

APPENDICES

FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

for the

VANCOUVER CITY CENTER VISION SUBAREA PLAN

November 2006



APPENDIX A

LAND USE



COLUMBIA WEST RENAISSANCE DISTRICT *Project Memorandum*

TO: Sandra Towne, City of Vancouver

FROM: Chris Zahas, Leland Consulting Group

DATE: 28 March 2006

SUBJECT: Retail Capacity for the Vancouver Waterfront
Project Number: 4653

Introduction

As Vancouver's waterfront opens up for development, new housing and office uses are expected to be developed there. The Boise Cascade site is now being marketed and there is expressed developer interest for redevelopment with housing and office uses. Retail space, however, is a more challenging component of the district because it is inherently more vulnerable to market and locational factors. Yet retail also gives a district much of its vitality and character; thus the question of how much retail space is appropriate in the Columbia West Renaissance District is an important one. This memorandum describes the recommended retail program for the Columbia West Renaissance District in downtown Vancouver. The recommendations are tied to the planned build out of residential, office, and hotel space.

Based on the Vancouver Center City Vision Plan, a review of current market conditions, and developer interviews, the future build out of the Columbia West Renaissance District has been identified as follows.

Land Use	Program	Acres
Infrastructure & Open Space		10.6
Hotel (redevelopment)	200 rooms	1.7
Hotel Event Space	65,000 s.f.	0.6
Residential (@120 units/acre)	3,014 units	25.1
Parking	800 spaces	1.0
Mid-rise office (w/structured parking)	250,000 s.f.	1.5
Rail Island Office	200,000 s.f.	1.5
Rail Island Light Industrial	100,000 s.f.	2.1

As a distinct, and somewhat isolated, part of downtown, retail along the waterfront will be supported by three primary markets:

- Residents living in the condominiums and apartments;



- Workers in the office buildings and the hotel(s); and
- Visitors from throughout the region who are patronizing destination retailers.

Coupled with this potential market support is a caution in not planning for too much retail. The City should be cautious for a number of reasons:

- Waterfront-oriented retail has limited visibility and is greatly affected by weather cycles.
- Retail in the rest of downtown is presently weak and should not be diluted by drawing emphasis away from Esther Short Park and Main Street.
- The proximity of Jantzen Beach and the lack of a sales tax in Oregon are disincentives to locating in downtown Vancouver for most large scale and higher-end retailers.
- The Columbia West Renaissance District will always have limited access and will not be on a common commute route or thoroughfare, reducing the visibility of retailers.

Given the three potential markets and the reasons for moving cautiously, Leland Consulting Group recommends that 125,000 (rounded) square feet of retail space be included at the waterfront. Since the purpose of this analysis is to support an environmental impact analysis of the downtown that quantifies the impact of future development (and serves as a de facto development cap), the total includes an additional contingency of 20 percent to factor for future changes to market conditions.

Retail Type	Quantity (s.f.)	Examples
Residential supporting	56,663	Dry cleaner, café, mini-mart, florist, pizza.
Office supporting	12,324	Copy shop, sandwich shop, hair salon.
Destination restaurants	25,000	4,000 to 5,000 square feet each.
Other destination	10,000	Galleries, day spa, gift shop.
Contingency (20%)	20,797	
TOTAL	124,784	

Design Considerations

For this recommended retail to be viable and successful, it must be designed well and located appropriately to maximize its potential. The following principles will help ensure that retail in the Columbia West Renaissance District has the greatest opportunity for success.

- Avoid locating retail, except for restaurants, along a boardwalk or locations that are not visible to the street or passing vehicles;
- Signature restaurants can serve as the “anchor tenants” that will maintain a critical mass and draw visitors over and over;



- Restaurants overlooking the water and/or near the hotel will perform better;
- Locate non-restaurant retail as close to restaurants as possible;
- Concentrate retail at key intersections and along major access routes to the district.

Analysis

The retail analysis is based on the combination of potential market support from three sources:

- Retail supported by residents;
- Retail supported by office workers; and
- Retail supported by destination visitors.

An analysis of each subgroup is described in the following sections.

Retail Supported by Residents

To quantify how much retail the residents who will live along the waterfront would support, assumptions about household income and how much of each household's retail spending will be captured in their home neighborhood are necessary. From this spending assumption, square feet of retail space can be calculated based on average sales per square foot. Included in this retail category would be retail services such as dry cleaners, florists, and salons.

Since the waterfront will be all new construction, home prices will be higher than average for the City, therefore household incomes of residents will also need to be higher than for the rest of the city (in order to afford these units). Market prices for urban condominiums in Portland are approaching \$450 to \$500 per square foot. As a secondary urban housing market to the Pearl District or South Waterfront, housing along Vancouver's waterfront could cost in the range of \$400 per square foot. Therefore, a 1,200 square foot condominium would cost approximately \$480,000.

To afford a \$480,000 condominium, a household would need an annual income of at least \$122,500¹. In 2005, the average household in Vancouver spent 43.3 percent of its income on retail goods and services². Assuming that retail spending rises in proportion to income, future households along Vancouver's waterfront would spend approximately \$53,000 annually on retail goods and services.

Most retail spending by residents would not take place in the district, however. Purchases such as autos, major grocery trips, and clothing purchases at the mall would

¹ Assuming a 30-year mortgage at 6.5 percent interest with a 10 percent down payment and allowing for 30 percent of household income to be spent on principal and interest.

² ESRI Business Information Solutions.



account for the large majority of each household's spending. An aggressive assumption would be that 8 to 12 percent of each household's retail spending would occur in the Columbia West Renaissance District. That is, each household would spend anywhere from \$4,240 to \$6,360 annually in retail establishments in the district. With average sales per square foot of \$339³, this spending could support from 12.5 to 18.8 square feet of retail space per household, or up to 56,663 square feet when accounting for all 3,014 households.

Retail Supported by Employees

About half of employee retail spending is related to food purchases during the lunch hour. National research indicates that a downtown office worker spends \$2,630 per year on retail near their place of work⁴. Given average retail sales per square foot of \$339⁵, each office worker could support approximately 7.8 square feet of retail space in the district. With a total employment of 1,580 projected for the district, the vast majority of whom are expected to be in family-wage office jobs, there is demand for approximately 12,324 square feet of retail space attributable to employees.

Retail Supported by Destination Visitors

Destination retail along the waterfront should almost exclusively be restaurants. As described earlier, most other types of retail will perform very poorly in an isolated waterfront location. On the other hand, view restaurants, especially unique and high-quality ones, can perform very well. The proximity to the new Conference Center and Hilton Hotel along with another hotel on the Quay property should further support restaurants along the waterfront. A conservative assumption would be that as a waterfront destination, the district could support up to four destination restaurants at 5,000 square feet each plus two smaller eateries of 2,500 square feet each. While not a primary focus, destination visitors could also support an additional 10,000 square feet of retail adjacent to or near the restaurants. These retailers could include art galleries and specialty boutiques. Their success would depend on a good site plan that places them close to the destination restaurants but also along access routes to and from downtown and the Conference Center.

³ International Council of Shopping Centers, 2004.

⁴ ICSC: Office Worker Retail Spending Patterns, 2004, assuming a downtown location with "limited" amount retail available.

⁵ ICSC, 2004.



CITY OF VANCOUVER BOISE SITE ZONE CHANGE

28 April 2006

Employment Capacity Analysis

Introduction

The 2003 Vancouver City Center Vision (VCCV) identified Vancouver's waterfront as a key development opportunity. Under the name Columbia West Renaissance District, the waterfront is planned to be a vibrant employment and residential community with over 3,000 housing units, 250,000 square feet of office space, a hotel, supporting retail, and signature open space along the river. In support of that plan, the City is currently preparing an environmental impact statement (EIS) to evaluate the impacts of development.

Boise (formerly Boise Cascade) is one of the largest property owners on the waterfront along with the Port of Vancouver. Boise recently initiated a bid process to sell its 31 acres of property for redevelopment. In order for that property to be developed as called for in the VCCV, its zoning must be changed from IH (Heavy Industrial) to CX (City Center). This memorandum supports the zone change process by analyzing the employment and wage capacity impacts of the zone change. This is a key requirement of the City's "no net loss" policy, which restricts zone changes or legislative land use approvals that would "lessen long-term capacity for high-wage employment unless accompanied by other changes within the same annual review cycle that would compensate for the lost capacity or unless the proposed change would promote the long-term economic health of the city."

Site Summary

The Boise site comprises 31 acres of land directly fronting the Columbia River south of the Union Pacific railroad berm. While the site currently has limited road access, planned improvements will make it suitable for urban development. See Figure 1.

