operational, maintenance and enforcement matters around parking can be worked through with the Committee and recommendations can be brought forward to Council for further discussion and decision-making.

- ***Parking Corporations*** have been established to operate off-street parking in downtown areas and can be made up of City and other interests that may include the Downtown BIA and private land

owners. Day-to-day management can be provided by an independent group reporting to a Board with representation from Council and other interests.

EasyPark is a non-profit public corporation created as a public-private partnership in planning and operating off-street for the City of Vancouver and the Downtown Vancouver Association. EasyPark presently manages almost 11,000 off-street parking spaces in 41 lots or about 15% of the overall total of about 60,500 commercial parking spaces on the Vancouver downtown peninsula, Chinatown and the West End. The share structure gives the City of Vancouver sole title to the assets of the Corporation. All net revenues go to the respective owners of the parking facilities (which is the City of Vancouver in the majority of cases) for reinvestment in the development of public parking facilities. Easypark facilities are intended to act as an integral component of Vancouver's transportation infrastructure and their use should be complementary to the vitality of the downtown business community. EasyPark is governed by a board of two appointed and twelve elected directors.

A parking corporation allows a City to establish partnerships with third parties to operate public parking facilities. The principle challenge however is that the mandate of a parking corporation is separated other City departments and functions which can lead to inconsistencies.

- ***Parking Authority*** is an independent entity which generally operates off-street parking systems as an ancillary type of business. Operating on a self-sustaining basis, the Parking Authority typically has a mandate for self-financing the capital, operating, enforcement and maintenance costs.

  The Toronto Parking Authority was initially established in 1952 and later merged operations of York, Etobicoke, Scarborough and North York. It operates 160 municipal parking lots containing about 20,000 spaces. Twenty of these lots accounting for approximately 10,000 spaces are garages. The remaining 10,000 spaces are contained in approximately 140 surface lots.

  The principle advantage of a Parking Authority is that the City's parking facilities are operated with a financial mandate. The decision to build new off-street parking may be planned in areas of greatest need or parking supply shortfall, but the revenue forecasts from pay parking must generate a positive return to support other administrative and operating costs of the Authority. In some cases such as the Toronto Parking Authority, financial pro forma for new off-street parkades relied on a projected earnings of 8% to 10% after all costs and including all revenues such as from hourly, daily and monthly parking as well as cash-in-lieu. This framework also ensures that all city-owned parking must largely depend on shortfalls in short-term or visitor parking for a given area rather than long-term parking to be financially self-sufficient.

  The Calgary Parking Authority fulfills the City's parking mandates and implements the municipality's parking policies by managing on-and off-street parking facilities as well as enforcement. Similar to the Toronto Parking Authority, all parking operations are delivered without using municipal tax revenues. In support of the City's overall transportation strategy, the Calgary Parking Authority is committed to provide value and enhanced mobility for citizens of Calgary through the strategic provision of quality municipal parking facilities and services. The Calgary Parking Authority is governed by a nine-member Board of Directors. Each year, the Board is selected by the City of

Calgary. The current board includes five public members, the City of Calgary's Chief Financial Officer, the General Manager of Transportation and two Alderman.
Similar to a Corporation, the Parking Authority can be challenged with other municipal priorities beyond parking.

7.3 Location-based Strategies for City-owned Publically-accessible Parking

Each Precinct has different behaviour patterns and is expected to develop differently over the next 20 years. This means that special policies must be developed for each Precinct to effectively manage on-street and City-owned publically-accessible off-street parking. This section presents potential strategies for the following locations:

- Albert Crescent Precinct
- Tower Precinct
- Waterfront Precinct (excluding Quayside)
- Quayside
- Historic Precinct
- Front Street Parkade

Some precincts are expected to have a surplus of spaces available, while others are expected to have demand that exceeds supply. The table below summarizes the surplus or shortfall in each precinct based on a desired 85% occupancy rate for short-term parking. Details about the calculation of each of these numbers and the proposed strategies to address shortfalls are included in the following sections. The calculations below are based on the assumptions outlined in Section 6. They assume that the percentage of travellers that choose single occupant vehicles is constant, and that there is no increase in non-auto modes. The Downtown Community Plan and Transportation Plan include targets for a decrease in the mode share for single occupancy vehicles. If these targets are achieved, any shortfalls would be expected to be much lower than shown. For this reason, the estimates below are conservative.

TABLE 13 Expected Surpluses and Shortfalls by Precinct

Precinct	City-owned Publically-Accessible Supply			Factored Peak Demand	Surplus / Shortfall
	On-Street	*Off-Street*	*Total*		
Albert Crescent Precinct	633	0	633	498	135
Tower Precinct	380	0	380	521	(141)
Waterfront Precinct	66	0	66	46	20
Quayside	177	0	177	205	(24)
Historic Precinct	203	0	203	196	7
Front Street Parkade – *RETAIN EAST*	0	450	450	450	0
Front Street Parkade – *RETAIN WEST*		300	300	450	(150)

Albert Crescent Precinct

Albert Crescent has the largest supply of on-street parking spaces in the Downtown, with 630 spaces. The majority of these spaces have a two hour time restriction, except with permit. Residents may obtain a permit for themselves or visitors to allow longer periods of on-street parking. Overall, on-street parking demand currently peaks at less than 60% of the available supply, although some individual blocks are more constrained. Only around 10% of spaces in this precinct are metered. Given the available supply, metered blocks have much lower utilization than unmetered blocks. Parking demand patterns suggest some long-term parking occurs in these blocks and some spaces may be used for park-and ride purposes. Areas close to the Historic District may also be used by visitors to avoid metered spaces, causing high peak occupancy on some residential blocks.

The Columbia Station Parkade is located within this precinct. Spot data collection in this parkade indicates that is around 50% occupied on weekdays. This parkade has 180 stalls and monthly permits are available. Short-term parking is not permitted due to the shared use with Police vehicles.

A small amount of parking demand growth is expected in this precinct. By 2031, peak demand is expected to increase to around 64%. The situation is expected to continue of a surplus parking supply of more than 100 stalls in this area. Expected future demand patterns are illustrated in FIGURE 404 and FIGURE 415.

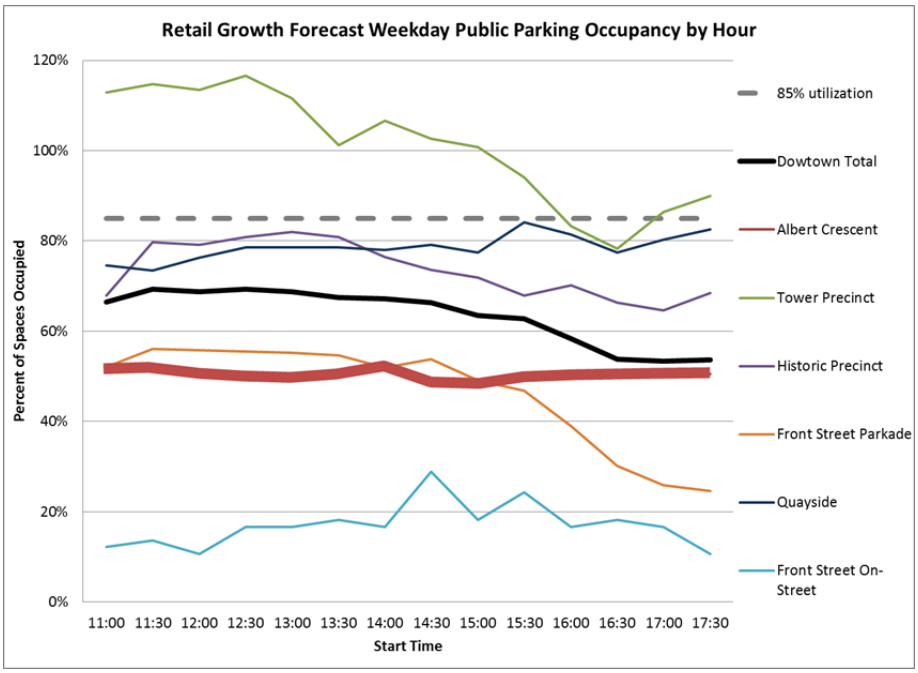


FIGURE 40 Forecast Weekday Demand Pattern – Albert Crescent Precinct

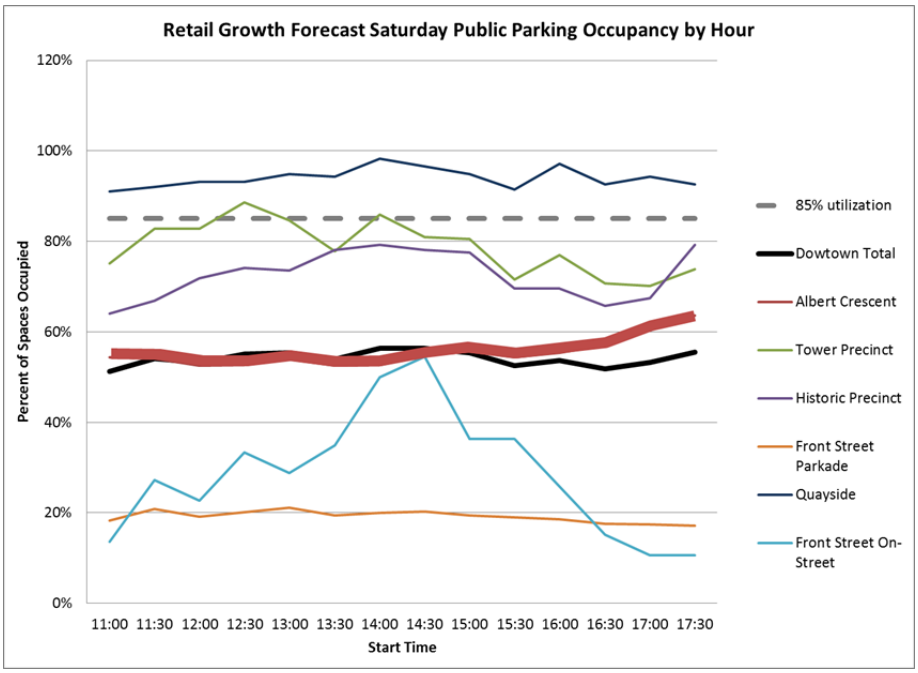


FIGURE 41 Forecast Saturday Demand Pattern – Albert Crescent Precinct

Potential strategies for the Albert Crescent Precinct focus on management of high demand blocks and provision of effective on-street parking for the growing retail sector on 6th Street.

- **Implement meter parking along 6th Street, western portion of Carnarvon Street, Clarkson Street, and around Columbia SkyTrain Station** to manage on-street parking for retail and other commercial uses.
- **Monitor meter utilization and manage pricing.** Pricing should be designed to maintain peak period parking utilization around the 85% threshold.
- **Strengthen restrictions for non-residents.** This precinct is expected to continue to be largely residential, with an increase in housing density expected. The availability of on-street parking for visitors and short-term parking for residents should be protected through stronger regulations. Residential blocks with free, unrestricted parking should be converted to time limited parking, except with permit. Stronger restrictions may be considered in high demand residential areas. These should be implemented in consultation with residents.
- **Support demand management measures and investment in alternative transportation infrastructure**. A continued shift to the use of alternative modes for trips to New Westminster's Downtown is expected to absorb a portion of parking demand.

Tower Precinct

The Tower Precinct has 380 on-street parking stalls, 70% of which are currently metered. Current occupancy in this precinct is highest before 13:00 on weekdays at around 68%. The precinct is home to residential, office, and retail space, as well as some special institutional uses. Both Douglas College and the Law Courts are located in this precinct. Tower Precinct has the highest availability of privately-owned parking – both publically-accessible and private. There are over 1,200 publically-accessible parking spaces located within five lots. The lots owned by Douglas College and the Law Courts are well utilized; however, some other publically-accessible lots have significant supply available. In the Tower Precinct, the on-street system should

be managed to encourage longer-term parkers, including students and employees, to use the available off-street lots.

The Tower Precinct is expected to see the highest growth in development, and therefore the highest growth in demand for publically-accessible parking. Without the implementation of parking strategies and demand management, on-street parking demand is expected to grow by around 70%. At this level of growth, demand would be expected to exceed capacity for most of the weekday and approach capacity for a large portion of weekend days. Anticipated on-street parking demand patterns for the Tower Precinct are shown in FIGURE 42 and FIGURE 43. The maximum demand, without downward pressure from other measures, is expected to be 443 spaces. This exceeds the maximum existing City-owned publically-accessible supply of 380 on-street spaces. Assuming a desired occupancy rate of 85%, this would result in an unmet demand of 120 spaces. In other words, there is expected to be demand for 120 vehicles to park off-street in City-owned publically-accessible spaces. In order to provide for this 120 vehicle demand, 141 new City-owned publically-accessible spaces would be required. Providing 141 spaces for 120 vehicles maintains an 85% occupancy rate in the new City-owned publically-accessible off-street facilities.