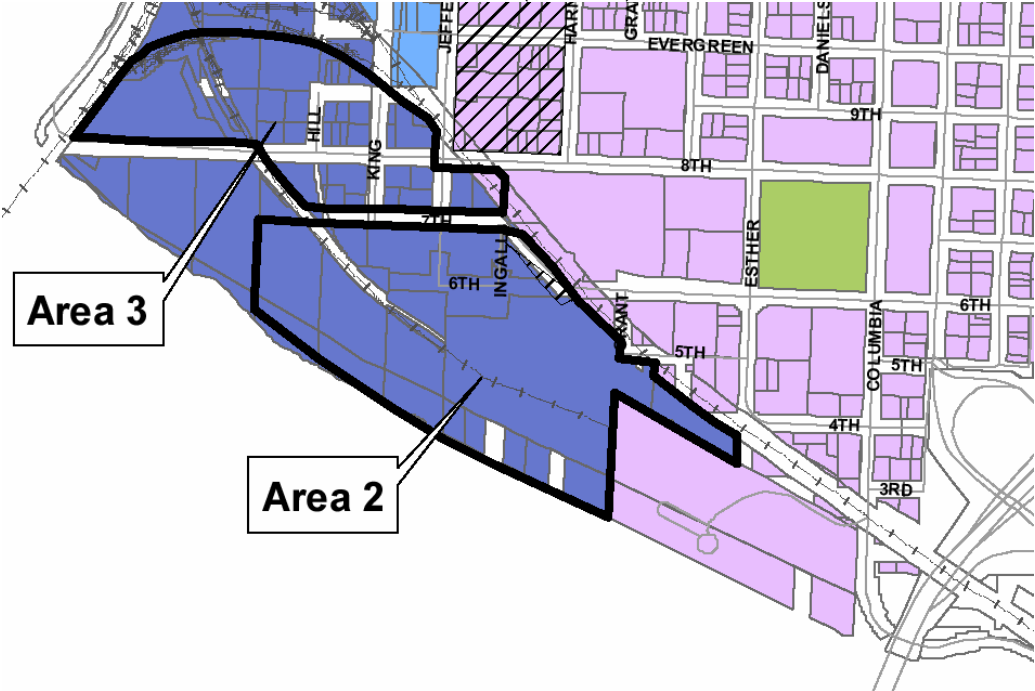
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www.lelandconsulting.com

610 SW Alder Street,
Suite 1008
Portland, Oregon
97205-3611

p. 503. 222. 1600
f. 503. 222. 5078



FIGURE 1. BOISE PROPERTY SITE MAP (AREA 2)



Source: City of Vancouver

Zoning Summary

The current IH zoning is designed to allow for heavy industrial uses such as manufacturing, warehousing, and distribution. Due to the assumed impacts (traffic, noise, etc.), residential uses are prohibited (with the exception of a single caretaker residence per use). The IH zone allows for limited office uses and some supporting retail.

The proposed CX zone is a mixed-use designation that allows a wide variety of uses characteristic of a thriving downtown. Thus, everything ranging from urban housing to office, retail, and other commercial and civic uses are allowed. All of the downtown Vancouver core south of Mill Plain Boulevard, east of Jefferson Street, and north of the railroad berm is already zoned CX.

Development Program

In order to calculate the employment impacts of the proposed zoning, assumptions must be made about the future build out of the district. Since the CX zone allows for a wide range of uses including housing, the selected development program directly impacts the employment capacity of the district. The proposed development program is based on many factors, including:

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Suite 1008
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- Conceptual plans described in the VCCV;
- Interviews with developers and real estate professionals;
- Accommodation of required environmental setbacks;
- Consideration of the land uses being analyzed for the EIS;
- Consideration of keeping the downtown core as the region’s primary office district; and
- Avoiding “over retailing” districts near Esther Short Park and Main Street.

Based on the above considerations, the long-term build out of the 31 acres to be rezoned as CX is proposed in Table 1 as follows:

TABLE 1. PROPOSED USES UNDER CX ZONING

Proposed Use Under CX	Acres	Development Amount
Shoreline setback	9.0	
Internal infrastructure and open space	5.0	
Housing (200 units per acre)	15.0	3,014 units
Retail (in ground floor of housing)	included	25,000 sq. ft.
Office	1.5	250,000 sq. ft.
Retail (in ground floor of office)	included	6,000 sq. ft.
Other retail (restaurants, free-standing retail)	0.5	25,000 sq. ft.
TOTAL	31.0	

Source: City of Vancouver, Leland Consulting Group.

Since the proposed employment capacity must be compared to the capacity under current zoning, a similar program must be developed to quantify the employment capacity under the current IH zoning. Although there is existing development in place at the Boise facility, much of the site is underutilized. Thus, the analysis should assume potential development that more fully utilizes the site as shown in Table 2.

TABLE 2. PROPOSED USES UNDER IH ZONING

Proposed Use Under IH	Acres	Development Amount
Shoreline setback	9.0	
Internal infrastructure and open space	5.0	
Industrial employment (FAR 0.35)*	17.0	259,182 sq. ft.
TOTAL	31.0	

* FAR=floor area ratio, a measure of the development capacity of a site. Development capacity for industrial development is based on Metro’s 1999 Employment Density Report and Metro’s 2002-2022 Urban Growth Report: An Employment Land Needs Analysis.

Source: City of Vancouver, Leland Consulting Group.

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Employment Impacts

In order to quantify the employment that will be generated from this new development, employment densities must be assigned to each use. Once these densities are established, the total employment capacity for the district can be calculated and compared to the capacity under existing zoning.

TABLE 3. EMPLOYMENT CAPACITY OF CX AND IH ZONING

Proposed Use	Development Amount	Job Density (per 1,000 sq. ft.)*	Total Jobs
Proposed CX Zoning			
Office	250,000 sq. ft.	3.3	825
Retail (combined)	56,000 sq. ft.	2.9	162
TOTAL			987
Existing IH Zoning			
Industrial	259,182 sq. ft.	2.0	518

* Job densities are based on the Metro 1999 Employment Density Report and the Metro 2002-2022 Urban Growth Report: An Employment Land Needs Analysis.

Source: Leland Consulting Group.

As shown in Table 3, the proposed CX zoning will generate approximately 987 combined retail and office jobs, while the existing IH zoning will generate approximately 518 jobs. Therefore, the CX zoning supports the City's "no net loss" policy by increasing the employment capacity of the site by 469 jobs.

Wage Impacts

The City's "no net loss" policy requires not only the preservation of jobs generally, but of high-wage jobs in particular. A comparison of the wage impacts of the IH and CX zones will identify whether the proposed zone change will support the growth of high-wage jobs in Vancouver.



TABLE 4. COMPARISON OF WAGE IMPACTS OF CX AND IH ZONING

Proposed Use	Number of Jobs*	Average Wage**	Total Wages
Proposed CX Zoning			
Office	825	\$21.75/hr; \$45,240 annually	\$37,323,000
Retail (combined)	162	\$10.10/hr; \$21,008 annually	\$3,403,296
TOTAL	987		\$40,726,296
Existing IH Zoning			
Industrial	518	\$15.03/hr; \$31,263 annually	\$16,194,234

* From Table 3.

** Wages were selected by applying the average wage of job categories that could locate in the selected zone. A weighted average was used based on the preponderance of each job category in the Portland/Vancouver region. Annual wages were calculated by multiplying average hourly wage by the "year-round, full-time" figure of 2,080 hours.

Source: U.S. Department of Labor, November 2004 Prevailing Wage Rates, Portland/Vancouver MSA; Leland Consulting Group.

The potential payroll increase of the zone change is greater than the raw addition of 469 jobs. Office jobs in the region pay an average of \$45,240 per year, while industrial jobs pay \$31,263 per year as seen in Table 4. Thus, the CX zoning will provide for an increase in the wage capacity of the site of over \$24 million per year.

Summary

The proposed sale of the Boise site is a significant opportunity to jump-start the redevelopment of Vancouver's waterfront. As shown in this study, such a redevelopment will not only represent a major new investment in downtown, but it will have significant positive impacts to the employment and wage capacity of Vancouver. The total employment capacity of the site will increase by over 460 jobs, assuming a build out that is heavily focused on housing. If more offices were built instead of housing, the increase in jobs would be even higher. Those jobs pay well and are in the family- and high-wage categories that the City desires, increasing the total wage capacity of the site from \$16 million to over \$40 million per year. Thus, the proposed change supports the City's "no net loss" policy and other economic development goals.

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VANCOUVER CITY CENTER VISION *Project Memorandum*

TO: Steve Burdick, City of Vancouver
Suzan Wallace, City of Vancouver
Laura Hudson, City of Vancouver
Matt Ransom, City of Vancouver

FROM: Chris Zahas, Leland Consulting Group

DATE: 24 June 2005

SUBJECT: VCCV Methodology
Project Number: 4327.2

Having reviewed my files, e-mails, and notes from the VCCV project, I have summarized the methodology for arriving and build out assumptions for each sub-area. The assumptions are different for each area, as noted. Unless stated otherwise, we assumed that development in each sub-area would only occur on “redevelopable” sites, which we defined as properties with a land value to improvement value ratio of greater than 1.0 (land is worth more than the structure). The attached map shows which properties met this criterion (highlighted properties) – there were some obvious data errors (Esther Short Park and Heritage Place are examples), which were later removed from the analysis.

We also were careful in not suggesting too much new retail – there are a lot of empty storefronts that could be filled before any new retail is built – plus, we wanted to strengthen existing “pulse points” rather than spread retail throughout the downtown.

Most of our attention was on Main Street and the waterfront, so I have less detail on the other sub-areas. Also, Bob Wood did the actual numerical calculations, in part based on my input and discussions, so I cannot be entirely definitive, but these thoughts should shed some light.

While we did not do a full market study to project absorption, there was consideration of how much housing had been built since the first ESP plan and what that would mean in terms of a 20-year program. We were careful to spread out some of that demand to the various sub-areas so that ESP or the waterfront weren’t the only game in town – diversify the products and neighborhoods. Additional background on each sub-area is as follows:

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Uptown Sub-Area

- Potentially available land area: approximately 300,000 s.f. (6.9 acres)
- Primarily rowhouses at northern end, approx. 16-20 per acre;

- More lofts/condos at southern end, approx. 32 per acre;
- Careful addition of retail – not retail on every ground floor;
- Due to the success of Anthem Park, we saw a large potential market for townhouses and row houses and focused on them;

Mill Plain and 15th St. Couplet Sub-Area

- Potentially available land area: approximately 500,000 s.f. (11.5 acres)
- Mix of mid- and low-rise housing at approximately 32 units per acre;
- Not a great housing site due to traffic/ noise;
- Without structured parking, grocery store would be a 2-block project;

Central Downtown Sub-Area

- Potentially available land area: approximately 400,000 s.f. (9.2 acres);
- Maintain historic character and scale on lower Main Street by assuming second floor condos and apartments, but no high-rise development;
- Lifestyle retail center on Copps site using a development model similar to Lake View Village in Lake Oswego (that project is 44,000 s.f. of ground floor retail with 44,000 s.f. of second-floor office surrounding a core garage);

Westside Government Sub-Area

- Potentially available land area: approximately 500,000 s.f. (11.5 acres);
- Focus on low- to mid-rise housing only;
- We did not have any specific knowledge of County office expansions, so these were not included (and County land probably didn't show up on our inventory);

Esther Short Sub-Area

- Potentially available land area: approximately 550,000 s.f. (12.6 acres);
- Assumed essentially same scale of development as already exists;
- Not sure if Block 10 was assumed as housing or office;

Columbia West Renaissance Sub-Area

- Total potentially available land area: approximately 4,000,000 s.f. (91.8 acres);

- Boise Cascade and Port Study Area only: approx. 2,000,000 s.f. (45.9 acres);
- Kept heights lower than maximum allowed in order to achieve better scale and maintain view corridors from downtown – typically 4 – 6 floors only. All of the waterfront analyses were assuming a 65’ height limit;
- Primarily large, luxury housing – average 2,000 s.f. per unit;
- Essentially no development within the 200-foot setback;
- Grid system with 60-foot ROW streets;
- Keep and reuse the brick building on the Boise site;
- In the development scheme, housing is only located on the four blocks adjacent to the river;
- Structured parking is above-grade (core or podium garages) due to perceived water table issues;
- The 30,000 s.f. of office mentioned is only limited office in the housing structures and what would be included in the hotel or other waterfront buildings;
- There is an additional 10 acres of developable parcels against the berm – we did not program those parcels;
- Downplayed office development based on market conditions, desire to emphasize office in the core, access issues, and on comments received at developer workshop;
- Retail is limited to some restaurants;

COLUMBIA WEST RENAISSANCE DISTRICT

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³ International Council of Shopping Centers, 2004.

⁴ ICSC: Office Worker Retail Spending Patterns, 2004, assuming a downtown location with "limited" amount retail available.

⁵ ICSC, 2004.

APPENDIX B

HISTORIC AND CULTURAL RESOURCES

**HISTORIC PROPERTY INVENTORY
SUMMARY REPORT**

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name: <u>Collings Building</u>	Styles
Common Name:	Commercial
Location Address: <u>100 E 19th St, Vancouver, WA 98660</u>	
Date Recorded: <u>11/25/2005</u> Construction Date: ca. 1925 Field Site No.: <u>05/1263-64</u>	
Historic Name:	Styles
Common Name:	Vernacular
Location Address: <u>105 E 25th St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/9/2005</u> Construction Date: ca. 1960 Field Site No.: <u>05/1263-85</u>	
Historic Name:	Styles
Common Name:	Commercial
Location Address: <u>109 W 17th St, aka, 1602 Main St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: ca. 1950 Field Site No.: <u>05/1263-62</u>	
Historic Name:	Styles
Common Name: <u>First Christian Church Fellowship Center</u>	Modern
Location Address: <u>111 W 19th St, Vancouver, WA 98660</u>	
Date Recorded: <u>11/30/2005</u> Construction Date: ca. 1950 Field Site No.: <u>05/1263-68</u>	
Historic Name:	Styles
Common Name:	Other - Utilitarian
Location Address: <u>1500-1520 Washington St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: 1930-1944 Field Site No.: <u>05/1263-249</u>	
Historic Name: <u>Williams, Edward, House</u>	Styles
Common Name:	Arts & Crafts - Craftsman
Location Address: <u>1501 Columbia St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: 1921 Field Site No.: <u>05/1263-131</u>	
Historic Name:	Styles
Common Name:	Ranch - Minimal Traditional
Location Address: <u>1501-1503 Esther St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: ca. 1950 Field Site No.: <u>05/1263-150</u>	
Historic Name:	Styles
Common Name:	Vernacular
Location Address: <u>1506 Daniels St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: ca. 1900 Field Site No.: <u>05/1263-149</u>	
Historic Name: <u>Collins, Abram, House</u>	Styles
Common Name:	Vernacular
Location Address: <u>1510-1512 Columbia St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: 1910 Field Site No.: <u>05/1263-133</u>	
Historic Name: <u>Young, Julia, House</u>	Styles
Common Name:	Vernacular
Location Address: <u>1600 Columbia St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: ca. 1901, ca. 1930-40 Field Site No.: <u>05/1263-135</u>	