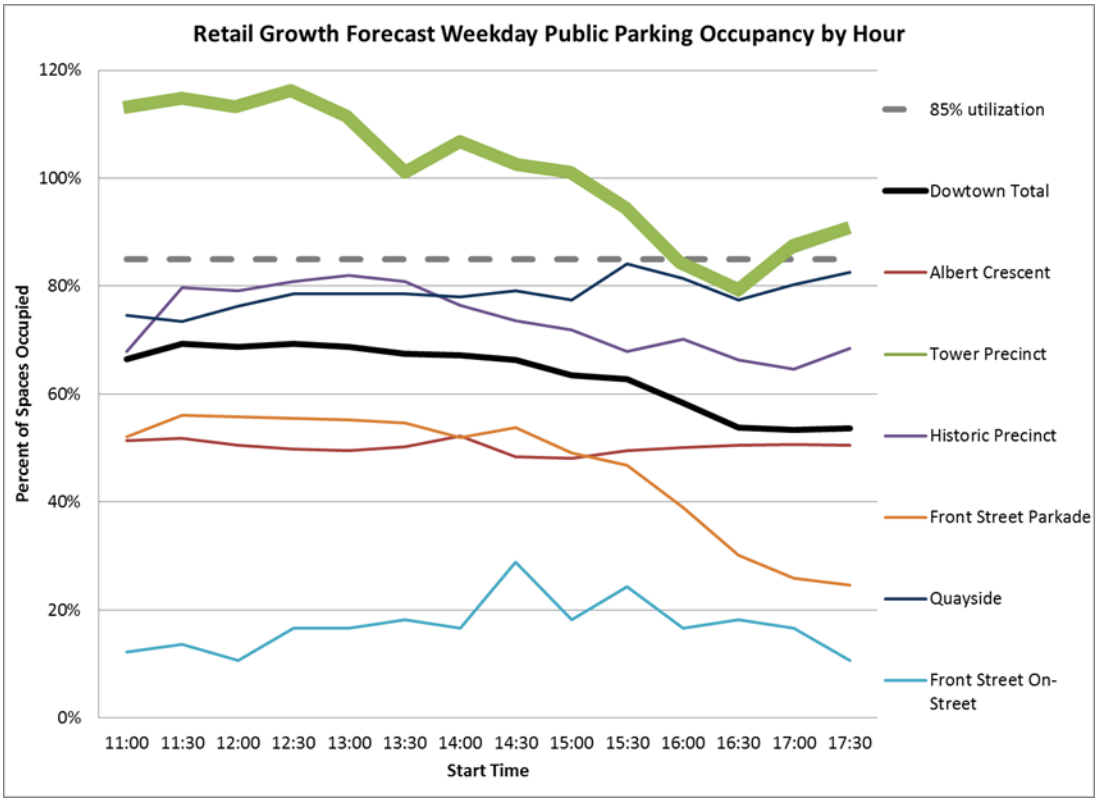


FIGURE 42 Forecast Weekday Demand Pattern – Tower Precinct

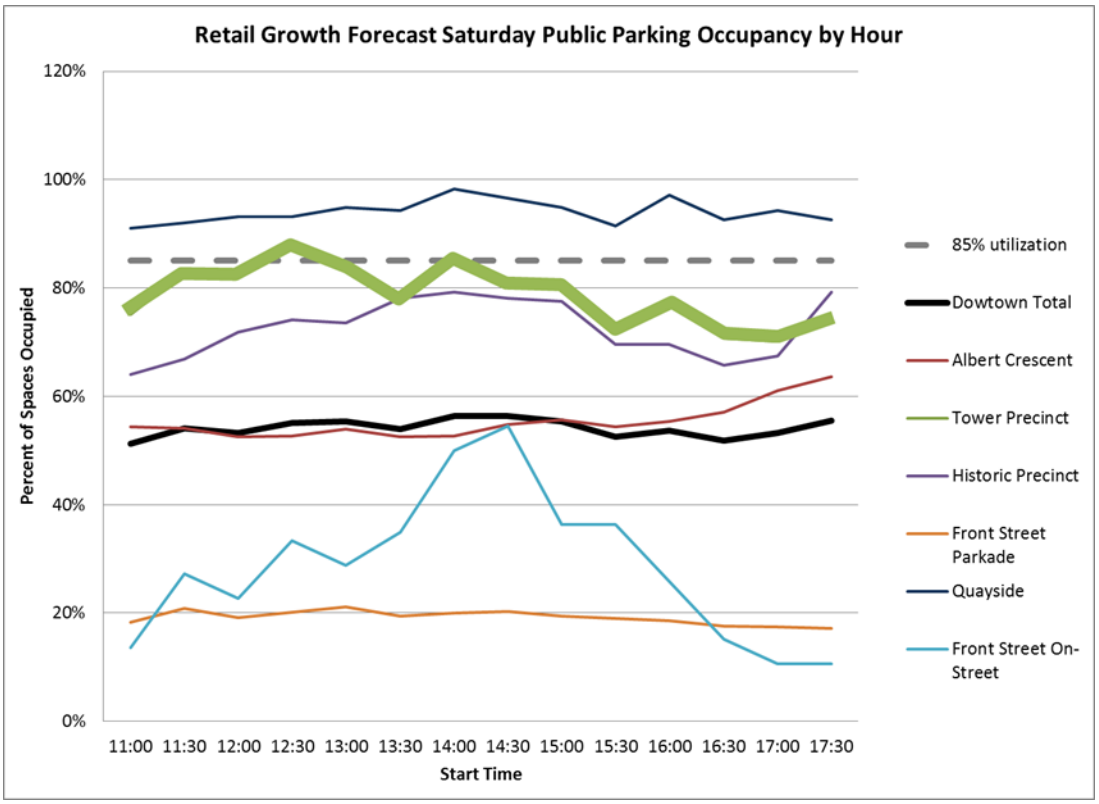


FIGURE 43 Forecast Saturday Demand Pattern – Tower Precinct

A number of strategies will be required to effectively manage the constrained on-street parking supply in this area. Some of these strategies will also address the existing opportunities and challenges and should be implemented in the near-term. Implementation will be discussed further in the final section of the report.

- **Implement pay parking throughout the Tower Precinct.** Currently almost one third of spaces in the Tower Precinct are unmetered (around 115 spaces); some of which have very high occupancies during peak periods.
- **Manage time limits and pricing** to distribute parking utilization throughout the precinct, maintain high turn-over, and maintain peak period occupancy of 85% or less. This will include gradual price increases over time for high demand blocks.
- **Support demand management measures and investment in alternative transportation infrastructure** to decrease the use of single occupant vehicles. Continued shift to alternative modes for trips to New Westminster's Downtown is expected to absorb a portion of parking demand.
- **Encourage greater use of existing private lots**. This precinct has an oversupply of privately-owned parking and a significant supply of existing off-street publically-accessible parking.
- **Ensure institutional land uses provide their own long-term private parking.** The off-street lots at Douglas College and the Law Courts are well utilized. Anecdotal information suggests that the Law Courts are currently under-supplied. If these institutions expand, they should continue to provide adequate off-street parking for employees, students, and visitors as stipulated by bylaw requirements. Like developers, public institutions should be permitted to reduce parking requirements if payment in lieu is provided to support investment in alternative modes of transportation.

- **Implement wayfinding and parking ITS** to ensure that drivers are able to easily locate off-street publically-accessible lots.
- **Consider providing shared off-street parking in the long-term**, focusing on short-term parking to support the retail economy. Over the long term, the measures above are expected to decrease demand for on-street parking and the shortfall is not expected to reach 120 spaces. It is expected that, if a shortfall does develop, the excess supply of privately-owned publically-accessible parking will be able to accommodate any small amounts of excess demand. Using ITS and regular communication with private parking providers, the demand patterns in the Tower Precinct should be monitored as development occurs. If peak parking occupancies across the Precinct begin to exceed 80%, the City should work with developers in the Tower Precinct to provide small amounts off-street publically-accessible short-term parking in one or two locations. Actual space requirements will need to be determined based on observed growth in demand patterns.

Waterfront (Excluding Quayside)

The Waterfront Precinct (excluding Quayside) has 61 existing on-street spaces, all of which are metered. These existing spaces are not well utilized. There are a number of privately-owned off-street lots in this area that are publically-accessible and more closely tied to the River Market, Hotel, and Pier Park. Growth in the Waterfront Precinct is expected to be entirely residential and office space and as such, demand for on-street parking is not expected to increase in the long term. Forecast parking demand patterns are shown in FIGURE 44 and FIGURE 45.

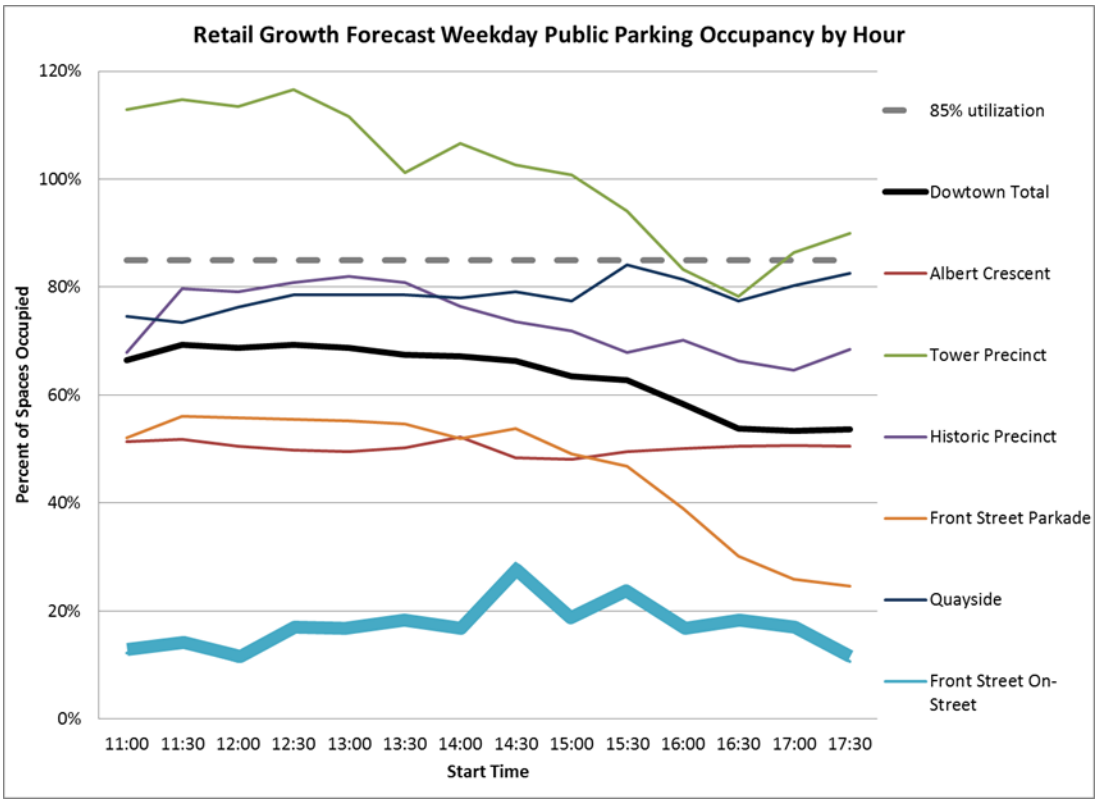


FIGURE 44 Forecast Weekday Demand Pattern – Waterfront (excluding Quayside)

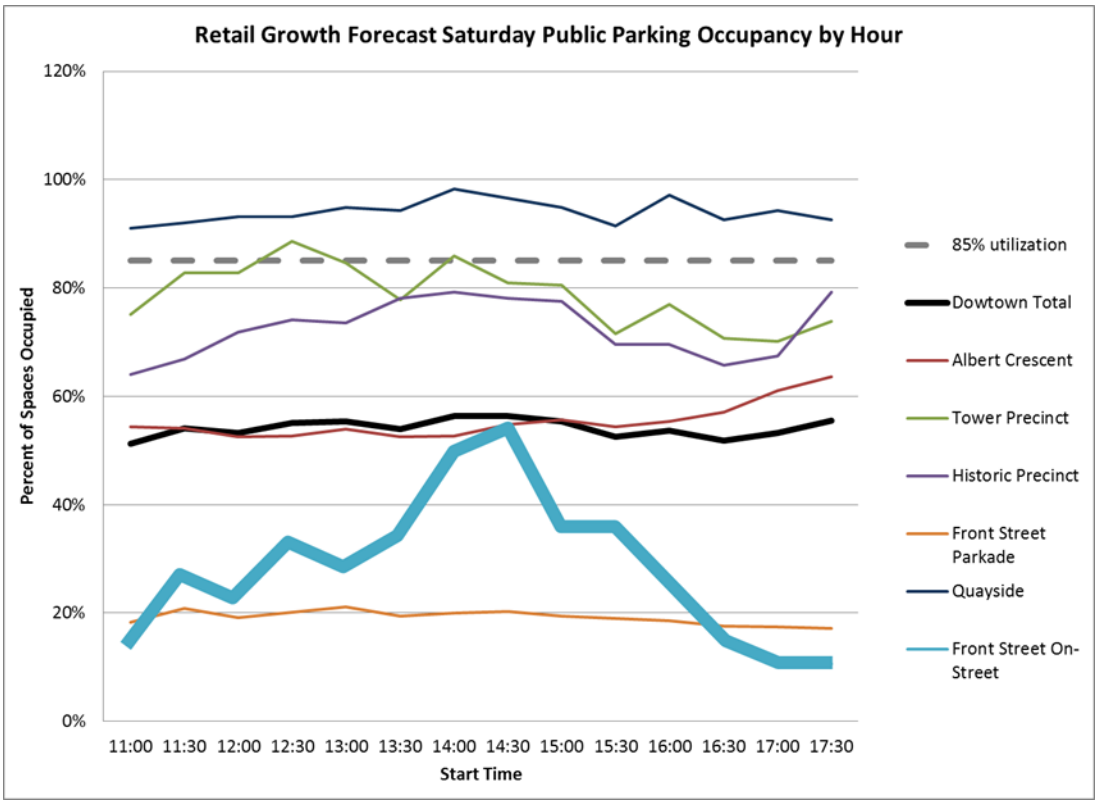


FIGURE 45 Forecast Saturday Demand Pattern – Waterfront (excluding Quayside)

Strategies in the Waterfront Precinct must effectively manage the small supply of on-street parking to ensure availability for visitors to the waterfront amenities and retail services.

- **Ensure that development meets short- and long- term parking demands.** With the small supply on-street parking in this precinct, it will be especially important to ensure that proposed developments meet bylaw requirements and provide sufficient off-street parking for residents, employees, and visitors.
- **Actively manage on-street parking supply**. On-street parking supply on Front Street is not expected to exceed peak parking occupancy of 55 percent; however, increased use of the Pier Park and changes to waterfront land use could increase demand. Price levels and time limits at these meters should be adjusted over time to ensure that peak parking does not exceed 85% and that on-street pay parking spaces are available for public amenity users and shoppers. Additional, longer-term demand should be accommodated in privately-owned off-street lots.
- **Work with developers to understand the changing supply of Privately-owned publically-accessible off-street parking as development occurs.** Some short- and long- term parking demand is currently being accommodated in off-street lots that may be developed as other uses in the future. The City should work with developers to understand existing demand in these lots and collaborate on future accommodation, if necessary.
- **Support demand management measures and investment in alternative transportation infrastructure**. Continued shift to alternative modes for trips to New Westminster's Downtown is expected to absorb a portion of parking demand.

Quayside

Quayside has the most constrained parking in the Downtown area. There are 177 on-street spaces, most of which are unmetered and without time or residency restrictions. Parking is close to 100% occupied during peak periods on Saturday. Weekday occupancy nears the 85% during peak periods. The on-street supply in this area serves residents and the waterfront park area, although observations suggest that it is also serving the River Market and may be acting as free long-term parking for other uses. The availability of parking for visitors is limited. Very little growth is planned for Quayside and parking demand is not expected to increase. Forecast parking demand patterns are shown in FIGURE 46 and FIGURE 47.