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>Bennett Paper & Supply</u>	Art Deco - Streamlined Moderne
Location Address:	<u>1600 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1947
		Field Site No.: <u>05/1263-250</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1601 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-96</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>1601 G St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1925
		Field Site No.: <u>05/1263-156</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>1604 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date:
		Field Site No.: <u>05/1263-136</u>
Historic Name:		Styles
Common Name:		Ranch - World War II Era Cottage
Location Address:	<u>1605 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1941
		Field Site No.: <u>05/1263-137</u>
Historic Name:		Styles
Common Name:		Colonial - Colonial Revival
Location Address:	<u>1605 F St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: ca. 1925
		Field Site No.: <u>05/1263-151</u>
Historic Name:	<u>Spivey, Carrie Ziegler, House</u>	Styles
Common Name:		Tudor - Cottage Vernacular
Location Address:	<u>1609 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-138</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>1609 F St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-152</u>
Historic Name:	<u>Keaton, John A., House</u>	Styles
Common Name:		Arts & Crafts - Craftsman Vernacular
Location Address:	<u>1610 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-139</u>
Historic Name:	<u>Wenner, John II, House</u>	Styles
Common Name:		Arts & Crafts - Craftsman Vernacular
Location Address:	<u>1612 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-140</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Tudor - Cottage
Location Address:	<u>1613 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-141</u>
Historic Name:		Styles
Common Name:	<u>Columbia Dance</u>	Art Deco - Streamlined Moderne
Location Address:	<u>1700 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-98</u>
Historic Name:		Styles
Common Name:		Art Deco
Location Address:	<u>1700 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>1/4/2006</u>	Construction Date: 1951
		Field Site No.: <u>05/1263-161</u>
Historic Name:		Styles
Common Name:		Other - Utilitarian
Location Address:	<u>1700 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-253</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1701-1711 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-99</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1704-1706 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-163</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>1706 Columbia St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-260</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1707-1711 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-164</u>
Historic Name:		Styles
Common Name:	<u>Dulin's Café and Espresso Bar</u>	Commercial
Location Address:	<u>1708 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920, ca. 1940
		Field Site No.: <u>05/1263-165</u>
Historic Name:		Styles
Common Name:	<u>Lupe's Auto Clinic</u>	Commercial
Location Address:	<u>1708 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>1/10/2006</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-255</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Other - Utilitarian
Location Address:	<u>1709 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-143</u>
Historic Name:		Styles
Common Name:	<u>Don Lorentz Auto Care Center</u>	Art Deco - Streamlined Moderne
Location Address:	<u>1714 Broadway St, Vancouver, WA 98663</u>	Vernacular
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-100</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1715-1717 Broadway St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-92</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1800 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>1/4/2006</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-101</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>1803-1805 F St, Vancouver, WA 98663</u>	
Date Recorded:	<u>1/4/2006</u>	Construction Date: 1958
		Field Site No.: <u>05/1263-154</u>
Historic Name:		Styles
Common Name:		Art Deco
Location Address:	<u>1811-1815-1817 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1925
		Field Site No.: <u>05/1263-168</u>
Historic Name:		Styles
Common Name:	<u>First Christian Church</u>	Colonial
Location Address:	<u>1812 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1923-1925
		Field Site No.: <u>05/1263-169</u>
Historic Name:		Styles
Common Name:		Art Deco - Streamlined Moderne
Location Address:	<u>1812 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/30/1955</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-256</u>
Historic Name:	<u>David Talbot Building</u>	Styles
Common Name:	<u>Omega Printing</u>	Commercial
Location Address:	<u>1900 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1947
		Field Site No.: <u>05/1263-170</u>
Historic Name:		Styles
Common Name:	<u>Casablanca Restaurant</u>	Commercial
Location Address:	<u>1905 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-171</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>An Shen Wellness Center</u>	Arts & Crafts - Craftsman
Location Address:	<u>1906 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1921
		Field Site No.: <u>05/1263-102</u>
Historic Name:		Styles
Common Name:		Spanish - Mission
Location Address:	<u>1907 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1926
		Field Site No.: <u>05/1263-103</u>
Historic Name:		Styles
Common Name:	<u>D Side Studio</u>	Commercial
Location Address:	<u>1908 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-173</u>
Historic Name:		Styles
Common Name:	<u>Bernard J. Sandstrom, CPA</u>	Arts & Crafts - Craftsman
Location Address:	<u>1911 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1925
		Field Site No.: <u>05/1263-104</u>
Historic Name:		Styles
Common Name:	<u>Village Pearl Antiques</u>	Commercial
Location Address:	<u>1911 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-174</u>
Historic Name:		Styles
Common Name:	<u>Henry's Lawn & Power Equipment</u>	Art Deco - Streamlined Moderne
Location Address:	<u>1912 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-175</u>
Historic Name:		Styles
Common Name:	<u>McKenzie Travel</u>	Arts & Crafts - Craftsman
Location Address:	<u>1914 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1921
		Field Site No.: <u>05/1263-105</u>
Historic Name:	<u>McCready Building</u>	Styles
Common Name:	<u>Main St. Trader</u>	Spanish - Mission
Location Address:	<u>1916 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: 1928
		Field Site No.: <u>05/1263-177</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1917-1919 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-178</u>
Historic Name:		Styles
Common Name:	<u>Karin J. Dedona Attorney</u>	Arts & Crafts - Craftsman
Location Address:	<u>1920 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-106</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>LeBijou Boutique/Halo Designs</u>	Art Deco - Streamlined Moderne
Location Address:	<u>1923-1925 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-179</u>
Historic Name:		Styles
Common Name:		Various
Location Address:	<u>1925 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1922
		Field Site No.: <u>05/1263-109</u>
Historic Name:	<u>Washington Laundry</u>	Styles
Common Name:	<u>Treasures in the Village</u>	Commercial
Location Address:	<u>1929 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1925
		Field Site No.: <u>05/1263-180</u>
Historic Name:		Styles
Common Name:	<u>Broadway & 22nd Street</u>	Arts & Crafts - Craftsman
Location Address:	<u>200 E 22nd St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1921
		Field Site No.: <u>05/1263-70</u>
Historic Name:		Styles
Common Name:	<u>Uptown Village Health Center</u>	Arts & Crafts - Craftsman
Location Address:	<u>200 E 25th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1919
		Field Site No.: <u>05/1263-86</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>2000 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1914
		Field Site No.: <u>05/1263-93</u>
Historic Name:		Styles
Common Name:	<u>Old Glory Antiques</u>	Art Deco
Location Address:	<u>2000 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-181</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>2001 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1904
		Field Site No.: <u>05/1263-110</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>2004 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1924
		Field Site No.: <u>05/1263-111</u>
Historic Name:		Styles
Common Name:	<u>Main Street Day Spa</u>	Commercial
Location Address:	<u>2006 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-183</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>A Space For You</u>	Arts & Crafts - Craftsman
Location Address:	<u>2007 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1911
		Field Site No.: <u>05/1263-113</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>2008 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1920
		Field Site No.: <u>05/1263-114</u>
Historic Name:		Styles
Common Name:	<u>Discovery Shop/American Cancer Society</u>	Commercial
Location Address:	<u>2009-2011 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-185</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>201 E 19th St, Vancouver, WA 98663</u>	Vernacular
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1915
		Field Site No.: <u>05/1263-65</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>2012 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1914
		Field Site No.: <u>05/1263-115</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>2012 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-186</u>
Historic Name:		Styles
Common Name:	<u>Casa Grande Mexican Restaurant</u>	Arts & Crafts - Craftsman
Location Address:	<u>2014 Main St, Vancouver, WA 98660</u>	Tudor
Date Recorded:	<u>11/23/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-187</u>
Historic Name:		Styles
Common Name:	<u>Peking Garden (Annex)</u>	Commercial
Location Address:	<u>2015 Main St, Vancouver, WA 9866</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-188</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>2016 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1916
		Field Site No.: <u>05/1263-116</u>
Historic Name:		Styles
Common Name:	<u>Hire Source Staffing</u>	Arts & Crafts - Craftsman
Location Address:	<u>2022 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1916
		Field Site No.: <u>05/1263-117</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>204 E 22nd St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1920
		Field Site No.: <u>05/1263-71</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>204 E 25th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1919
		Field Site No.: <u>05/1263-87</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>205 E Fourth Plain Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-90</u>
Historic Name:		Styles
Common Name:	<u>Hairline Hair Gallery</u>	Commercial
Location Address:	<u>205-207 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1925 (east), 1950 (west)
		Field Site No.: <u>05/1263-222</u>
Historic Name:		Styles
Common Name:		Other - Utilitarian
Location Address:	<u>206 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-28</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>207 E 19th St, Vancouver, WA 98663</u>	Vernacular
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1915
		Field Site No.: <u>05/1263-66</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>207-209-211 W 17th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1910
		Field Site No.: <u>05/1263-63</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>208 E 25th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1905 (GIS 1950)
		Field Site No.: <u>05/1263-88</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>209 E Fourth Plain Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1937
		Field Site No.: <u>05/1263-91</u>
Historic Name:		Styles
Common Name:	<u>Shanahan's Pub</u>	Vernacular
Location Address:	<u>209 W McLoughlin Blvd, Vancouver, WA 98660</u>	
Date Recorded:	<u>1/4/2006</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-246</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>Bauman Chiropractic Center</u>	Queen Anne - Cottage
Location Address:	<u>210 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-223</u>
Historic Name:		Styles
Common Name:	<u>Service Battery, Inc</u>	Other - Utilitarian
Location Address:	<u>210 W 16th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-25</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>2100-2110 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: 1925
		Field Site No.: <u>05/1263-189</u>
Historic Name:		Styles
Common Name:	<u>Peking Garden</u>	Commercial
Location Address:	<u>2101 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-190</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>210-212 E 22nd St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1925
		Field Site No.: <u>05/1263-72</u>
Historic Name:		Styles
Common Name:		Arts & Crafts
Location Address:	<u>214 E 17th St, Vancouver, WA 98663</u>	Vernacular
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1927
		Field Site No.: <u>05/1263-29</u>
Historic Name:		Styles
Common Name:	<u>Nash Motorcycle Co.</u>	Other - Utilitarian
Location Address:	<u>214 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-225</u>
Historic Name:		Styles
Common Name:	<u>Sturtevant, Golemo & Assoc.</u>	Commercial
Location Address:	<u>2209-2011 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-194</u>
Historic Name:		Styles
Common Name:	<u>Harry's Locksmith</u>	Art Deco - Streamlined
Location Address:	<u>2213 Main St, Vancouver, WA 98660</u>	Moderne
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-195</u>
Historic Name:		Styles
Common Name:	<u>Broadway Apartments</u>	Colonial - Colonial Revival
Location Address:	<u>2214 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1927
		Field Site No.: <u>05/1263-120</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>Cascade Center for Wellness</u>	Arts & Crafts - Craftsman
Location Address:	<u>2215 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-121</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>2217 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1900
		Field Site No.: <u>05/1263-122</u>
Historic Name:	<u>Wisteria Court</u>	Styles
Common Name:	<u>Uptown Villas</u>	Spanish - Mission
Location Address:	<u>2218 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1929
		Field Site No.: <u>05/1263-123</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>2219-2221 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1925
		Field Site No.: <u>05/1263-196</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>2221 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1912
		Field Site No.: <u>05/1263-124</u>
Historic Name:	<u>The Society Theater</u>	Styles
Common Name:		Spanish - Mission
Location Address:	<u>2300 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: 1925
		Field Site No.: <u>05/1263-197</u>
Historic Name:		Styles
Common Name:		Art Deco - Streamlined Moderne
Location Address:	<u>2306-2308 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-198</u>
Historic Name:		Styles
Common Name:		Art Deco - Zig Zag Commercial
Location Address:	<u>2310 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-199</u>
Historic Name:		Styles
Common Name:	<u>J-2 Blueprint</u>	Commercial
Location Address:	<u>2311 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-200</u>
Historic Name:		Styles
Common Name:		Art Deco - Zig Zag
Location Address:	<u>2312-2314 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-201</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:	<u>The Country Peddler</u>	Commercial
Location Address:	<u>2315 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-203</u>
Historic Name:		Styles
Common Name:		Modern - Populuxe / Gooogie
Location Address:	<u>2402 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-257</u>
Historic Name:		Styles
Common Name:	<u>Hi Lights Hair Studio</u>	Vernacular
Location Address:	<u>2409 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-208</u>
Historic Name:		Styles
Common Name:	<u>Broadway Realty</u>	Vernacular
Location Address:	<u>2410 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-127</u>
Historic Name:		Styles
Common Name:	<u>The Urban Eccentric</u>	Commercial
Location Address:	<u>2411-2413 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1960
		Field Site No.: <u>05/1263-210-212</u>
Historic Name:		Styles
Common Name:	<u>Deluxe Court Apartments</u>	Colonial - Colonial Revival
Location Address:	<u>2414 Broadway St, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1941
		Field Site No.: <u>05/1263-94</u>
Historic Name:		Styles
Common Name:	<u>Main St. Auto Care</u>	Commercial
Location Address:	<u>2425 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1925, ca. 1940
		Field Site No.: <u>05/1263-217</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>300 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-11</u>
Historic Name:		Styles
Common Name:		Queen Anne - Cottage
Location Address:	<u>301 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-31</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>301 W McLoughlin Blvd, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-258</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>305 W 16th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1900
		Field Site No.: <u>05/1263-27</u>
Historic Name:	<u>Messenger, Catherine E., Apartments</u>	Styles
Common Name:		Vernacular
Location Address:	<u>305 W McLoughlin St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-248</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>306 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-12</u>
Historic Name:		Styles
Common Name:		Colonial
Location Address:	<u>307 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-32</u>
		Greek Revival
		Vernacular
Historic Name:		Styles
Common Name:		Ranch - World War II Era
Location Address:	<u>308 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-33</u>
		Cottage
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>314 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: ca. 1910
		Field Site No.: <u>05/1263-14</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>315 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1935
		Field Site No.: <u>05/1263-36</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>400 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-37</u>
Historic Name:		Styles
Common Name:		Queen Anne - Cottage
Location Address:	<u>400 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1900
		Field Site No.: <u>05/1263-3</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>401 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1916
		Field Site No.: <u>05/1263-228</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		American Foursquare
Location Address:	<u>402 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1901
		Field Site No.: <u>05/1263-15</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>404 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-16</u>
Historic Name:		Styles
Common Name:		Colonial - Cape Cod
Location Address:	<u>404-406 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-39</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>405 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1927
		Field Site No.: <u>05/1263-229</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>406 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date:
		Field Site No.: <u>05/1263-4</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>408-410 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-259</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>409 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-40</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>409 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1949
		Field Site No.: <u>05/1263-230</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>412 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1901
		Field Site No.: <u>05/1263-18</u>
Historic Name:		Styles
Common Name:		Colonial
Location Address:	<u>412 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1900
		Field Site No.: <u>05/1263-41</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>415 E 17th St, Vancouver, WA 98663</u>	Colonial
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-42</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>415 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1941
		Field Site No.: <u>05/1263-231</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>500 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-43</u>
Historic Name:		Styles
Common Name:	<u>NW Physical Medicine & Rehabilitation</u>	Vernacular
Location Address:	<u>501 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1929
		Field Site No.: <u>05/1263-232</u>
Historic Name:		Styles
Common Name:	<u>M. Phelan Law Offices Elder Law</u>	Vernacular
Location Address:	<u>502 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-233</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>505 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1930
		Field Site No.: <u>05/1263-234</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>506 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1915
		Field Site No.: <u>05/1263-44</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>506 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date:
		Field Site No.: <u>05/1263-5</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>509 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-235</u>
Historic Name:		Styles
Common Name:		American Foursquare
Location Address:	<u>510 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-236</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>510-512 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1947
		Field Site No.: <u>05/1263-20</u>
Historic Name:		Styles
Common Name:		American Foursquare
Location Address:	<u>514 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: ca. 1905
		Field Site No.: <u>05/1263-21</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>515 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-48</u>
Historic Name:		Styles
Common Name:		Arts & Crafts
Location Address:	<u>515 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-237</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>600 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-49</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>600 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date:
		Field Site No.: <u>05/1263-6</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>601 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-238</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>602 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1901
		Field Site No.: <u>05/1263-239</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>604 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1909
		Field Site No.: <u>05/1263-22</u>
Historic Name:		Styles
Common Name:		Queen Anne - Cottage
Location Address:	<u>604 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1905
		Field Site No.: <u>05/1263-50</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>605 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1905
		Field Site No.: <u>05/1263-51</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>605 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1914
		Field Site No.: <u>05/1263-240</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>608 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1949
		Field Site No.: <u>05/1263-52</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>609 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-53</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>611 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-241</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>612 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1930
		Field Site No.: <u>05/1263-54</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>614 E 16th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/9/2005</u>	Construction Date: 1901
		Field Site No.: <u>05/1263-24</u>
Historic Name:		Styles
Common Name:		American Foursquare - Colonial
Location Address:	<u>615 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1901
		Field Site No.: <u>05/1263-55</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>701 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1901
		Field Site No.: <u>05/1263-56</u>
Historic Name:		Styles
Common Name:		American Foursquare
Location Address:	<u>701 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-244</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name: _____
Common Name: _____
Location Address: 702 E 17th St, Vancouver, WA 98663
Date Recorded: 12/8/2005 Construction Date: 1930, (ca. 1900) Field Site No.: 05/1263-57