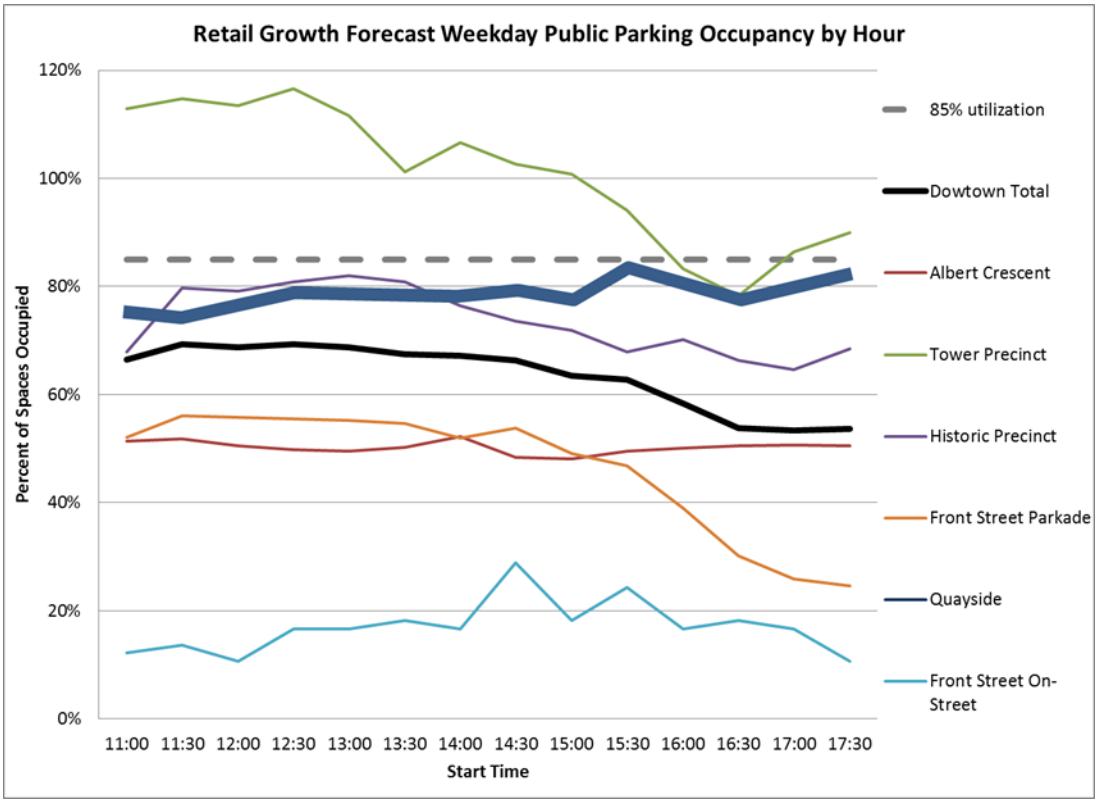


FIGURE 46 Forecast Weekend Demand Pattern – Quayside

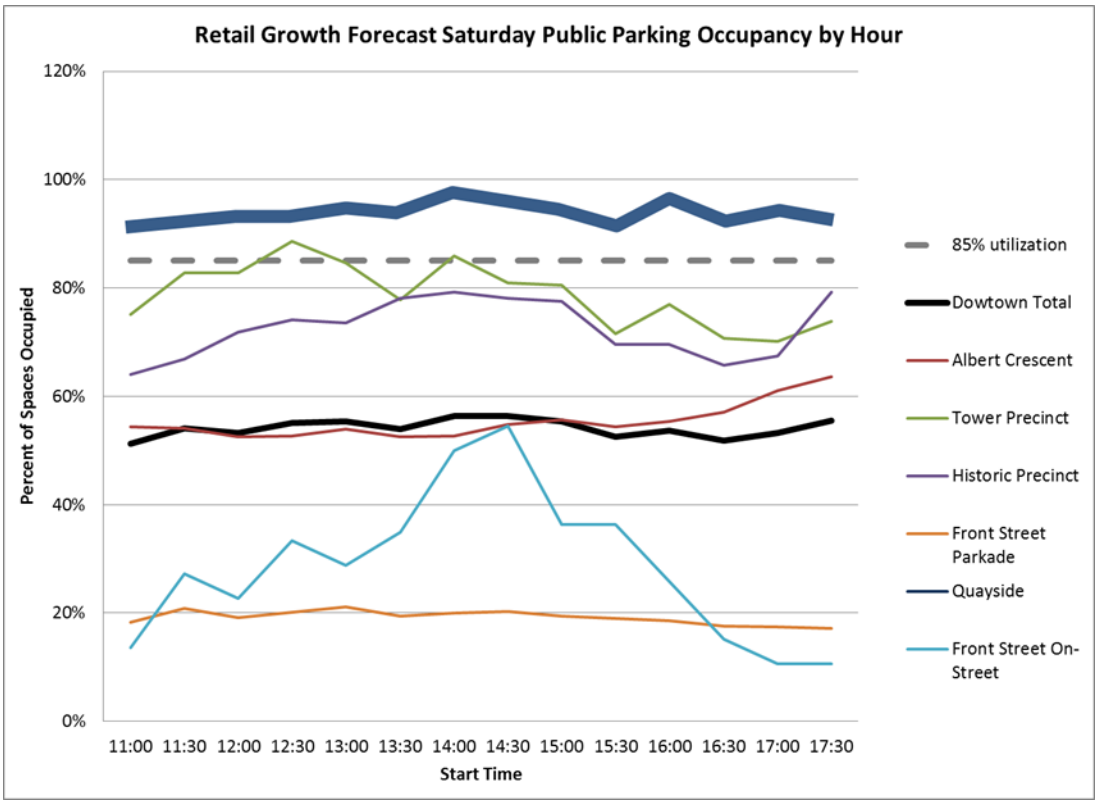


FIGURE 47 Forecast Saturday Demand Pattern – Quayside

Quayside is a residential neighbourhood and requires special consideration because it has a distinctly different character and operation when compared to the rest of the Downtown. Although the parking shortfall in Quayside is approximately 24 stalls, providing additional parking is not recommended. Instead, demand management, pricing, and supplemental strategies are recommended to address the shortfall Potential strategies for this area must manage existing challenges and prevent ineffective use of the limited on-street parking supply.

- **In consultation with residents, introduce time restrictions** to preserve parking spaces for visitors. Two hour time limits for weekday, weekend, and evening hours will prevent the use of on-street stalls as long-term parking, including informal park-and-ride use. Any longer term spaces should be limited, restricted to residents and parking should not exceed 24 hours. Time limits should be implemented in consultation with local residents.
- **In the long-term and in consultation with residents, consider pay parking near the Waterfront Area**. On-street parking closest to the waterfront is most likely being used for long-term parking by employees and visitors to other uses. Parking controls in this area should acknowledge the high value of the parking spots for access to the Pier Park, River Market, and other amenities. Following successful implementation of time restrictions in this area, consider the need for pay parking for on-street parking closest to the park to encourage effective short-term utilization of these spaces. This measure could be considered for the southeast portion of Quayside Drive and for the cul-de-sacs with direct access to the waterfront.

Historic Precinct

The Historic Precinct is Downtown's busiest retail area. The precinct has more than 200 on-street parking stalls, 90% of which are pay parking. Current peak occupancy for on-street parking is about 70% of supply;

however, there is high parking occupancy on some blocks, which is primarily driven by local retail use. The Front Street Parkade is included in this precinct with an additional 759 spaces, but this facility is discussed in more detail in a separate section.

The new Multi-use Civic Facility, the Anvil Centre, is opening in the Historic Precinct in 2014. The facility includes a 350 seat theatre, conference and meeting facilities, multi-purpose rooms, art studios, museum and art gallery space, a tourist information centre, and an eight story office building. The public amenities in the building are expected to generate higher parking demands on weekends and evenings. Parking is expected to be shared between uses. The site will include 74 City-owned publically-accessible stalls, as well as 179 stalls associated with building tenants.

Demand in the Historic Precinct is expected to reach a peak of around 82% occupancy. This is less than the 85% threshold and there is expected to be some excess supply. Forecast demand patterns for the Historic Precinct are illustrated in FIGURE 48 and FIGURE 49.

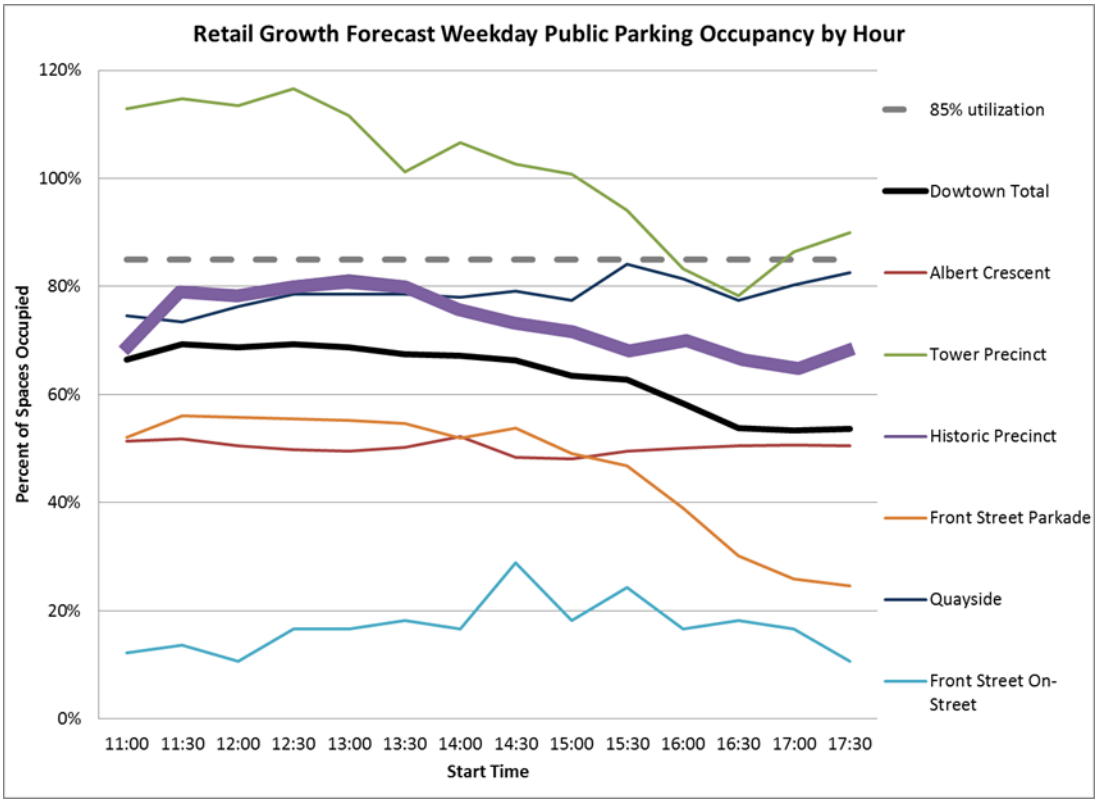


FIGURE 48 Forecast Weekday Demand Pattern – Historic Precinct

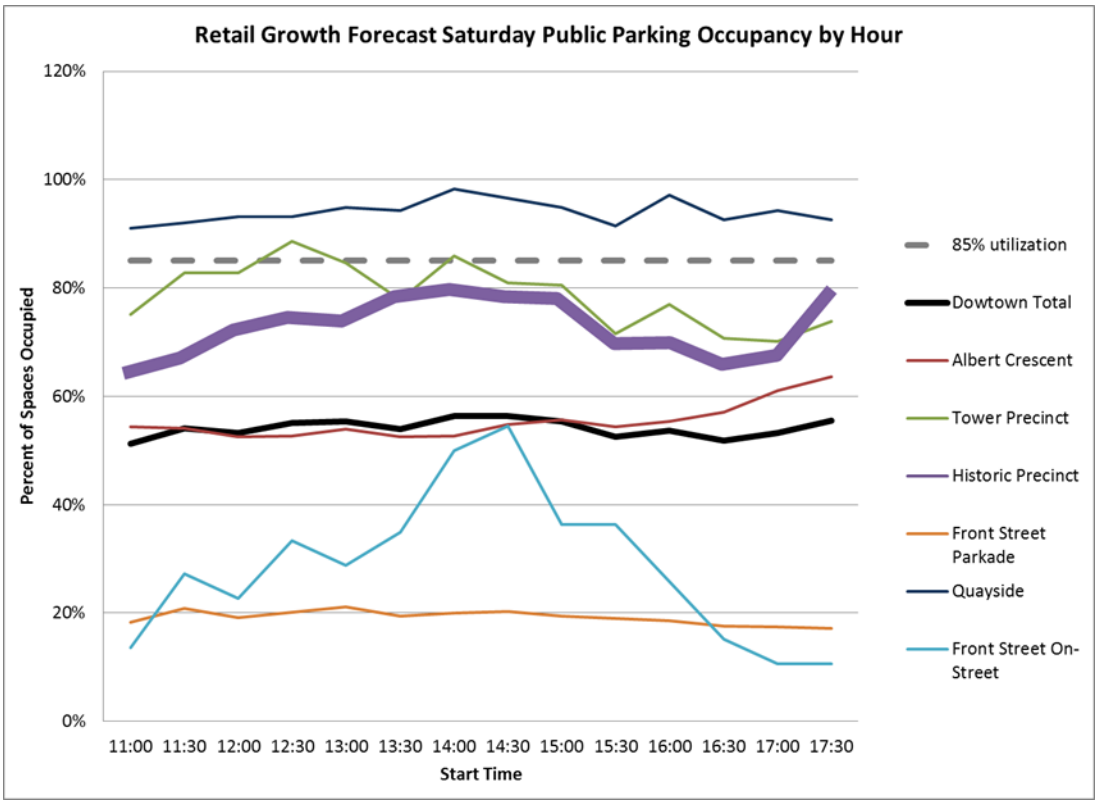


FIGURE 49 Forecast Saturday Demand Pattern – Historic Precinct

Strategies for the Historic Precinct must manage block-by-block demands, balancing pricing and time restrictions in high-demand blocks. Wayfinding to existing parking facilities is also important need for this precinct.

- **Implement pay parking throughout the Historic Precinct.** There are a small number of unmetered parking spaces within this precinct. All spaces should be metered to allow for better balancing of demand.
- **Manage time limits and pricing** to distribute parking utilization throughout the precinct, maintain high turn-over, and maintain peak period occupancy of 85% or less. This will include gradual price increases over time for high demand blocks.
- **Price publically-accessible parking in the Anvil Centre to support short-term use.** Parking in the Anvil Centre should be priced lower than on-street parking. The pricing structure should encourage short-term use of the parking facility. Monthly parking permits should only be provided if necessary to off-set a reduction in available parking in the Front Street Parkade in the case that the east side of the parkade is removed and the west side is retained..
- **Support demand management measures and investment in alternative transportation infrastructure** to decrease the use of single occupant vehicles. Continued shift to alternative modes for trips to New Westminster's Downtown is expected to absorb a portion of parking demand.
- **Implement wayfinding and parking ITS** to ensure that drivers are able to easily locate off-street publically-accessible lots.
- **Consider providing new shared off-street parking if required.** Any new parking supply should focus on short-term parking to support the retail economy and meeting the City's monthly parking agreements at the Front Street Parkade. If the number of spaces available in the Front Street

Parkade is reduced below demand - as discussed below – a small number of spaces may be required in alternative off-street parking lots.

Front Street Parkade

The Front Street Parkade has an existing supply of 759 spaces that are currently less than 50% at the busiest time of day. There are around 330 monthly parkers with passes to the Parkade and about 120 of those pass holders have reserved spaces. It is understood that many of these long-term monthly parkers are owners or employees of businesses located in historic buildings in the Historic Precinct. Some parcels within the Historic Precinct have parking credits, as detailed earlier in this report. Many of these buildings do not have their on long- or short- term parking. Existing supply and demand in the Front Street Parkade is summarized in TABLE 14. Monthly parking permits are provided at a cost of $60 per month for general spaces, $80 for reserved spaces. Students are charged $40 for monthly parking.