Styles
Vernacular

Historic Name: _____
Common Name: _____
Location Address: 704 E 17th St, Vancouver, WA 98663
Date Recorded: 12/8/2005 Construction Date: 1901 Field Site No.: 05/1263-58

Styles
Arts & Crafts - Craftsman

Historic Name: _____
Common Name: _____
Location Address: 705 E 17th St, Vancouver, WA 98663
Date Recorded: 12/8/2005 Construction Date: 1943 Field Site No.: 05/1263-59

Styles
Vernacular

Historic Name: _____
Common Name: _____
Location Address: 712 E 17th St, Vancouver, WA 98663
Date Recorded: 12/8/2005 Construction Date: 1900 Field Site No.: 05/1263-60

Styles
Vernacular

Historic Name: _____
Common Name: _____
Location Address: 712 W 15th St, Vancouver, WA 98660
Date Recorded: 12/8/2005 Construction Date: _____ Field Site No.: 05/1263-7

Styles

Historic Name: _____
Common Name: _____
Location Address: 714 E 17th St, Vancouver, WA 98663
Date Recorded: 12/8/2005 Construction Date: ca. 1910 Field Site No.: 05/1263-61

Styles
Vernacular

Historic Name: _____
Common Name: _____
Location Address: 714 W 15th, Vancouver, WA 98660
Date Recorded: 12/8/2005 Construction Date: _____ Field Site No.: 05/1263-8

Styles

Historic Name: _____
Common Name: _____
Location Address: 804 W 15th St, Vancouver, WA 98660
Date Recorded: 12/8/2005 Construction Date: _____ Field Site No.: 05/1263-9

Styles

Historic Name: _____
Common Name: _____
Location Address: 900 W 15th St, Vancouver, WA 98660
Date Recorded: 12/8/2005 Construction Date: _____ Field Site No.: 05/1263-10

Styles

**HISTORIC BUILDINGS
RECORDED WITH ARCHAEOLOGICAL SITE NUMBERS**

DAHP NO.	RESOURCE TYPE AND DATE	ADDRESS	TOWNSHIP RANGE SECTION	BLOCK/DISTRICT	RECORDING DATE/RECORDER	STATUS ¹
45CL144H	Building/Slocum House (ca. 1867)	605 Esther St.	T2N, R1E, S27	Esther Short	No date Recorder unknown	NRHP & WHR listed
45CL147H	Building/St. James' Cathedral (1884-1885)	204 W. 12 th St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	DOE form for the NRHP & WHR
45CL151H	Building/Vancouver City Library/ Carnegie Library (1909)	1511 Main St.	T2N, R1E, S27	Uptown Community	1979 Recorder unknown	NRHP & WHR listed
45CL152H	Building/House of Providence or Providence Academy (1873, 1891)	400 East Evergreen Blvd	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP & WHR listed
45CL153H	Building/Lowell M. and Foster Hidden Houses (1884, 1913)	100 and 110 W. 13 th St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP & WHR listed
45CL154H	Building/Evergreen Hotel (1928)	500 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP & WHR listed
45CL173	Building/G. H Daniel's Store/Sohn's and Schuele Building (date unknown)	511 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Demolished
45CL175H	Building/Elks Temple (1912)	910-916 Main St.	T2N, R1E, S27	Central Downtown	1982 Kirby Turner/ John White Regional Planning Council	NRHP & WHR listed
45CL176H	Building/J. P. Kiggins Building I (1920)	806-808 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Status undetermined
45CL177H	Building/J.P. Kiggins Building II (1922)	902-904 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Status undetermined
45CL182H	Building/Vancouver Main Post Office (1916)	1211 Daniels St.	T2N, R1E, S27	Westside Government	1977 Shirley Pundt The Conservation Company	NRHP & WHR listed, CCHR eligible