TABLE 14 Front Street Parkade Supply and Demand

Supply			Demand	
Reserved	**Non-reserved**	**Total**	**Observed**	**Monthly Passes**
120	639	759	372 (49%) Weekday 137 (18%) Weekend	329 passes

During the data collection phase, the parkade was never observed to be more than 49% occupied, with an excess supply of around 385 spaces. Generally, the parkade is under-utilized and presents some special maintenance, operational, and funding challenges. A recent life cycle cost assessment for the Front Street parkade recommended that the City move forward with a short-term option, only carrying out maintenance required for public safety. If the structure were maintained for more than 5 years it was suggested that upgrades would be required to maintain structural integrity in addition to replacing a guardrail and carrying out annual assessments. Deconstruction of either the east or west sides of the parkade also provide viable alternatives that allow maintenance for the mid- or long- terms at reduced cost Key benefits of these options include the ability to rehabilitate the parkade to a higher standard with much lower investment, crime prevention through higher occupancy, and more effective use of public space. The eastern portion of the parkade is more expensive to retain and provides around 450 parking spaces. The western portion provides around 300 spaces.

Front Street Parkade Life-Cycle Costs

Each option includes demolition at end of the parkade structure's life:

- Scenario 1 – short term (up to 5 years) $4.1M
- Scenario 2 – mid-term (5 to 10 years) $4.9M
- Scenario 3 – long term (15+ years) $5.7 to 7.3M
- Scenario 4 – partial deconstruction $4.0 to 4.8M

Source: Reid Jones Christoffersen Ltd., Front Street Parkade: Parkade Evaluation, 2008.

Using retail growth in the Historic Precinct as a proxy for increased parking demand for the Parkade results in a forecast peak utilization of 56% or about 425 parkers. This demand is very conservative, as the number of long-term parkers (monthly pass holders) is not expected to increase over time. Retaining the eastern portion of the parkade would provide sufficient spaces to accommodate existing monthly

pass holders, along with any growth in short-term parking[17]. If the west portion is retained, some monthly parkers would have to be accommodated elsewhere and some short-term demand may be expected to use on-street parking in the Waterfront or Historic Precincts and in other off-street parking lots. The Anvil Centre can be expected to accommodate a portion of this demand. Peak use for the Anvil Centre's public amenities is expected to be during weekends and evenings, while peak demand in the Front Street Parkade is before 14:30 on weekdays. Forecast demand patterns for the Front Street Parkade are illustrated in FIGURE 50 and FIGURE 51.

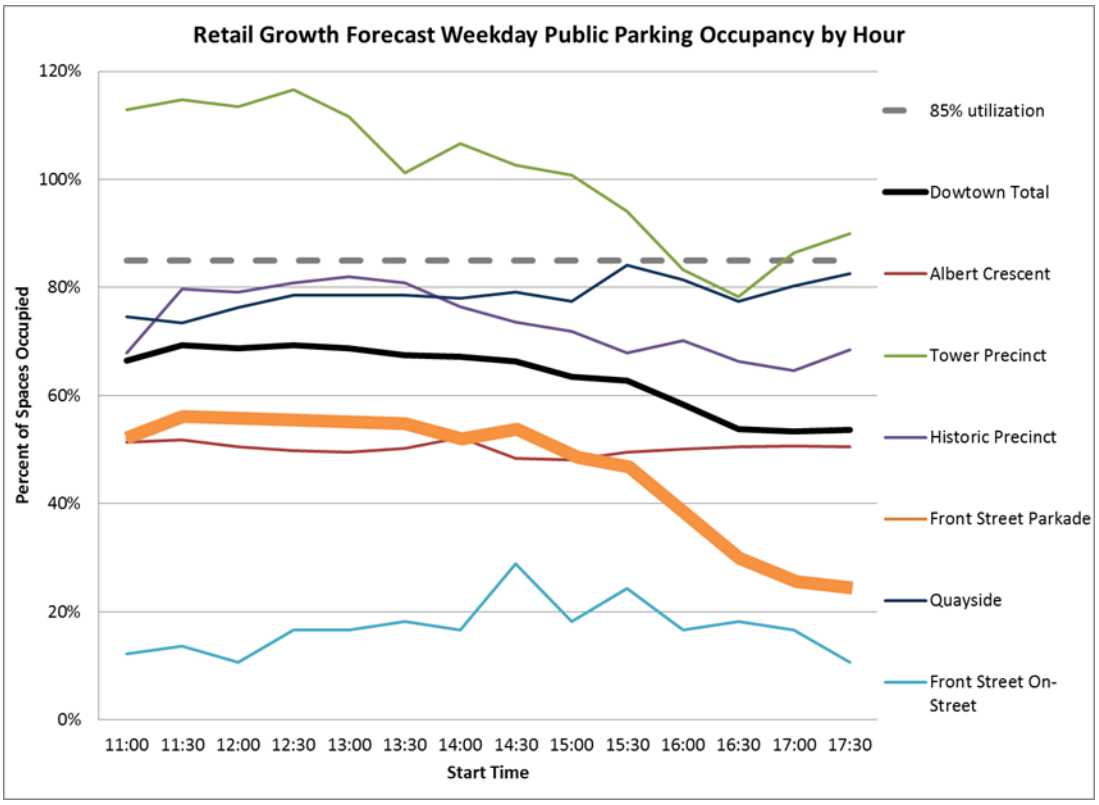


FIGURE 50 Forecast Weekday Demand Pattern – Front Street Parkade

[17] Based on the data collection and information from Impark, it was assumed that 85% of the 330 monthly parkers are in the parkade during the peak period. This means that the 425 parkers at the peak time comprise 281 monthly parkers and 144 short-term parkers. The 85% occupancy threshold applies to short-term parkers, but does not apply to monthly parkers. Therefore, 281 spaces are needed to accommodate the monthly parkers and 169 spaces are required to accommodate the short-term parkers. Based on these requirements, 450 spaces in the parkade are sufficient to accommodate future demand from both monthly parkers and short-term parkers.

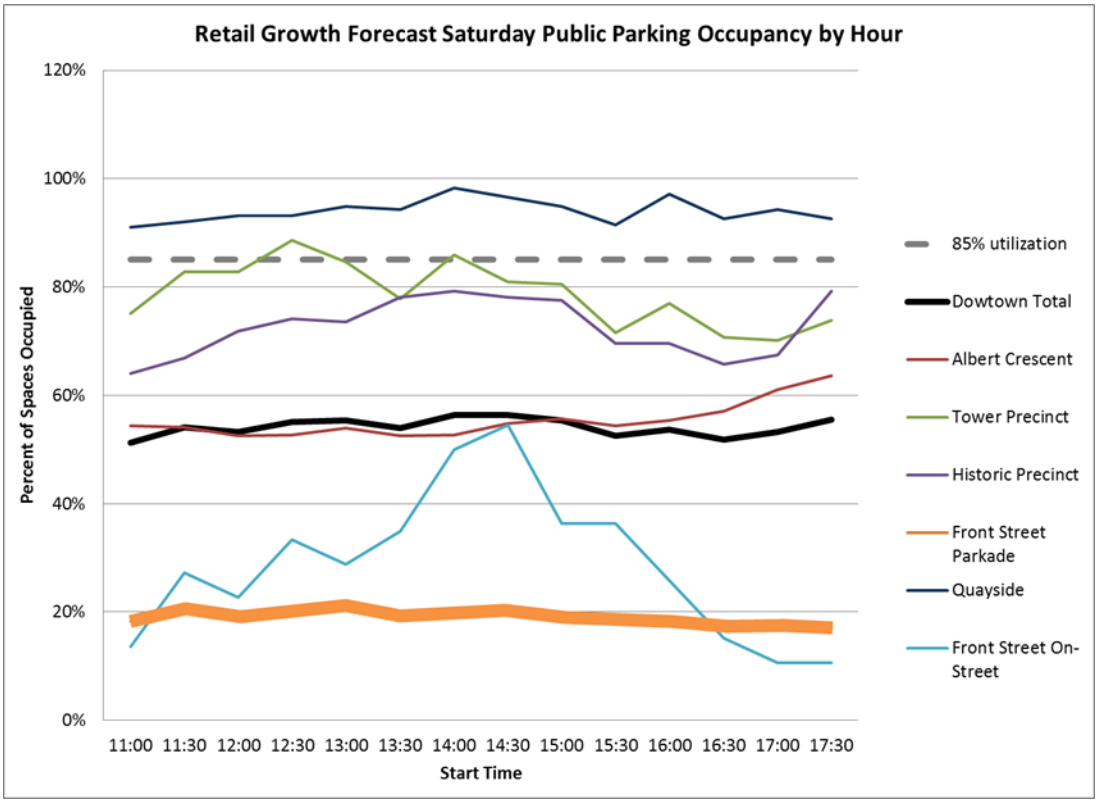


FIGURE 51 Forecast Saturday Demand Pattern – Front Street Parkade

Potential strategies for the Front Street Parkade should limit its use for long-term parking which essentially subsidizes parking infrastructure using tax revenue, while continuing to uphold agreements with local businesses. The parkade should be managed as a public asset and long-term operations, maintenance, and rehabilitation costs must be incorporated in planning.

- **Support demand management measures and investment in alternative transportation infrastructure**. Continued shift to alternative modes for trips to New Westminster's Downtown is expected to absorb a portion of parking demand. This is expected to further diminish both long- and short- term parking demand in the Parkade over time.
- **Examine the pricing structure regularly and adjust as required**. Hourly rates for parking in the Front Street Parkade should be less than on-street rates in the same area. Monthly rates should remain higher than the cost of monthly parking in private lots. This will reduce long-term parking demands, which cannot support the cost of operations and maintenance. This will also reduce the total number of spaces needed and preserve valuable City-owned parking space for short-term parkers.
- **Manage long-term parking**. The focus of the City-owned parking system is to provide short-term parking for visitors to Downtown in order to support economic vibrancy and livability. Consider increasing the long-term parking rates for the Front Street Parkade over time to maintain space for short-term parking. Prices should be slightly higher than neighbouring private lots. Do not issue new reserved parking spaces. Should one half of the Front Street Parkade be retained and the other portion be removed, transition the existing reserved spaces to the remaining facility.
- **If the necessary preconditions are met, remove half of the Parkade**. **Maintain the remaining half for mid-term use (around 2030).**To avoid large maintenance costs, this strategy should be completed within a 5 year time frame.

- **East retained (recommended)**: the parkade will provide about 450 parking spots. This provides sufficient supply for monthly pass holders and any increase in short-term demand. Implementation of this strategy requires the City to meet the following preconditions to successful implementation:
  - **Provide new parking opportunities near the west portion of the existing parkade.** Retaining the east portion of the parkade provides sufficient parking spaces to accommodate long-term demand; however, drivers currently parking between Begbie Street and McKenzie Street may find the addition of a two block walk inconvenient. The focus of these new parking opportunities should be on short-term parking to provide convenient access for customers shopping near the west portion of the existing parkade. The Anvil Centre parking may be more convenient than the Front Street parkade for many of these customers and is expected to absorb some of this demand. The greatest demand for publically accessible parking generated by the Anvil Centre itself is expected to be during evenings and weekends. Existing demand patterns show that the Front Street Parkade's highest utilization is midday on weekdays. This means that the Anvil Centre's time of lowest demand will align with the highest demand time of the Front Street Parkade. The west portion of the parkade should not be removed until the Anvil Centre is complete and public parking on this site is available. The removal of the parkade is also expected to create ## new on-street spaces on Front Street and McKenzie Street. Together, the Anvil Centre and additional on-street parking are sufficient to meet this pre-condition.
  - **Create a connection to the waterfront using the opportunity created by the removal of a portion of the parkade.** New Westminster's vision Front Street and the waterfront area is tied to the future of the parkade. If the west portion of the parkade is removed, this creates an opportunity to develop improved connectivity to the waterfront. The City must have a plan in place to embrace this opportunity as a precondition for removal of half of the parkade.
- **West retained (not recommended)**: the parkade will provide about 300 parking spots.[18] Preliminary forecasts indicate that this would result in a need for 150 new or alternative City-owned publically-accessible parking spots. As in the Tower Precinct, actual demand is expected to be lower because of ongoing reductions in auto mode share. Some parkers may be accommodated in the new parking provided in the Anvil Centre. A portion of short-term parkers can be accommodated in on-street spaces on Front Street and the Historic Precinct. If this strategy is implemented, the City should identify additional opportunities for City-owned publically-accessible parking in the Historic Precinct. The number of off-street spaces required should be re-examined after pricing changes have taken effect and the impacts of the Anvil Centre are known.

[18] The forecast demand for the Front Street parkade is 425 parkers. This includes demand by 281 monthly parkers and 144 short-term parkers. The 85% occupancy threshold applies to short-term parkers, but does not apply to monthly parkers. Therefore, 281 spaces are needed to accommodate the monthly parkers and 169 spaces are required to accommodate the short-term parkers. This results in a total requirement of 450 spaces; if the west part of the parkade is retained with 300 spaces, 150 new spaces will be needed.

- **As 2030 approaches, consider opportunities to remove the second half of the parkade.** In 10 – 15 years, parking conditions in Downtown will have been influenced by many factors, including the strategies presented in this document. Continue to regularly assess demand in the Front Street Parkade, including both the use of monthly passes and short-term parking. Consider removing the second half of the parkade at the end of the mid-term rehabilitation period around 2030. If the parkade is removed, the City has no legal obligations to properties with parking credits for the parkade; however, the City retains some moral obligation as a steward of New Westminster's historic Downtown and a supporter of the business community. The City should study the demand in the parkade in 2030 and provide sufficient parking spaces to meet this demand elsewhere. This includes accommodating any remaining monthly pass holders at alternative parking sites. As 2030 approaches, work with the development community to identify potential publically-accessible parking facilitates within private development if additional accommodations are needed.

7.4 Bylaw-based Strategies for Private Parking

Private off-street parking must be sufficient to accommodate the long- and short- term parking demand associated with a development; however, excessively high parking supplies are costly for developers, residents and businesses. Parking rates must balance transportation demand management measures, economic considerations, and the needs of residents, businesses, and visitors to the Downtown. The actual supply of private parking is determined by developers; however, the City can influence private parking through three means: private parking bylaw requirements, variance policies and practices, and cash-in-lieu provisions. Strategic directions that are applicable to these three areas are discussed in the following sections.

7.4.1 Reduce Parking Requirements

Three different sets of parking bylaw rates currently apply to Downtown New Westminster: rates for the C-4 zone, rates for the C-8 zones, and general rates applicable to all zones across the City. The general rates are higher than the C-4 and C-8 rates. As noted earlier, New Westminster's bylaw rates are higher than those in Vancouver, but similar to those in other parts of Metro Vancouver. New Westminster has among the lowest auto ownership and auto mode share in Metro Vancouver, indicating that bylaw parking rates in Downtown should be among the lowest in the region. Downtown also has access to rapid transit, with most of the area within walking distance of a SkyTrain Station. These factors indicate that parking bylaw rates can be lowered in New Westminster. Rates that apply to the Downtown core should also be normalized to reduce the variation in precincts, which have similar mode share and auto ownership patterns. New Westminster currently has maximum parking rates for office land uses outside of the C-4 and C-8 zones. Maximum bylaws could be applied to other land use types and zones.

- **Create more uniform rates to apply to the Downtown Area.** Zones that are not C-4 or C-8 have much lower parking requirements. Bring these rates in line with rates in other parts of the Downtown Core. This is especially applicable to parking rates for commercial developments, which are much lower and simpler in C-4 and C-8 zones.
- **Maintain the existing requirement for all non-residential uses in the historic area (Zone C-8).** Because the historic area features special building conditions, is walkable and has excellent transit access, maintain the low parking requirement of 1.0 space per 100 sq. metres in this zone.
- **Lower the requirement for non-residential uses in other Downtown Zones** (Zone C-4, C4-A, and RM zones within the Downtown Core). The City's existing requirements for non-residential uses in zones other than C-8 range are higher than Vancouver's maximum rates. With low auto mode share and auto ownership municipalities, low non-residential requirements also make sense for the City. Lower the minimum parking rates for non-residential uses within Downtown for C4-A and all RM zones to match the existing C-4 rates.
- **Reduce residential parking requirements for strata buildings slightly.** New Westminster's existing parking requirements are more complex than other downtown cores, with multiple rates for different numbers of bedrooms. The rates are also much higher than Downtown Vancouver and nominally higher than other Downtown areas. New Westminster has the lowest auto ownership of all Metro Vancouver municipalities. Work towards lower the rates to those shown in TABLE 15. .

- **Require visitor parking for all buildings containing 3 or more residential units in accordance with Metro Vancouver Apartment Survey recommendations.** Zone C-8 does not currently require visitor parking for new developments. Other zones have visitor parking requirements of 0.2 spaces per unit. The Metro Vancouver Apartment Survey recommends visitor parking of 0.1 space per unit. This requirement should not be permitted to be changed through variances.
- **Require fewer parking spaces for purpose built rental units.** Research shows that purpose built rental requires fewer parking spaces than strata residential developments. The Metro Vancouver Apartment Survey demonstrated that parking occupancy in purpose built market rental was less than that for strata. Based on this, the minimum parking requirements for purpose built rental should be lower than the requirements for strata.
- **Normalize all non-residential requirements to a common unit.** Current rates are expressed in a variety of units (per 1000 sq. feet, per 50 sq. metres, etc.). To simplify calculations, normalize rates to per 100 sq. metres.

TABLE 15 Proposed Parking Bylaw Rates

Zone	Unit Type	Requirement
Residential – ALL DOWNTOWN ZONES	Building containing three or more dwelling units	Minimum of: • 1.0 space per bachelor or one bedroom unit • 1.35 spaces per dwelling unit with two or more bedrooms
	Purpose-built market rental apartments containing three or more dwelling units	Minimum of: • 0.6 space per bachelor or one bedroom unit • 0.8 spaces per dwelling unit with two or more bedrooms
	Building containing three or more dwelling units	0.1 Visitor spaces per dwelling unit
Commercial – ALL DOWNTOWN ZONES	All non-residential uses in zone C-8 (includes office, bank, restaurant, retail)	Minimum of 1.0 space per 100 sq. metres
	All non-residential uses in all other Downtown Zones	Minimum of 1.4 spaces per 100 sq. metres

7.4.2 Parking Variances

The City may grant developers variances to parking requirements. This means that the City agrees that the developer will not provide the number of parking spaces typically required by bylaw. Variances should be permitted for two reasons: on-site trip reductions and off-site transportation improvements.

All building types may apply for variances as long as they meet one or both of these criteria. All variances should be discretionary and subject to Council approval

- **Site Trip Reductions.** If the developer puts permanent on-site trip reduction strategies in place to reduce vehicle demand, the development will not require as many parking spaces. If the developer provides documentation of the proposed strategies, the estimated reduction demand, and transition planning to ensure that strategies are transferable from one owner to the next, the City may permit fewer parking spaces. Guidelines for maximum potential reductions, based on the available research[19], are shown in TABLE 16. Any reduction should fall within these limits and be should be supported by a site-specific technical study. Reductions can be cumulative up to a total reduction of no more than 30%.
- **Off-site Alternative Transportation Contributions.** A developer may contribute to off-site alternative transportation improvements in lieu of providing parking. Improving alternative transportation infrastructure will reduce auto mode share and auto ownership, therefore reducing parking demands. A City may permit the developer to contribute $25,000 per space in lieu of providing parking. The contributions should go to the Alternative Transportation Reserve and should be used for alternative transportation improvements. This alternative is currently only applicable to developments that do not fall within the cash-in-lieu area of 457.2 m (1,500 ft) of a City-owned parkade.

TABLE 16 Site Trip Reductions and Accompanying Reductions to Parking Requirements

Site Trip Reduction Initiative	Potential Reduction in Parking Requirement
Car share	4 spaces for each car-share vehicle, up to 5% (residential only)
Ongoing reimbursement of transit passes	Up to 15%
Showers and lockers for bicycle commuters	Up to 5% (non-residential only)
Shared parking for multi-use developments	Up to 20%
Unbundling (residential)	To be considered in the future
Rapid transit proximity	Up to 5%

This variance program is similar to what is in place in New Westminster now. This type of variance program is only effective if it is applied consistently to all developments. Reductions in parking requirements should not be granted without proof of site trip reduction strategies that can be maintained in the long-term or contributions to the Alternative Transportation Reserve.

[19] Trip reductions based on research from the Transit Cooperative Research Program (TCRP) Report 18-15, TCRP Report 18-16, the Victoria Transport Policy Institute (VTPI), Smart Growth Alternatives to Minimum Parking Requirements by Forinash et al, the Seattle Municipal Code, the United States Environmental Protection Agency, Sacramento County Zoning Requirements, and Parking Reductions in Tacoma.

7.4.3 Parking Cash-in-Lieu

The City also has a Parking Cash-in-Lieu regulation for all developments within 457.2 m (1,500 ft) of a City-owned parkade. Currently, this regulation requires the City to accept $35,000 per space in lieu of a developer providing parking. The regulation is not discretionary within the stated zone surrounding the parkade.

Money received under this regulation is added to the Parking Cash-in-Lieu fund with the understanding that it must be used for the provision of off-street parking nearby, at some point in the future. This transfers the responsibility and risk of parking provision (building construction, operation, and maintenance) from the developer and building owners to the City. As stated earlier in the report, the City has not received a contribution to this fund since the contribution was raised to $35,000. This leads to the assumption that the contribution amount of $35,000 is not sufficient incentive for the development community other than in cases where it is not possible to provide all required parking due to technical challenges.

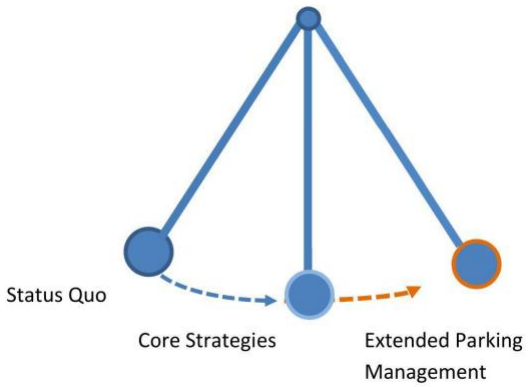
- Explore moving towards a combined fund for parking cash-in-lieu and alternative transportation fund with a common contribution amount of $25,000. This would enable the City to prioritize alternative transportation measures or parking facilities as appropriate. A unified rate of $25,000 provides greater incentive for developers to choose this option to reduce parking requirements.
- Move towards a discretionary model for parking cash-in-lieu. This would require changes to the existing bylaw.

8 EXTENDED PARKING MANAGEMENT PROGRAM

Beyond the core parking strategies outlined in Section 7, there are opportunities for the City to adopt more aggressive targets in its pursuit to manage the provision of parking within the Downtown. The following section describes these opportunities.

8.1 Overall Context

The overall "parking system" in New Westminster is a combination of City-owned public parking and privately owned parking. In a limited number of instances there are joint pursuits that have resulted in shared parking facilities between City and private interests. However, greater linkages could be forged between the City and private developers in order to pursue more significant reductions in parking provision for the Downtown. This is likely to lead to even greater role for the City to play in the ownership and operation of parking facilities and would likely result in greater vehicle trip reductions overall.



Using a pendulum analogy, conditions within the Downtown suggest that the City is at its infancy within the realm of parking management, primarily managing on-street operations and two parking facilities geared toward long-term parking. The core parking strategies proposed in Section 7 will bring it to a more active level of parking management by tackling opportunities on three fronts: transportation demand, supply and pricing. A further swing of the pendulum could be achieved whereby further partnerships with private development result in a greater number of shared parking facilities, owned and operated by the City. This would require a change to the City's approach to site parking requirements. This chapter first summarizes the approaches of other Cities to extended parking management. It then discusses the appraoches that the City might use to move towards extended parking management, along with a SWOT analysis of extended parking management. The section closes with proposed next steps for the City.

8.2 Practices in Other Juridictions

At the request of the City, the Project Team reviewed the practices of three cities with different approaches towards extended parking management. The approaches used in Vancouver and Calgary are summarized below.

The **City of Vancouver's** site parking strategies are largely represented in the core strategies of this plan. There are a number of publically-owned publically-accessible parking lots operated by EasyPark. The lots provide both short-term and monthly parking.

The City of Vancouver permits dedicated parking on-site using minimum and maximum rates outlined in their parking bylaw. These rates are referenced in an earlier section and summarized in Appendix C. Most parking is provided on the same site as the development, either through dedicated parking, unbundled parking, or shared parking. The City of Vancouver allows and encourages developers to unbundle parking within individual sites. This means that individual parking spots are not allotted to particular units within the building. Vancouver is actively working to gain the authority to require unbundling in new development, but this authority would require changes to Provincial legislation. Sites with multiple uses are permitted to share parking and reduce the total amount required based on the time profile of different land uses. This requires permission from the development permit officer.

In some circumstances, the City of Vancouver also allows parking to be provided off-site. This is permitted through voluntary contributions to the City of Vancouver's payment-in-lieu program (cash-in-lieu) or by allowing one building to use the parking of another building (cooperative off-site parking). There are a small number of buildings that permit off-site use of parking within non-residential developments. There are even fewer cases of substantial off-site parking within a residential parkade. Vancouver does allow developers to contribute to its' payment-in-lieu program instead of providing parking. The cost per space for payment-in-lieu is currently $20,200. A total of 226 spaces have been deferred through this program and Vancouver has assigned the funds to parking structures close to the participating development. Vancouver is permitted, through the Vancouver Charter, to apply payment-in-lieu funding to parking or to projects that promote sustainable transportation. This program is available for both residential and non-residential developments. Developers normally engage in this program when there is a special challenge on site that inhibits the ability of the developer to reasonably provide the required amount of parking. The City reserves the right to refuse requests to participate in the payment-in-lieu program.

The **City of Calgary** has a more intensive approach to extended parking management. Calgary also owns and operates off-street publically-owned, publically-accessible parking with long- and short- term parking. Calgary outlines parking maximums and minimums in its zoning bylaw; however, the City has special provisions within the Downtown core to shift parking ownership away from private holdings and towards the City. Within the Downtown, developers are required to supply up to 50% of parking-on site and contribute the cost of the remaining 50% to the City as cash-in-lieu. This policy is applied only to commercial land uses. An additional 10% (over the base 50% can be added to the parking on-site if these stalls are operated for short-term use only. There are also special provisions for retail developments greater than 9.300 square metres of net floor area. The City of Calgary's off-street publically-owned parking system is mature and the City is able to provide the required parking. Monthly parking rates in Calgary are among the highest in Canada.

8.3 Approaches

The following section outlines three strategies that the City could pursue to advance into extended parking management.

8.3.1 Greater Financial Incentive for Cash-in-Lieu

Generally, when parking is unbundled it is done on a building by building basis. Either property managers or condominium/ strata associations become responsible for "managing" the allocation of parking to ensure that stalls can be purchased or rented by occupants. Building land use can be of a single type or a mix of residential, office, commercial or other.
Unbundling can also be done on an area-wide basis. For unbundling to be successful at this level, it is important that shared parking be promoted between several buildings or land uses. Shared parking means that different users would have access to the parking supply (e.g. residents, office staff, shoppers, visitors). Shared parking as its own strategy has the potential to reduce parking demands in the order of 10 – 30%, depending on the land use mix. This is largely due to the fact that peak parking periods vary between different land use types (e.g. office uses tend to peak during the day whereas residential and hospitality-oriented uses tend to peak in the evening). Shared parking can also mean that there is no use of "reserved" parking stalls but rather a common pool available to all users.

While unbundling parking has many positive attributes, it does not encourage the sharing of parking between different land use types or adjacent buildings. As a strategy, the City could incentivize the practice of unbundling and sharing parking by providing a more attractive Cash-in-Lieu offer to developers, combined with appropriate parking supply reductions. Under an incentivized approach, the City would be responsible for providing publically-accessible parking facilities in return for developer Cash-in-Lieu contributions.

The full costs associated with providing parking facilities must be accounted for in any new parkade the City builds including capital, operating, maintenance, land acquisition, and asset management needs. The following two examples illustrate the financial reality and potential risk accepted by the City for a parkade built under an incentivized Cash-in-Lieu program. The first example includes a $25,000 per stall land cost, while the second assumes that the City's land costs would be negligible due to air space received at no cost as part of redevelopment. The second example also includes a lower assumption for capital cost of $40,000 and assumes that operations, maintenance, and rehabilitation costs are 1% of capital cost, per year. The first example includes a discounted cash-in-lieu rate of $30,000, while the second example includes a discounted cash-in-lieu rate of $25,000.