DAHP NO.	RESOURCE TYPE AND DATE	ADDRESS	TOWNSHIP RANGE SECTION	BLOCK/DISTRICT	RECORDING DATE/RECORDER	STATUS ¹
45CL191H	Building/Sohns Building and First National Bank (date unknown)	509 Main St.	T2N, R1E, S27	Central Downtown	1977 Shirley Pundt The Conservation Company	Demolished
45CL192H	Building/Charles Brown House (ca. 1883)	400 W. 11 th St.	T2N, R1E, S27	Westside Government	1979 Recorder unknown	NRHP, WHR, & CCRH eligible
45CL214H	Sidewalk Marker/1890s Salvation Army Headquarters Site (1941 marker)	Main and W. 5 th Sts.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Status undetermined
45CL216H	Public Recreation Area/Esther Short Park (1853)	8 th and Columbia Sts.	T2N, R1E, S27	Esther Short	No date Recorder unknown	Status undetermined
45CL218H	Building/(1904)	1904 Washington St.	T2N, R1E, S22	Uptown Community	1979 Recorder unknown	Status undetermined
45CL222H	Building/Vernacular House (ca. 1900)	1109 Broadway St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	CCHR eligible
45CL223H	Building/Vancouver Railroad Depot/Northern Pacific Railroad Depot (1907)	1301 W. 11 th St. Street	T2N, R1E, S28	Columbia West Renaissance	1977 Shirley Pundt The Conservation Company	NRHP, WHR, & CCRH eligible
45CL225H	Building/Municipal Building or Lucky Breweries Building (date unknown)	Washington and 8 th Sts.	T2N, R1E, S27	Esther Short	1979 Recorder unknown	Demolished
45CL227H	Building/Schofield Block (ca. 1900, ca. 1906, ca. 1910)	600-606 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP, WHR, & CCRH eligible
45CL228H	Building/Donegan Building (1906)	614 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Overlay District II
45CL229H	Building/The CC Store (1932)	715 Main St./ 101 E. 8 th S.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	CCHR eligible
45CL230H	Building/Rainier Bank (ca. 1935)	801 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	CCHR eligible

DAHP NO.	RESOURCE TYPE AND DATE	ADDRESS	TOWNSHIP RANGE SECTION	BLOCK/DISTRICT	RECORDING DATE/RECORDER	STATUS ¹
45CL231H	Building/Engleman Building (1908)	605-607 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Overlay District II
45CL232H	Building/Chronis Building (1928)	615 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Status undetermined
45CL235H	Building/Vancouver National Bank (1906, 1920s)	518 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP & WHR eligible
45CL236H	Building/First Christian Church (1923-1925)	1812 Main St.	T2N, R1E, S27	Uptown Community	1979 Recorder unknown	NRHP, WHR, and CCHR eligible
45CL237H	Building/Ludesher Building (1910)	109 W. 9 th St./ 815½ Washington St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Status undetermined
45CL238H	Building/John P. and Mary Kiggins House (1907)	411 East Evergreen Blvd.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP & WHR listed
45CL239H	Building/Monterey Hotel (date unknown)	501½ Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Demolished
45CL240H	Building/Schofield Block (1906, 1900)	600-606 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	NRHP & WHR eligible, Overlay District II
45CL241H	Building/Eichenlamb-Weigel Block (1900)	701-705 Main St.	T2N, R1E, S27	Central Downtown	1979 Recorder unknown	Overlay District II
45CL552	Building/Chumasero-Smith House (1903)	310 W. 11 th St.	T2N, R1E, S27	Central Downtown	1997 Jane Morrison Clark County Department of Community Development	NRHP, WHR, & CCHR listed

**PREVIOUS ARCHAEOLOGICAL STUDIES
IN THE PROJECT AREA**

PREVIOUS ARCHAEOLOGICAL STUDIES IN THE PROJECT AREA

REPORT REFERENCE	REPORT TYPE	DISTRICT	IDENTIFIED ARCHAEOLOGICAL SITES
Skolnik et al. 1979	Research	County-wide	None in current project area
Hills et al. 1994	Predetermination/Survey	Esther Short	Lucky Lager Brewer Complex (no significant archaeological component)
Ellis and Wilson 1995	Predictive Model	County-wide	None in current project area
Crisson and Freidenburg 1997	Predetermination/Survey	Mill Plain Couplet/ Columbia West Renaissance	None
Chapman et al. 1998	Predetermination/Survey	Westside Government	45CL664
Ellis and Chapman 1998	Predetermination/Survey	Esther Short	None
Freidenburg 1998	Predetermination/Survey	Central Downtown	45CL514
Mills and Ball 1998	Predetermination/Survey	Uptown Community	None
Ozbun 1998	Predetermination/Survey	Uptown Community	None
Reese 1998	Predetermination/Survey	Westside Government	None
Freed 1999a	Predetermination/Survey	Mill Plain Couplet	None
Freed 1999b	Predetermination/Survey	Central Downtown	45CL514
Mills 1999a	Predetermination/Survey	Mill Plain Couplet	None
Mills 1999b	Predetermination/Survey	Mill Plain Couplet/ Westside Government	None
Mills 1999c	Predetermination/Survey	Columbia West Renaissance	None
Regan and Larsen 1999	Predetermination/Survey	Esther Short	45CL582 and 45CL646
DeLyria 2000	Predetermination/Study	Uptown Community	None
Freed 2000	Predetermination/Survey	Central Downtown	None
Galm 2000	Predetermination/Survey	Mill Plain Couplet/ Westside Government	None
Hartmann 2000	Predetermination/Survey	Columbia West Renaissance	None in current project area
Kent 2000a	Predetermination/Survey	Central Downtown/ Westside Government/ Columbia West Renaissance	None
Kent 2000b	Predetermination/Survey	Esther Short	None
Kent 2000c	Predetermination/Survey	Westside Government	None
Kent and Reese 2000a	Predetermination/Survey	Mill Plain Couplet/ Westside Government	45CL666
Kent and Reese 2000b	Predetermination/Survey	Esther Short	None

REPORT REFERENCE	REPORT TYPE	DISTRICT	IDENTIFIED ARCHAEOLOGICAL SITES
Mills and Kent 2000	Predetermination/Survey	Mill Plain Couplet	None
Minor 2000	Data Recovery	Central Downtown	45CL514
NorthWest Archaeological Associates 2000	Research	Multi-county	None in current project area
Finley 2001	Predetermination/Survey	Esther Short	45CL567
Freed 2001	Predetermination/Survey	Columbia West Renaissance	None
Hartmann 2001	Predetermination/Survey	Columbia West Renaissance	None in current project area
Reese 2001	Predetermination/Survey	Westside Government	45CL666
Roulette 2001	Predetermination/Survey	Esther Short	None
Wilson 2001	Predictive Model	County-wide	None in current project area
Mills 2004	Predetermination/Survey	Westside Government	None
Roulette 2004	Predetermination/Survey	Central Downtown	45CL583
Roulette and Finley 2005	Predetermination/Survey	Columbia West Renaissance	None
Roulette and White 2005	Predetermination/Survey	Esther Short	45CL646

**PREVIOUSLY RECORDED DEMOLISHED BUILDINGS
IN THE PROJECT AREA**

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		
Location Address:	<u>506 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-5</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>600 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-6</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>712 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-7</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>714 W 15th, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-8</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>804 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-9</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>900 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-10</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>406 W 15th St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-4</u>
Historic Name:		Styles
Common Name:		
Location Address:	<u>1604 Columbia St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: Field Site No.: <u>05/1263-136</u>