Cost Including Land Acquisition

New City-owned Parking Facility	Current capital cost per stall within a new parking facility:	$50,000 capital + $25,000 land acquisition = $75,000 per stall
	Shared parking reduction of 20% to account for range of land uses (i.e. equivalent of Cash-in-Lieu taken for 240 stalls)	Parkade with 200 stall capacity
	Capital cost for facility:	200 stalls x $75,000 = $15 Million
Developer Contribution	Current Cash-in-Lieu $35,000 per stall that is not provided	Incentive of $5,000 results in developer cost of $30,000 per stall
	Revenues from Cash-in-Lieu:	240 stalls x $30,000 = $7.2 Million
Required Revenues:	Capital cost shortfall:	$7.8 Million
Monthly Financing:	Monthly cost to finance capital shortfall of $7.8 Million (5% per annum, 50 years):	Monthly cost: $175 per stall
	Allocation for operations, maintenance and rehabilitation, assumed as 2% of capital cost, annually	Monthly cost: $125 per stall
	Total revenue required to break even	Monthly revenue required: $300 per stall

Cost Excluding Land Acquisition, Lower Capital Cost, 1% operations, maintenance, and rehabilitation

New City-owned Parking Facility	Current capital cost per stall within a new parking facility:	$40,000 capital (land costs not included)
	Shared parking reduction of 20% to account for range of land uses (i.e. equivalent of Cash-in-Lieu taken for 240 stalls)	Parkade with 200 stall capacity
	Capital cost for facility:	200 stalls x $50,000 = $10 Million
Developer Contribution	Current Cash-in-Lieu $35,000 per stall that is not provided	Incentive of $10,000 results in developer cost of $25,000 per stall
	Revenues from Cash-in-Lieu:	240 stalls x $25,000 = $6.0 Million
Required Revenues:	Capital cost shortfall:	$2.0 Million
Monthly Financing:	Monthly cost to finance capital shortfall of $2.8 Million (5% per annum, 50 years):	Monthly cost: $45 per stall
	Allocation for operations, maintenance and rehabilitation, assumed as 1% of capital cost, annually	Monthly cost: $45 per stall
	Total revenue required to break even	Monthly revenue required: $90 per stall

The current long term monthly parking rate within the Downtown is approximately $60 per month. While this rate is too low, an adjustment on the scale required to cover the difference in actual cost to construct a new parking facility and an incentivized Cash-in-Lieu contribution would be difficult to achieve, even in where land costs are assumed to be negligible and other costs are assumed to be lower. A greater balance of short-term revenues would help to cover the gap, but in the extended parking management situation described above, it is likely that the majority of parking needs would be of a long-term nature and thus generate less revenue. In addition, the above revenue forecast assumes a high utilization of parking stalls which may or may not be the case.

8.3.2 Mandatory Short-term Parking Cash-in-Lieu

Legislative powers granted to municipalities do not currently favour the concept of unbundling on an area-wide basis. In 2008, the City of Vancouver proposed a resolution to the Provincial legislation that would give municipalities the authority to require the unbundling of parking within new development. The proposal was referred for further discussion and authorization has not been received from the Province. Notwithstanding, the City of New Westminster may try to pursue an alternative approach to mandatory unbundling.

For most land uses a portion of parking required through bylaw regulations is used for short-term parking needs. For example, 30% of parking for offices can be attributed to visitors such as clients and deliveries; 20% of residential parking is for visitors and short-term stays. To reflect this short-term demand and focus the City on its primary role in the management of short-term parking the City could adjust its by-law rates to have two components. The first would be a flexible component related to long-term needs which would continue to be eligible for Cash-in-Lieu. The second component would tie to the short-term needs and would require a mandatory Cash-in-Lieu contribution for this demand, equivalent to 20 – 30% of the total required parking, depending on land use.

The strength of this proposal lies within the mandatory portion of Cash-in-Lieu contributions that are directly related to short-term parking needs. This approach makes it more financially viable for the City to then build and operate new parking facilities geared toward short-term use and thus a greater revenue potential.

8.3.3 Pricing Increases

As discussed earlier, the City needs to focus its efforts on managing short-term parking within the Downtown. Pricing the most attractive parking as a more expensive commodity will support that objective. There is a fine balance between the perception of conveniently located parking and willingness to pay. The primary goal of pricing in the strategies described in Section 7 is to maintain a utilization of 85% such that on-street space is always available for visitors, within a few blocks of their destination and to encourage high turnover.

It is conceivable that such a pricing strategy might result in significantly higher revenues than anticipated for the City, given the low point of pricing today. If that is the case it, additional parking revenues would be generated beyond what the City requires to cover parking operations and maintenance costs. The City could allocate those resources to cover capital cost shortfalls incurred through “incentivizing” development participation in a distributed parking model.

8.3.4 Summary

Transitioning toward an extended parking management program would offer the City a much stronger position with the realm of transportation demand management in the Downtown. The following section summarizes strengths, weaknesses, opportunities and threats that should be considered if the City moves toward a greater use of shared parking facilities that it owned and operated.

Strengths	• Provides a fair allocation of parking costs and offers individuals a choice of whether or not to make use of available parking spaces
	• Parking costs can be unbundled from wages and rent as well as from the cost of goods and services
	• Potential to significantly reduce parking supply within the downtown by better matching demand
	  ○ Literature suggests that parking demand reductions in the order of 10 – 20% can be achieved.
	  ○ Lower supply of parking leads to reduced land and building costs, savings that can be passed on to residents, employees or consumers through sale or rental of units
	• Greater likelihood of drivers parking once in a downtown area and frequenting several centrally-located services, which would result in less driving to search for parking and more walking.

Weaknesses	• City assumes financial risk if they build, own and operate unbundled, shared parking facilities. • Unbundling parking and reducing supply may be perceived to impact marketability of commercial and residential spaces that do not have parking allocations within same building. ○ Example in Cupertino, CA where no company to date has expressed an interest in this model. Cash-in-Lieu is perceived as complex and expensive and would-be participants are not convinced of the ability to save capital by not building parking. They are more concerned about running their business in the usual manner without being concerned about parking issues. • Neighbours become concerned about the overflow of parking on their streets. Permit parking is needed to counteract this, but may be opposed by residents seeking “free parking”. • Security concerns about shared parking requires as much patrolled enforcement as for on-street parking and use of cameras to ensure that areas are safe from criminal activity. • New skills are required within the municipal parking group beyond operations, maintenance and rehabilitation. City needs to have staff in place that would be responsible to actively search for property acquisition opportunities, as well as undertaking facility planning, design and construction.

Opportunities	• All new development opportunities provide a potential to encourage unbundled parking and have developers contribute to the shared parking supply and the City is anticipating significant growth in office and residential land use in the next 20 years.
Threats	• Low uptake of incentivized distributed parking by developers • Existing excess of parking supply in some precincts could potentially throw off the balance of requiring new development to adhere to lower parking provision. • Availability of suitable properties or affordability of land acquisition. • Financial risk assumed by the City for off-street parking facilities that would otherwise have been provided by private developers. • Financial risk if City-owned parking facilities are underutilized. • Risk of depreciating assets subject to marketability changes of Downtown.

8.3.5 Next Steps

There are a few courses of action the City can take to shift into more active parking management. Before it charts a new course it should hold discussions with a broader range of stakeholders and also consider the implications of an enhanced role within parking operations. Next steps should include:

- Input from the development community to gauge their willingness to support the strategies outlined above. The Urban Development Institute (UDI) would be a good organization with which to start discussions, and
- Parking management would have an expanded role that includes property acquisition, parkade planning and construction. Once the City decides on the role it would like to play within parking management, an appropriate governance strategy can be developed.

The strategies in Section 7 provide a basis to move the City towards more active parking management. To implement the key strategies from Section 7 will require a number of years and effort by the City and will result in changed parking patterns, private parking supply rates, and uptake on the City's cash-in-lieu and alternative transportation fund programs. The impacts of the core strategies should be thoroughly understood before moving towards a more active parking management role.

9 Implementation Plan

This section provides guidance for the City in the implementation of the strategies presented in Section 7. The implementation plans comprises two parts: a plan of high priority, core actions to be undertaken in the next two years and a detailed implementation plan summarizing the recommended strategies.

9.1 2 Year Parking Management Plan

This section presents a plan for the first two years following the adoption of the Downtown Parking Strategy. Working towards the actions listed below will put the City on the path towards achieving the vision and aspirations for parking in the Downtown core. The plan is divided into four sections: on-street parking, City-owned off-street parking, private parking policies, and policies and organizational efforts.

On-street Parking

- Implement the planned upgrade to the City's parking and enforcement systems that meets the following requirements:
    - Pay station / pay-by phone system that is license plate based. This allows for simpler, more effective enforcement and ease of use for cell phone payments.
    - Ability to allow businesses to pay for parking on their client's behalf.
    - Ability to vary rate structure by block and / or time of day.
    - Licence-plate recognition based enforcement for both time restrictions and payment. This enables faster, more effective enforcement.
    - Availability of statistics concerning utilization.
    - Enabled for near field communication (NFC).
    - Ability to register permits with the City's database and compare using enforcement software. This will allow the City to allow residents with permits or special users (e.g. car shares, registered visitor's permits) on blocks that have time or payment restrictions.
- Install new pay parking at the following locations:
    - 6th Street between Agnes St and Cunningham St
    - Cunningham St between Sixth Street and Fourth Street
    - Carnarvon St between Sixth Street and Fourth Street
    - 10th St between Royal Ave and Agnes St
    - Moody St between McInnes St and Blackie St
    - McInnes St between Moody St and Agnes St
    - Agnes St between McInnes St and Blackie St
    - McInnes St between Agnes St and 10th St
    - Lorne St north of Carnarvon St
    - Blackwood St between Columbia St and Clarkson St
- Install two new short-term bicycle parking racks on Columbia Street between 6th Street and 8th Street.
- Extend on-street enforcement hours to 8:00 p.m.

- Introduce timed curb zones with 2-hour parking from 8:00 a.m. to 8 p.m. for the following locations:
    - Quayside Drive south of Reliance Crescent
    - All Quayside cul-de-sacs with direct access to the waterfront
- Increase rate for all on-street parking to $1.25 per hour

City-owned Off-Street Parking

- Front Street Parkade:
    - Confirm that the City can meet the required pre-conditions to remove the west half of the Front Street parkade, including finding a small supply of convenient parking for customers and providing access to the waterfront as part of a broader strategy concerning Front Street and the waterfront.
    - If preconditions are met, begin plans for removal of the west portion
    - Lower hourly rate to $1.00 per hour
    - Stop issuing new reserved parking spaces for the Front Street Parkade. Maintain existing reserved spaces.
- Anvil Centre:
    - Price parking at $1.00 per hour
- Install new static signs identifying the locations of the Front Street Parkade and the Anvil Centre and availability of public parking.

Private Parking Policies

- Begin process to move towards the proposed parking bylaw rates listed in TABLE 17.
- Permit variances to the bylaw rates only in the cases shown in TABLE 18. Reductions may be cumulative up to a total of 30%.
- Explore moving towards a combined cash-in-lieu and alternative transportation fund at a common contribution rate of $25,000 per space.
- Revisit off-site parking portion of zoning bylaw with the intention of making cash-in-lieu discretionary.

Policies and Organizational Efforts

- Engage in internal discussions about parking governance and finance with the intention of moving towards full-cost accounting of parking revenue and expenses, including on- and off- street revenue, operations, maintenance, rehabilitation, and replacement costs for parking assets.
- Reinvest additional revenue from new meters and extended hours of enforcement into the Downtown, including into parking infrastructure and alternative transportation infrastructure.
- Monitor utilization of all on- and off- street parking assets

TABLE 17 Proposed Parking Bylaw Rates

Zone	Unit Type	Requirement
Residential – ALL DOWNTOWN ZONES	Building containing three or more dwelling units	Minimum of: • 1.0 space per bachelor or one bedroom unit • 1.35 spaces per dwelling unit with two or more bedrooms
	Purpose-built market rental apartments containing three or more dwelling units	Minimum of: • 0.6 space per bachelor or one bedroom unit • 0.8 spaces per dwelling unit with two or more bedrooms
	Building containing three or more dwelling units	0.1 Visitor spaces per dwelling unit
Commercial – ALL DOWNTOWN ZONES	All non-residential uses in zone C-8 (includes office, bank, restaurant, retail)	Minimum of 1.0 space per 100 sq. metres
	All non-residential uses in all other Downtown Zones	Minimum of 1.4 spaces per 100 sq. metres

TABLE 18 Site Trip Reductions and Accompanying Reductions to Parking Requirements

Site Trip Reduction Initiative	Potential Reduction in Parking Requirement
Car share	4 spaces for each car-share vehicle, up to 5% (residential only)
Ongoing reimbursement of transit passes	Up to 15%
Showers and lockers for bicycle commuters	Up to 5% (non-residential only)
Shared parking for multi-use developments	Up to 20%
Unbundling (residential)	To be considered in the future
Rapid transit proximity	Up to 5%

9.2 Implementation Table

The following table summarizes the key strategies for the plan as whole and provides information about the category, strategy, location, preliminary actions, priority, objectives supported, timeline, cost, any prerequisites for successful implementation, and additional notes.

Categories	Strategies	Location	Preliminary Actions	Priority	Objectives Supported	Timeline	Cost	Pre-requisites for successful implementation	Notes
Supply	City-owned Publically-accessible Parking Management	Throughout Downtown	Work with the finance department to pursue full-cost accounting of parking revenue and expenses, including both on- and off- street parking. Ensure that expenditures are sustainable in the long term, including maintenance, rehabilitation, and replacement costs for parking assets.	High	• Sustainable parking systems	2 – 20 years	n/a		
Support / location based	Timed Curb Zones	Quayside	In consultation with residents, introduce timed curb zones with 2 hour parking from 8 a.m. to 8 p.m. in Quayside. Begin with installation at the southeastern portion of Quayside Drive and with cul-de-sacs	High	• Actively managing parking to accommodate visitors	2 years	n/a	Ongoing consultation with representatives from the community.	
			Revaluate timed curb zone policy for Quayside and consider extending timed curb zones throughout this area.	Med		2 – 5 years	n/a		
Support / location based	Parking Permit Districts / Strengthen restrictions for non-residents	Albert Crescent Precinct	Extend hours and increase enforcement.	Med	• Actively managing parking to accommodate visitors	2 – 20 years	n/a	Ongoing consultation with representatives from the community.	
Pricing / location Based	Highest value pricing for on-street parking / use increased revenue to support sustainable parking strategies	Front Street Parkade	Lower the hourly rate for the Front Street Parkade to $1.00 per hour.	Med	• Sustainable parking systems • Balance parking supply and demand	2 years	n/a		Annual cost will vary. Lost revenue is expected to be around $50,000 per year.
		Anvil Centre Publically-Accessible Parking	In consultation with Council, price parking in this lot to be $1.00 per hour. Monitor lot use, and increase the price by an additional $0.25 per hour in 3 – 5 years if necessary to distribute demand.	Med	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	2 - 5 years	n/a		This item will generate increased revenue that can be reinvested in parking infrastructure, alternative transportation infrastructure, and in the community.
		On-street pay parking throughout Downtown, especially in the Historic, Waterfront, Tower, and Albert Crescent Precincts	Increase the minimum charge per hour for any on-street pay parking space in the Downtown to be at least $1.25.	High	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	2 years	n/a		This item will generate increased revenue that can be reinvested in parking infrastructure, alternative transportation infrastructure, and in the community.

Categories	Strategies	Location	Preliminary Actions	Priority	Objectives Supported	Timeline	Cost	Pre-requisites for successful implementation	Notes
Pricing	Tiered rate structure based on attractiveness	Throughout Downtown	Price high demand blocks at a higher rate than low demand blocks. Develop a rate structure in consultation with Council and the Community, using the data collected through this study. Re-evaluate the rate structure every 2 years based on new occupancy data.	Med	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	5 year. Ongoing maintenance every 2 years following	n/a		This item will generate increased revenue that can be reinvested in parking infrastructure, alternative transportation infrastructure, and in the community.
Pricing	Extend parking enforcement and pricing hours / use increased revenue to support sustainable parking strategies	Throughout Downtown	Extend the hours of time limits, metering, and enforcement to 8 p.m. on weekdays and Saturdays.	High	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	2 year	n/a		
Location-based	Identify opportunities to provide new publically-owned publically-accessible short-term parking as the Downtown grows	Tower Precinct	Expecting a parking shortfall of about 145 spaces in the Tower Precinct… consider other off-street facilities. Monitor shortfall that may be accommodated by currently available off-street private parking supply. This should be done with consideration to cash-in-lieu accepted in the Tower Precinct	Med	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	10 – 20 years	$5,000,000 - $10,000,000		
		Historic Precinct	Consider providing new off-street parking in the long-term, if the Front Street Parkade is removed entirely. (Refer to long-term strategy for Front Street Parkade). Look for opportunities to accommodate remaining monthly pass-holders elsewhere.	Low	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	10 – 20 years	>$1,000,000	Review parking demand over time as changes to the Downtown occur and plan accordingly. Re-evaluate as long-term plans for the Front Street Parkade are confirmed.	
Location-based	If required preconditions are met, consider removing the west half of the Front Street Parkade within a 5-year time frame.	Front Street Parkade	Remove half of the parkade and refurbish the remaining half. Retain 450 parking stalls, which is sufficient to accommodate projected demand.	High	• Balance parking supply and demand • Sustainable parking systems	2 – 5 years	$4.8 million	Ensure that publically-accessible parking is available in the Anvil Centre and that additional on-street parking can be provided between 6th Street and Begbie Street to meet demand for short-term parking for customers close to the businesses currently served by the west portion of the parkade. Note that these spaces will be provided for proximity and not because of capacity constraints on the smaller parkade.	Life cycle cost of removing part of the parkade, rehabilitating the remaining portion, and eventual deconstruction. Based on report by RJC.

Categories	Strategies	Location	Preliminary Actions	Priority	Objectives Supported	Timeline	Cost	Pre-requisites for successful implementation	Notes
Location-based	As 2030 approaches, consider opportunities to remove the second half of the parkade	Front Street Parkade	Regularly monitor utilization of the Front Street Parkade and look for opportunities to provide required parking elsewhere in the Historic Precinct in the long-term	Med	• Sustainable parking systems	20 years	n/a	The City should ensure that sufficient parking spaces are available to meet the demand generated by parcels in the Historic Precinct with no on-site parking.	
Location-based	Manage long-term parking	Front Street Parkade	Consider increasing the long-term parking rates for the Front Street Parkade over time to maintain space for short-term parking. Prices should be slightly higher than neighbouring private lots.	Med	• Actively managing parking to accommodate visitors • Sustainable parking systems • Balance parking supply and demand	5 – 10 years	n/a		
			Do not issuing new reserved parking spaces. Maintain existing reserved parking spaces through the transition of the Front Street Parkade by moving existing spaces on the west side to new locations on the east.	Med	• Actively managing parking to accommodate visitors	2 years	n/a		
Location-based	Consider implementing new on-street pay parking in consultation with residents	Albert Crescent Precinct • 6th Street between Agnes St and Cunningham St • Cunningham St between Sixth Street and Fourth Street • Carnarvon St between Sixth Street and Fourth Street	Consult with local residents about implementing on-street pay parking in these blocks. Install as part of planned upgrade to the City's parking payment and enforcement system.	Med	• Maintain use of on-street parking for visitors to the Downtown • Manage growth in demand as Tower Precinct develops	2 years	To be determined through tender	• Complete ITS review and choose new metering and enforcement technology before installing new meters. • Funds intended for local improvements	Costs expected to be off-set by revenue.
		Tower Precinct • 10th St between Royal Ave and Agnes St • Moody St between McInnes St and Blackie St • McInnes St between Moody St and Agnes St • Agnes St between McInnes St and Blackie St • McInnes St between Agnes St and 10th St • Lorne St north of Carnarvon St	Implement pay parking for high demand blocks throughout the Tower Precinct. Install as part of planned upgrade to the City's parking payment and enforcement system.	High	• Maintain use of on-street parking for visitors to the Downtown • Manage growth in demand as Tower Precinct develops	2 years			

Categories	Strategies	Location	Preliminary Actions	Priority	Objectives Supported	Timeline	Cost	Pre-requisites for successful implementation	Notes
		Tower Precinct • Cunningham St. between 7th St and 6th St • Victoria St between 6th St and McKenzie St • Blackie St between Carnarvon St and Agnes St • Alexander St between Carnarvon St and Columbia St • Royal Ave between 11th St and 10th St • Royal Ave between 8th St and 7th St	Expand pay parking in the Tower Precinct as this area develops. Within 10 years all on-street parking in Tower Precinct should be pay parking.	Med	• Maintain use of on-street parking for visitors to the Downtown • Manage growth in demand as Tower Precinct develops	5 – 10 years			
		Historic Precinct • Blackwood St between Columbia St and Clarkson St	Implement on-street pay parking. Install as part of planned upgrade to the City's parking payment and enforcement system.	High	• Maintain use of on-street parking for visitors to the Downtown	2 years		• Complete ITS review and choose new metering and enforcement technology before installing new meters. • Funds intended for local improvements	
		Quayside	In the long-term, following implementation and study of timed curb zones (see Timed Curb Zone strategy, above), consider on-street pay parking at the southeast end of Quayside Drive and in the cul-de-sacs that provide access to the waterfront. This should be considered in consultation with residents.	Low	• Maintain use of high demand areas for visitors to the Downtown, including visitors to the residents of Quayside.	5 – 20 years		Ongoing consultation with representatives	
Location-based	Encourage greater use of existing private lots.	Tower Precinct	Work with private parking owners to encourage parkers to use under-utilized lots. Collaborate on way-finding, ITS, and online identification of parking opportunities in Downtown New Westminster.	Med	• Accessible parking information for the public	2 – 20 years	n/a		
Location-based / bylaw-based	Ensure institutional land uses provide their own long-term private parking	Tower Precinct	If the Law Courts, Douglas College, or other institutional land uses expand within Downtown New Westminster, ensure that these land uses provide sufficient parking supply for short- and long- term parking needs.	Low	• Balance parking supply and demand	2 – 20 years	n/a		
Location-based / bylaw-based	Work with developers to understand the changing supply of privately-owned publically-accessible off-street parking as development occurs	Waterfront Precinct	Monitor displacement of parking due to development on existing at-grade lots. Work with developers to understand current utilization and plan to accommodate these parkers off-street in the same location post-development or identify an alternative location.	Med	• Balance parking supply and demand	2 – 20 years	n/a		

Categories	Strategies	Location	Preliminary Actions	Priority	Objectives Supported	Timeline	Cost	Pre-requisites for successful implementation	Notes
Bylaw-based / supply based	Reduce parking requirements	Throughout Downtown	Move towards the bylaw rates presented in TABLE 17 Do not permit developers to provide less parking than required unless an off-site transportation contribution is provided, cash-in-lieu, is provided, or the developer provides proof of site trip reductions, as noted below.	Med	• Balance parking supply and demand • Sustainable parking systems	2 – 5 years	n/a		
			Work with strata councils to ensure that visitor parking is maintained for visitors.	Med	• Actively managing parking to accommodate visitors	2 – 20 years	n/a		
Bylaw-based / demand management / supply based	Parking variances / cycling facilities / transit initiatives / shared parking / unbundling	Throughout Downtown	Allow developers to further reduce minimum parking requirements according to the percentages set out in TABLE 18.	High	• Balance parking supply and demand • Sustainable parking systems	2 – 20 years	n/a		
			Allow developers to contribute to off-site alternative transportation contributions in the amount of $25,000 per space in lieu of providing parking. Contributions go to the Alternative Transportation reserve and should be used for alternative transportation improvements. This policy applies to properties more than 400 m from the Front Street Parkade and Columbia Station Parkade.	High	• Balance parking supply and demand • Sustainable parking systems	2 – 20 years	n/a		
Bylaw-based / supply based	Parking Cash-in-Lieu	Within 457.2 m (1,500 sf) of a City-owned parkade	Continue to collect a fee per space from developers in lieu of providing the minimum number of parking spaces required by bylaw. The current fee is $35,000. This money is added to the Parking Cash-in-Lieu fund and must be used to develop new off-street City-owned parking in New Westminster.	High	• Balance parking supply and demand • Sustainable parking systems	2 – 20 years	n/a		
			Consider moving towards a Cash-in-Lieu fee that is equivalent to the off-street alternative transportation contribution fee at $25,000 and work towards bylaw changes that would combine the two funds.	Med	• Balance parking supply and demand • Sustainable parking systems	5 – 10 years	n/a		
			Undertake bylaw changes that would make cash-in-lieu discretionary.	Med	• Sustainable parking systems.				
Demand Management	Cycling Facilities	Columbia Street, 6th Street	Provide new public bicycle parking along Columbia Street and Sixth Street. Begin with at least two new cycling parking locations on the west portion of Columbia Street. In the longer term, consider bicycle parking corrals or other larger cycling parking facilities located centrally around Columbia Street and 6th Street	High	• Encourage shift to non-auto modes	2 – 5 years	< $50,000		Cost does not include lost revenue in the case that parking takes the form of bicycle corrals, which replaces pay parking in one or more locations.
		Throughout Downtown	Work with strata councils in older residential buildings to provide more off-street secure bicycle parking.	Med		2 – 20 years	n/a		

Categories	Strategies	Location	Preliminary Actions	Priority	Objectives Supported	Timeline	Cost	Pre-requisites for successful implementation	Notes
Demand Management	Car Sharing	Throughout Downtown	Designate at least two stalls in the Front Street Parkade and two stalls in the Anvil Centre to car share use. Integrate car share registrations for free parking into the City's new enforcement platform.	High	• Enable lower vehicle ownership • Encourage shift to non-auto modes	2 years	n/a		Cost of lost revenue unknown.
		City Hall	Provide a car share option for City Staff.	Med	• Enable lower vehicle ownership • Encourage shift to non-auto modes	2 – 20 years	< $50,000		
Demand Management / Location-based	Parking & Mobility Management	Throughout Downtown	Implement planned upgrade to the City's parking payment and enforcement systems.	High	• Sustainable parking systems	2 years	Subject to upcoming tender process		
		Throughout Downtown	Install new static signs directing drivers to the Front Street Parkade and Anvil Centre Public Parking.	High	• Accessible parking information for the public	2 years	< $50,000		
		Columbia Street, 6th Street, Front Street Parkade, Anvil Centre Parkade	Install a combined occupancy and wayfinding system to direct drivers to the closest available parkade. Report the number of available parking spaces in each parkade. Consider working with building owners to add privately-owned, publically accessible parking lots to the display boards. Install the Boards at the major gateways into Downtown.	Low	• Accessible parking information for the public	5 – 10 years	$50,000 - $500,000		
		Throughout Downtown	Consider installing stall use monitors in select loading zones that are often illegally parked. Connect these sensors to enforcement so that loading zones can be more effectively monitored.	Low	• Sustainable parking systems	> 5 years	$50,000 - $500,000		
Support	Preferential Parking	Throughout Downtown	Prioritize some convenient on- and off- street parking for car share, car pool, and van pool vehicles. This can be done in cooperation with the City's upgraded enforcement technology.	Med	• Encourage shift to more sustainable modes	2 years	n/a		May result in some lost revenue

Appendix A: Glossary of Terms

The following terms are used with specific meanings throughout this report.

Publically-accessible parking	Parking that is available to any person. Publically-accessible parking is often subject to payment and / or time restrictions. It can be owned by the City (see City-owned publically-accessible parking) or by a private entity (see privately-owned publically-accessible parking).
Off-street parking	Parking that is located in a lot or structure.
On-street parking	Parking that is located within the road right-of-way. On-street parking is typically publically-accessible.
Private parking	Parking that is required by bylaw and reserved for residents of a building, their visitors, office employees, their visitors, or retail employees and customers
City-owned publically-accessible parking	Parking that is available to any person and owned by the City. On-street parking typically falls into this category. Off-street City owned parking lots are also included here.
Privately-owned publically-accessible parking	Pay parking available to any member of the public, but not owned by the City.
Visitor	A person who is not a regular resident, employee, or student in a given building or area. A customer at a store is a visitor, no matter where that customer lives or works.

Appendix B: Public Consultation Summary

The public consultation for this project concentrated on two groups:

- **Stakeholder Advisory Group** – a group of stakeholders representing businesses, residents, and organizations in Downtown New Westminster. This group was involved in the identification of issues, challenges, and guiding principles. They received more in depth information about the project and served as an interim review committee as the project progressed. The Stakeholder Advisory Group met three times at dedicated meetings. Members of the Stakeholder Advisory Group were also active participants in the Public Open Houses, where consultation was extended to the public at large.

  The Stakeholder Advisory Group represented the following organizations:
  - Advisory Planning Commission
  - Columbia Square
  - Douglas College
  - Downtown Business Improvement Area (BIA)
  - Downtown Parking Commission
  - Downtown Residents Association
  - Impark
  - Larco
  - Law Courts
  - Quayside Community Board
  - River Market
  - Urban Development Institute (UDI)
  - City of New Westminster

- **Public at large** – all members of the public, engaged through public open houses.

Consultation started early in the project and continued through the development and review of potential strategies. The sections below describe the purpose and outcome of each consultation event in chronological order.

Stakeholder Advisory Committee Meeting # 1 – July 17, 2012
The first Stakeholder Advisory Committee Meeting served as an introduction to the project, including introduction of group members, project overview, roles and responsibilities, and review of background material. The meeting included two group activities, one to identify issues and challenges and the other to define success for the project and the Downtown.
The key categories of issues and challenges are summarized below:

- Front Street parkade
- Bylaws and the development process
- Wayfinding, including connecting merchants to parking
- Affordability
- Technology

- Supply and demand, including area-specific supply issues and managing future supply
- Providing parking for alternative modes
- Safety concerns (not necessarily parking related)

The group discussed their vision of future success in New Westminster, building from the Vision and Goals outlined in the Downtown Plan. The key items from this discussion are summarized below:

- The connection between mode share and parking strategies must be clear.
- Success relies on attracting more destination work to Downtown New Westminster to increase economic vitality during the day.
- Residents and businesses in Downtown New Westminster will support each other in a symbiotic way and less parking will be needed because residents will be shopping locally.
- People will understand that parking is available for their needs and will know where to find it through improved communications and wayfinding.
- Understand and make the most of the benefits of having 25,000 students in the Downtown.
- Success includes affordable parking that does not deter customers.
- A successful Downtown New Westminster is able to compete with other retail destinations. It is a special destination similar to Main Street or Gastown and people choose New Westminster because of its unique character and retail options.
- Success in the future will see more businesses catering to Downtown residents and providing options for customers who do not want to drive in order to shop. (e.g. light weight packaging, delivery wagon).
- Success involves the Province taking some responsibility for parking around the Law Courts. The Province also does not provide parking for educational institutes.

These issues, challenges, and visions for success formed the basis for the assessment of existing conditions and development of Guiding Principles.