**PREVIOUS INVENTORIED BUILDINGS
IN THE PROJECT AREA**

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>109 W 17th St. aka. 1602 Main St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-62</u>
Historic Name:	<u>Williams, Edward, House</u>	Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>1501 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1921
		Field Site No.: <u>05/1263-131</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>1501-1503 Esther St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1950
		Field Site No.: <u>05/1263-150</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>1506 Daniels St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1900
		Field Site No.: <u>05/1263-149</u>
Historic Name:	<u>Collins, Abram, House</u>	Styles
Common Name:		Vernacular
Location Address:	<u>1510-1512 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-133</u>
Historic Name:	<u>Young, Julia, House</u>	Styles
Common Name:		Vernacular
Location Address:	<u>1600 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1901, ca. 1930-40
		Field Site No.: <u>05/1263-135</u>
Historic Name:	<u>Spivey, Carrie Ziegler, House</u>	Styles
Common Name:		Tudor - Cottage
Location Address:	<u>1609 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-138</u>
Historic Name:	<u>Keaton, John A., House</u>	Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>1610 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-139</u>
Historic Name:	<u>Wenner, John II, House</u>	Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>1612 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-140</u>
Historic Name:		Styles
Common Name:		Tudor - Cottage
Location Address:	<u>1613 Columbia St. Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-141</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Art Deco
Location Address:	<u>1700 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>1/4/2006</u>	Construction Date: 1951
		Field Site No.: <u>05/1263-161</u>
Historic Name:		Styles
Common Name:		Other - Utilitarian
Location Address:	<u>1700 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-253</u>
Historic Name:		Styles
Common Name:		Commercial
Location Address:	<u>1704-1706 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-163</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>1706 Columbia St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920
		Field Site No.: <u>05/1263-260</u>
Historic Name:		Styles
Common Name:	<u>Dulin's Café and Espresso Bar</u>	Commercial
Location Address:	<u>1708 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1920, ca. 1940
		Field Site No.: <u>05/1263-165</u>
Historic Name:		Styles
Common Name:	<u>Lupe's Auto Clinic</u>	Commercial
Location Address:	<u>1708 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>1/10/2006</u>	Construction Date: ca. 1930
		Field Site No.: <u>05/1263-255</u>
Historic Name:		Styles
Common Name:	<u>First Christian Church</u>	Colonial
Location Address:	<u>1812 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1923-1925
		Field Site No.: <u>05/1263-169</u>
Historic Name:		Styles
Common Name:		Art Deco - Streamlined Moderne
Location Address:	<u>1812 Washington St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/30/1955</u>	Construction Date: ca. 1940
		Field Site No.: <u>05/1263-256</u>
Historic Name:	<u>David Talbot Building</u>	Styles
Common Name:	<u>Omega Printing</u>	Commercial
Location Address:	<u>1900 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/25/2005</u>	Construction Date: 1947
		Field Site No.: <u>05/1263-170</u>
Historic Name:		Styles
Common Name:	<u>Henry's Lawn & Power Equipment</u>	Art Deco - Streamlined Moderne
Location Address:	<u>1912 Main St, Vancouver, WA 98660</u>	
Date Recorded:	<u>11/23/2005</u>	Construction Date: ca. 1935
		Field Site No.: <u>05/1263-175</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name: <u>McCready Building</u>	Styles
Common Name: <u>Main St. Trader</u>	Spanish - Mission
Location Address: <u>1916 Main St, Vancouver, WA 98660</u>	
Date Recorded: <u>11/23/2005</u> Construction Date: 1928	Field Site No.: <u>05/1263-177</u>
Historic Name:	Styles
Common Name: <u>Broadway & 22nd Street</u>	Arts & Crafts - Craftsman
Location Address: <u>200 E 22nd St, Vancouver, WA 98663</u>	
Date Recorded: <u>11/25/2005</u> Construction Date: 1921	Field Site No.: <u>05/1263-70</u>
Historic Name:	Styles
Common Name:	Arts & Crafts - Craftsman
Location Address: <u>2012 Main St, Vancouver, WA 98660</u>	
Date Recorded: <u>11/23/2005</u> Construction Date: 1910	Field Site No.: <u>05/1263-186</u>
Historic Name:	Styles
Common Name: <u>Casa Grande Mexican Restaurant</u>	Arts & Crafts - Craftsman
Location Address: <u>2014 Main St, Vancouver, WA 98660</u>	Tudor
Date Recorded: <u>11/23/2005</u> Construction Date: 1905	Field Site No.: <u>05/1263-187</u>
Historic Name:	Styles
Common Name: <u>Shanahan's Pub</u>	Vernacular
Location Address: <u>209 W McLoughlin Blvd, Vancouver, WA 98660</u>	
Date Recorded: <u>1/4/2006</u> Construction Date: ca. 1940	Field Site No.: <u>05/1263-246</u>
Historic Name:	Styles
Common Name: <u>Service Battery, Inc</u>	Other - Utilitarian
Location Address: <u>210 W 16th St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: ca. 1950	Field Site No.: <u>05/1263-25</u>
Historic Name:	Styles
Common Name: <u>Main St. Auto Care</u>	Commercial
Location Address: <u>2425 Main St, Vancouver, WA 98660</u>	
Date Recorded: <u>11/23/2005</u> Construction Date: ca. 1925, ca. 1940	Field Site No.: <u>05/1263-217</u>
Historic Name:	Styles
Common Name:	Vernacular
Location Address: <u>305 W 16th St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: 1900	Field Site No.: <u>05/1263-27</u>
Historic Name: <u>Messenger, Catherine E., Apartments</u>	Styles
Common Name:	Vernacular
Location Address: <u>305 W McLoughlin St, Vancouver, WA 98660</u>	
Date Recorded: <u>11/25/2005</u> Construction Date: ca. 1920	Field Site No.: <u>05/1263-248</u>
Historic Name:	Styles
Common Name:	Queen Anne - Cottage
Location Address: <u>400 W 15th St, Vancouver, WA 98660</u>	
Date Recorded: <u>12/8/2005</u> Construction Date: ca. 1900	Field Site No.: <u>05/1263-3</u>

HISTORIC PROPERTY INVENTORY SUMMARY REPORT

Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>409 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1949
		Field Site No.: <u>05/1263-230</u>
Historic Name:		Styles
Common Name:	<u>M. Phelan Law Offices Elder Law</u>	Vernacular
Location Address:	<u>502 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-233</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>505 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1930
		Field Site No.: <u>05/1263-234</u>
Historic Name:		Styles
Common Name:		Ranch - Minimal Traditional
Location Address:	<u>509 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1940
		Field Site No.: <u>05/1263-235</u>
Historic Name:		Styles
Common Name:		American Foursquare
Location Address:	<u>510 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-236</u>
Historic Name:		Styles
Common Name:		Queen Anne - Cottage
Location Address:	<u>604 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: ca. 1905
		Field Site No.: <u>05/1263-50</u>
Historic Name:		Styles
Common Name:		Vernacular
Location Address:	<u>605 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1914
		Field Site No.: <u>05/1263-240</u>
Historic Name:		Styles
Common Name:		Arts & Crafts - Craftsman
Location Address:	<u>609 E 17th St, Vancouver, WA 98663</u>	
Date Recorded:	<u>12/8/2005</u>	Construction Date: 1905
		Field Site No.: <u>05/1263-53</u>
Historic Name:		Styles
Common Name:		American Foursquare
Location Address:	<u>701 E McLoughlin Blvd, Vancouver, WA 98663</u>	
Date Recorded:	<u>11/30/2005</u>	Construction Date: 1910
		Field Site No.: <u>05/1263-244</u>

APPENDIX C

TRANSPORTATION

Chapter 1: VCCV Transportation Plan Summary

The City of Vancouver’s vision for the city center (VCCV) embodies a socially vibrant and economically vital urban core with strong emotional and physical ties to its neighborhoods, the Port of Vancouver, Officers Row and the Historic Reserve, and the Columbia River waterfront. Thousands of people will call the downtown home, and many more will travel to the city center every day for work, shopping, business, recreational and cultural opportunities, and access to government services and other civic institutions.

The Vancouver City Center Vision seeks to create a “messy vitality”—one based on diversification and intensification of downtown activity. The success of downtown as a hub of diverse activity will depend on a complete and complex transportation system which focuses on moving people in addition to vehicles.

Vehicle access, circulation, and parking are the core system components, but peak trip demand for access to downtown can never be fully satisfied with vehicle access alone—to do so would contradict the intent of the VCCV by fundamentally changing the look and feel of downtown. As a result, the transportation system that best supports the VCCV is inherently multi-modal. Fulfillment of the plan’s land use objectives require that trips coming into and out of downtown and those within downtown need to, at varying levels, use different systems. Diversity of transportation users and trip purposes which result from and support a “messy vitality” (a healthy, varied, and vibrant downtown) require that such systems be in place to create access to services and opportunities for all user groups.

Much of the foundation and many of the policies supporting the VCCV’s multi-modal transportation network already exist. Yet each of the systems must be enhanced in specific ways in order to create the required circulation and people-carrying capacity needed to support realization of the City Center Vision. Transit service is very effective at providing peak period capacity over and above what the vehicle system alone can offer. Changes to the transit network are contemplated including addition of higher carrying capacity transit (HCT) to supplement downtown access from both the northern and southern travel markets. Bicycle systems can capture shorter trips within downtown and inner neighborhoods and also serve longer distance trips and commuting travel. Likewise, pedestrian systems are the lifeblood of vibrant downtowns. Sidewalks are the ultimate circulation system for residents, customers, and visitors. All vehicle trips, transit and bike trips included, end up as walking trips downtown.

Each of the systems including the vehicle circulation system have been thoroughly analyzed against a series of alternative build and a no-build scenarios to determine the required multi-modal system improvements which are needed to support the VCCV. The transportation analysis presented below focuses on the complete transportation system-- consistent with the Vancouver City Center Vision, it focuses on the full array of system components needed to serve the full range of people one would expect to find in a vital urban core and all of their trip-making needs.

Transportation Analysis--Context

Two other very large projects are currently underway in and around downtown Vancouver both of which could have very large transportation impacts on the city center. They are

- The Port of Vancouver Gateway Project and Rail Access
 - <http://www.portvanusa.com/property/columbiagateway.html>
- The Columbia River Crossing Project
 - <http://www.columbiarivercrossing.com/>

To the extent that these projects present a degree of uncertainty to the analysis the latest and best available information has been incorporated and sensitivity testing performed to validate the transportation impact findings and mitigations under various conditions.

Growth: Land Use and Trip Generation

Table 1-1 summarizes the proposed short and long-term growth totals by VCCV district and Table 1-2 shows PM peak period vehicle trip generation.