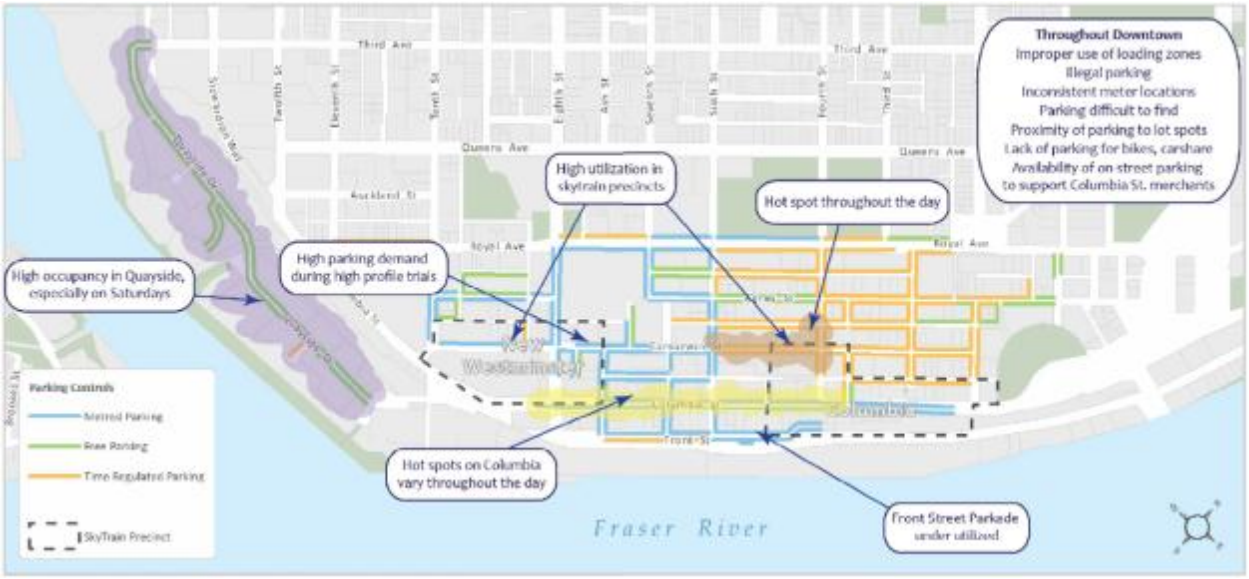
Stakeholder Advisory Committee Meeting #2 – September 5, 2012

At the second Stakeholder Advisory Committee Meeting, the committee reviewed the assessment of existing conditions, confirmed issues and opportunities and discussed visions and aspirations. The following concepts received support from the Stakeholder Group.

Issues and Opportunities related to the Parking Strategy are:

- Supporting the Downtown Plan including the ability to influence single occupant travel demand through provision of sufficient parking supply to maintain economic vibrancy
- Maintaining a strong balance between parking availability and appropriate pricing while being sensitive to the unique characteristics of the Downtown precincts and future growth
- Determining the future of the Front Street parkade
- Exploring opportunities for innovation within the current bylaws and the development process (e.g. variances, parking maximums, parking for alternative modes)
- Exploring means by which to effectively communicate parking availability to users to avoid parking being perceived as a barrier

The following graphic highlights some of the key locations with parking issues and opportunities.



The group also discussed the Visions and Aspirations for the Downtown and confirmed the Guiding Principles summarized below.



The committee also discussed the Proposed Vision for Downtown's Front Street and Rail Corridor, which was approved by Council on September 19th, 2011 for community review and endorsement. The committee agreed with the vision in principle and supported taking the vision to the public at large during the Open House.

The issues, opportunities, vision, aspirations, and guiding principles confirmed with the Stakeholders were carried forward to public consultation at the Open House.

Public Open House #1 – September 13, 2012

The Public Open House included two parts: a static information display for review and an open discussion. The static display included information about the study, results of the existing conditions analysis, issues and challenges and aspirations for Downtown. The proposed Vision for Downtown's Front Street and Rail Corridor was presented for review by the community. The proposed guiding principles, as approved by the Stakeholder Advisory Committee were presented for comment.

Proposed Vision for Downtown's Front Street and Rail Corridor

As the City implements the Downtown Community Plan, Front Street will be returned to a pedestrian friendly retail street with historic storefronts. Seamless connectivity to the Waterfront will be achieved by an elevated Sixth Street Overpass allowing for barrier-free movements to the Waterfront and the Westminster Pier Park for pedestrians and cyclists. Over time, the Front Street Parkade will be replaced with new public parking decentralized throughout Downtown. The rail corridor will be cleaned up and train whistles will be eliminated. When the Pattullo Bridge is reconstructed, direct access will not be permitted to Front Street. In addition, the City will seek to prohibit or restrict commercial truck traffic from Front Street.

- Approved by Council on September 19th, 2011 for community review and endorsement

In the discussion portion of the Open House, attendees discussed the aspirations, visions, and guiding principles. Attendees were generally supportive of the items proposed by the study team.

Stakeholder Advisory Committee Meeting #3 – December 12, 2012

At this meeting, the Stakeholders received an update on the project status and new information about expected future growth and proposed response strategies. Attendees expressed general support for the strategies presented. Some key items the committee wished to see reflected in the final strategy were:

- Residential parking decoupled from unit ownership to allow more affective pricing.
- Acknowledgement that the Law Courts are currently undersupplied.
- Acknowledgement that the number of students at Douglas College cannot be increased without building expansion on a new site.
- Shorter meter time restrictions and possibly higher meter prices.
- Improved wayfinding.
- On-street parking controls in Quayside. These could be a combination of price, time restrictions, and resident parking requirements. Requirements should not permit long-term storage of resident vehicles on-street.
- Connect parking operating revenues to investments in the same neighbourhood.

This feedback was integrated into the Strategy presented at Open House #2.

Public Open House #2 – TBD

The final Public Open House will allow for discussion of the guiding principles and resulting packages of strategies with the Stakeholder Advisory Group and the public. This event will take place in early February.

Appendix C: Private Parking Rate Comparison

<table>
<tr><th>Municipality</th><th>Bylaw</th><th>Land Use and Requirement</th><th>Other Info</th></tr>
<tr>
<td>City of Richmond</td>
<td>• Section 7 in Zoning Bylaw 8500 (2009).</td>
<td>
<table>
<tr><th>Land Use</th><th>Unit type</th><th>Requirement</th></tr>
<tr><td>Residential</td><td></td><td></td></tr>
<tr><td></td><td>Town Housing</td><td>• 2 spaces per dwelling unit</td></tr>
<tr><td></td><td>Mixed Commercial/Residential Uses</td><td>• 1.5 spaces per dwelling unit</td></tr>
<tr><td></td><td>Apartment Housing</td><td>• 1.5 spaces per dwelling unit</td></tr>
<tr><td>Commercial</td><td></td><td></td></tr>
<tr><td></td><td>Office</td><td>• 3 spaces per 100 m^2 of gfa of building.
• In the Downtown and Steveston Commercial Zones (CS2, CS3 and CDT), 3 spaces per 100m^2 of gfa of building; plus 1.5 spaces per 100 m^2 of gfa for all floors above the first two.</td></tr>
<tr><td></td><td>Restaurants</td><td>• 8 spaces per 100m^2 of gfa up to 350m^2; plus 10 spaces for each additional 100m^2 of gfa.</td></tr>
<tr><td></td><td>Retail</td><td>• 3 spaces per 100m^2 of gfa up to 350m^2; plus 4 spaces for each additional 100m^2 of gfa
• In the Downtown and Steveston Commercial Zones: 3 spaces per 100 m^2 of gfa on the first 2 floors; plus 1.5 spaces per 100m^2 of gfa for all floors above the first 2 floors.</td></tr>
<tr><td>Industrial</td><td></td><td></td></tr>
<tr><td></td><td>General and Heavy Industrial</td><td>• 1 space per 100 m^2 of gfa of building</td></tr>
<tr><td>Uses in the City Centre*</td><td></td><td></td></tr>
<tr><td></td><td>Town Housing, Apartment, Mixed Commercial Residential</td><td>• Zone* 1: 1 space for residents per dwelling unit
• Zone 2 1.2 spaces for residents per dwelling unit
• Zone 3: 1.4 spaces for residents per dwelling unit</td></tr>
<tr><td></td><td>Convenience and General Retail</td><td>• Zone 1: 3.75 spaces per 100m^2 of gfa on the first 2 floors and for the gfa above the first 2 floors, 15% reduction from non-City Centre requirements.
• Zone 2: 4.2 spaces per 100 m^2 of gfa on the first floor and for the gfa above the first floor, a 5% reduction from the non-City Centre requirements.
• Zone 3: 4.4 spaces per 100m^2 of gfa on the first floor and for the gfa above the above the first floor, the minimum parking requirements as identified in the non-City Centre section.</td></tr>
</table>
</td>
<td>Zoning Bylaw
• minimum on-site parking requirements may be reduced by up to a maximum of 10% where:
a) the City implements tdm measures, including the use of car co-ops, transit passes, private shuttles, carpools or enhanced end-of-trip cycling facilities; and
b) the minimum on-site parking requirements are substantiated by a parking study that is prepared by a registered P.Eng and is subject to review and approval of the City.

• Section 7.14. of the Zoning Bylaw provides the requirements for on-site bicycle parking facilities

City Centre Area Plan
• Parking requirements are reduced in the City Centre because of easy access to the Canada Line and the City's commitment to promoting alternative modes of transportation. In the City Centre Area Plan, Zones 1, 1A, 2 and 3 are identified on the Parking Bylaw Map. Each of these zones has reduced parking requirements for their residential and non-residential uses. These reductions are reflective in the summary table.*</td>
</tr>
<tr>
<td>Victoria</td>
<td>• Schedule C in Zoning Regulation Bylaw No. 80-159</td>
<td>
<table>
<tr><th>Land Use</th><th>Unit type</th><th>Requirement</th></tr>
<tr><td>Residential</td><td></td><td></td></tr>
<tr><td></td><td>Single and Two Family</td><td>• 1 space per dwelling unit</td></tr>
<tr><td></td><td>Multiple Dwellings</td><td>• 1.1 space-1.4 space per unit, depending on Zone (R3-1, R3-2)</td></tr>
<tr><td>Commercial</td><td></td><td></td></tr>
<tr><td></td><td>Retail</td><td>• 1 space per 37.5 m^2</td></tr>
<tr><td></td><td>Commercial</td><td>• 1 space per 65 m^2 of gfa</td></tr>
<tr><td></td><td>Eating and Drinking Establishments</td><td>• 1 space per 5 seats</td></tr>
<tr><td>Industrial</td><td></td><td></td></tr>
<tr><td></td><td>Warehouse and wholesale distribution</td><td>• 1 space per 93 m^2 of gross floor area or 1 space per 3 employees, whichever is greater</td></tr>
<tr><td></td><td>Manufacturing</td><td>• 1 space per 140 m^2 of gross floor area or 1 space per 3 employees, whichever is greater</td></tr>
</table>
</td>
<td>Zoning Bylaw
• Extensive Bicycle Parking (Class 1 and 2 Requirements)
• No location based (downtown/TOD) parking requirements. All related to land use.</td>
</tr>
</table>

City of Coquitlam

- Section 7 in Zoning Bylaw 3000, 1996

Land Use	Unit type	Parking Rates
Residential		
	One Family, Two Family or Duplex	• 2 spaces per dwelling unit
	Secondary Suite	• 1 space per secondary suite
	Apartment/Town House	• 1 space per bachelor and one-bedroom and 1.5 spaces per dwelling unit with two or more bedrooms.
Commercial		
	Commercial	• 1 space per 40 m^2 of gfa
Industrial		
	Industrial	• 1 space per 100 m^2 of gfa
Uses in Transit Core Shoulder and Station Areas		
	Two Bedroom Apartment/Townhouse	• 1.35 spaces per unit (reduced from 1.5 spaces per unit)
	Commercial	• 1 space per 45m^2 of gfa for the Transit Village Commercial Zone (C-7).

Zoning Bylaw

- Section 7.11. of the Zoning Bylaw provides the requirements for on-site bicycle parking facilities

Core Shoulder and Station Area Bylaw Summary:

- Transportation Demand Management (TDM) measures reduce the demand for private vehicle off-street parking. These include the continuous provision of transit passes to residents or employees of the site, end-of-trip facilities for cyclists, and provision of cooperative car parking stalls. Land development applicants seeking a reduction of up to 5% of the required off-street parking will need to provide TDM measures for their site.
- Shared Parking: The option of providing shared parking in commercial and/or mixed use developments (commercial and residential visitor) is now included as a way to improve the efficiency of parking supply throughout the course of a typical day. The provision stipulates that as part of the TDM measures, when an applicant seeks a reduction in the parking requirements, commercial and residential visitor parking in mixed use sites must be shared and not assigned to specific uses.
- Voluntary Payment in-lieu (PIL) of Parking Spaces: Should staff accept a TDM strategy for the site, the Bylaw requires a fee of $20,000 for every parking space not provided above five percent (5%) above the required off street parking. The maximum number of parking spaces covered by the PIL fee would be 15% in the City Centre core area and 10% in all other EGL core and shoulder areas. Any further reductions beyond these maximums would require a variance subject to Council approval. Monies deposited In the CIL account would be available to Council to fund public parking and multi-modal improvements in transit areas.

City of Vancouver

- Section 4 in Parking By-law No. 6059

Land Use	Unit type	Requirement
Residential		
	One family with Secondary Suite	• Minimum of 1 space per dwelling unit.
	Multiple Dwelling	• Minimum of one space for each 70 m^2 of gfa. No more than 2.2 spaces for every dwelling unit need be provided.
Commercial		
	Office	• Minimum of one space for each 100 m^2 of gfa up to 300m^2, and one additional space for each additional 50 m^2 of gfa.
	Restaurants	• Minimum of one space for each 50 $m^2$of gfa up to 100 m^2, one additional space for each additional 10 $m^2$of gfa up to 500m^2 and one additional space for each additional 20 $m^2$of gfa over 500 m^2.
	Retail	• Minimum of one space for each 100 m^2 of gfa up to 300 m^2, and one additional space for each additional 50m^2 of gfa. (Same as Office)
Industrial		
	Manufacturing and Wholesale Uses	Minimum of one space for each 93m^2 of gfa in the building, or one space for every five employees on a maximum work shift, whichever is the greater.
Downtown Uses		
	Residential and Live-Work	The lesser of: • at least one parking space for each 140m^2 of gross floor area • one parking space for every dwelling unit
	Non-Residential Hotel Uses	• Minimum of one parking space for each 145m^2 of gfa and a maximum of one parking space for each 115 m^2 of gfa • A minimum of 0.3 parking space (max. of 0.5 space) for every unit and a minimum of one space for every two dwelling units. • In addition a minimum of 1 parking space (max. of 1.1 parking space) shall be provided for each 40m^2 of floor area used for meeting room or ballroom.

Parking Bylaw

- City of Vancouver has created a stand-alone Parking Bylaw. Unlike the other municipalities examined, the parking requirements are not a component of the City's Zoning Bylaw.
- Unlike other municipalities, the City of Vancouver identifies both parking minimums and parking maximums for most land uses in their Parking Bylaw.