Table 1-1: Summary of Proposed Short and Long-Term Development by Sub-District

Scenario/Sub-District	Retail/Service	Office	Institutional	Restaurant	Dwellings ¹	Light Industrial	Hotels ²
Short-Term							
<i>Central Downtown</i>	39,000	154,000	0	6,000	183	0	0
<i>Esther Short</i>	30,000	350,000	81,500	0	293	0	0
<i>Mill Plain</i>	30,000	80,000	0	0	56	0	0
<i>North Main</i>	5,000	10,000	0	0	44	0	0
<i>Renaissance</i>	60,000	0	10,000	20,000	825	0	200
<i>West Government</i>	0	110,000	0	0	115	0	0
<i>Sub-Total</i>	164,000	704,000	91,500	26,000	1516	0	200
Long-Term							
<i>Central Downtown</i>	41,000	406,000	0	0	312	0	0
<i>Esther Short</i>	26,000	485,000	0	0	57	0	0
<i>Mill Plain</i>	78,000	120,000	0	0	116	0	0
<i>North Main</i>	15,000	10,000	0	0	211	0	0
<i>Renaissance</i>	65,000	450,000	0	0	2189	100,000	0
<i>West Government</i>	12,000	250,000	500,000	0	153	0	0
<i>Sub-Total</i>	237,000	1,721,000	500,000	0	3038	100,000	0
TOTAL	401,000	2,425,000	591,500	26,000	4,554	100,000	200

Notes: 1. Dwelling unit land use is indicated by the number of housing units.

2. Hotel land use is shown in number of rooms.

SOURCE: City of Vancouver

Table 1-2: PM Peak Hour Trip Generation

Sub-district	Short-Term Period	Long-Term Period	Total Trips
<i>Central Downtown</i>	570	680	1250
<i>Esther Short</i>	980	730	1710
<i>Mill Plain</i>	240	340	580

North Main	100	200	300
Renaissance	770	1,260	2,030
West Government	320	420	740
Total	2,980	3,630	6,610

SOURCE: DKS Associates

Existing Conditions

An existing inventory for all modes studied was compiled to determine the level of activity and/or the facilities that serve each transportation mode.

- Figures 1-1B and 1-1P illustrate the existing bicycle and pedestrian systems with peak hour use by intersection.
- Figure 1-2 shows the existing transit system. Transit service to/from the downtown Vancouver area is provided by C-TRAN the local transit agency. The existing 7th Street transit center Broadway and Washington Street supports a timed transfer system which leads to bus queuing approximately every 15-30 minutes. Current headways provide a transit level-of-service approximately D or better.
- Figure 1-3 shows designated freight routes. Freight activity within the study area is generally in the 2-5% range of motor vehicle activity at each intersection, although it is heavier at intersections on the designated freight route.
- Figures 1-4 and 1-5 show the study area intersections and arterial street designations, respectively. Table 1-3 below gives the existing intersection operating level of service.
- Table 1-4 shows the collision history for study area intersections. Four intersections have crash rates which exceed 1.0. They are Fourth Plain Boulevard with 1) Columbia and 2) Broadway streets, 3) Mill Plain Boulevard/Broadway, and 4) Evergreen Boulevard/Columbia Street.

Table 1-3: 2005 AM and PM Peak Hour Intersection Operations.

Intersection	AM Peak			PM Peak		
	Delay	LOS	V/C	Delay	LOS	V/C
Signalized Intersections						
Fourth Plain Blvd/Lincoln Ave	1.8	A	0.22	3.6	A	0.33
Fourth Plain Blvd/Kauffman Ave	17.9	B	0.34	16.1	B	0.40
Fourth Plain Blvd/Columbia St	25.3	C	0.54	16.7	B	0.46
Fourth Plain Blvd/Main St	33.5	C	0.60	33.0	C	0.54
Fourth Plain Blvd/Broadway St	19.8	B	0.55	20.7	C	0.61
Fourth Plain Blvd/F St	7.4	A	0.34	5.9	A	0.52
Fourth Plain Blvd/I-5 southbound on-off ramp	7.7	A	0.34	10.5	B	0.50
Fourth Plain Blvd/I-5 northbound on-off ramp	19.6	B	0.33	33.8	C	0.60
Fort Vancouver Way/McLoughlin Blvd	23.8	C	0.41	23.6	C	0.39
McLoughlin Blvd/Broadway St	27.8	C	0.33	20.8	C	0.20
McLoughlin Blvd/Main St	10.7	B	0.33	19.1	B	0.35
Mill Plain Blvd/Lincoln Ave	7.5	A	0.19	7.9	A	0.16
Mill Plain Blvd/Kauffman Ave	11.3	B	0.25	11.3	B	0.23
Mill Plain Blvd/Kauffman St	14.9	B	0.44	13.0	B	0.37
15 th St/Columbia St	7.6	A	0.42	6.7	A	0.31
15 th St/Washington St	4.5	A	0.29	5.7	A	0.23
15 th St/Main St	5.5	A	0.34	4.5	A	0.35
15 th St/Broadway St	3.8	A	0.44	6.9	A	0.39
15 th St/C Street	16.0	B	0.32	18.1	B	0.29
Mill Plain Blvd/I-5 southbound on-off ramp	52.3	D	0.76	20.8	C	0.74
Mill Plain Blvd/I-5 northbound on-off ramp	17.0	B	0.46	> 80.0	F	0.76

Intersection	AM Peak			PM Peak		
	Delay	LOS	V/C	Delay	LOS	V/C
Mill Plain Blvd/Fort Vancouver Way	22.1	C	0.42	22.5	C	0.45
Mill Plain Blvd/C St	8.8	A	0.30	15.5	B	0.66
Mill Plain Blvd/Broadway St	11.0	B	0.48	14.2	B	0.59
Mill Plain Blvd/Main St	4.8	A	0.28	9.4	A	0.56
Mill Plain Blvd/Washington St	11.8	B	0.25	6.4	A	0.35
Mill Plain Blvd/Columbia St	16.3	B	0.46	17.0	B	0.63
Evergreen Blvd/C St	12.1	B	0.29	12.5	B	0.31
Evergreen Blvd/Broadway St	13.6	B	0.41	10.1	B	0.38
Evergreen Blvd/Main St	7.8	A	0.28	10.3	B	0.38
Evergreen Blvd/Washington St	14.2	B	0.23	13.1	B	0.33
Evergreen Blvd/Columbia St	18.1	B	0.32	15.4	B	0.39
8 th St/Columbia St	10.2	B	0.24	13.0	B	0.47
8 th St/Washington St	10.1	B	0.16	11.4	B	0.34
8 th St/Main St	10.4	B	0.26	15.0	B	0.26
8 th St/C St	8.0	A	0.30	14.6	B	0.23
6 th St/Columbia St	11.2	B	0.22	12.0	B	0.28
6 th St/Washington St	8.0	A	0.19	12.6	B	0.32
6 th St/Main St	9.2	A	0.15	8.8	A	0.17
5 th St/Washington St	6.3	A	0.20	6.1	A	0.41
Unsignalized Intersections						
11 th St/Jefferson St (4-way stop)		A			A	
11 th St/Columbia St		A/B			A/C	
11 th St/Washington St		A/B			A/C	
11 th St/Main St		A/B			A/B	
11 th St/Broadway St		A/B			A/B	
11 th St/C St		A/A			A/B	
Evergreen Blvd/Fort Vancouver Way (roundabout)		B			B	
9 th St/Columbia St		A/B			A/B	
9 th St/Washington St		A/B			A/B	
9 th St/Main St		A/A			A/B	
9 th St/Broadway St		A/A			A/A	
8 th St/Broadway St		A/B			A/B	
8 th St/King St		A/A			A/A	
4 th St/Washington St		A/A			A/A	
3 rd St/Columbia St		A/A			A/B	

Notes: Delay = Average intersection delay
 A/A=major street LOS/minor street LOS
 Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
 LOS = Intersection level-of-service
 V/C = Volume-to-capacity ratio

Table 1-4: Study Area Intersection Crashes

Intersection	Number of Collisions (2002-2005)	Million Entering Vehicles (MEV)	Crash Rate
Fourth Plain Blvd/Columbia St	18	4.68	1.28
Fourth Plain Blvd/Broadway St	20	5.18	1.28
Mill Plain Blvd/Broadway St	19	5.71	1.11
Evergreen Blvd/Columbia St	10	3.21	1.04
15 th St/C Street	11	3.92	0.95
Fourth Plain Blvd/Kauffman Ave	10	3.81	0.87
15 th St/Columbia St	7	2.79	0.84

Intersection	Number of Collisions (2002-2005)	Million Entering Vehicles (MEV)	Crash Rate
15 th St/Washington St	7	2.89	0.81

SOURCE: City of Vancouver, August, 2005.

Future Baseline Network Improvements

As noted above the Vancouver City Center Vision is one of several projects which will impact the downtown transportation system. Additionally, the VCCV is really a specific implementation of the adopted comprehensive plan and supporting capital facilities plan. The forecasted land use growth is greater than in the no-action alternative, but it is the increment of growth over and above the adopted comprehensive plan that this evaluation focuses on. As a result there are a series of future baseline improvements that have been identified as the basis upon which project-action impacts are measured.

Baseline improvements are illustrated in Figure 1-6 and are detailed in Table 1-5. Baseline improvements are attributed to the City of Vancouver in the case of comprehensive plan projects, and the Columbia River Crossing Project (CRC) and Port of Vancouver as appropriate due to project actions.

Future Needs and Action Strategies

Levels of potential activity were identified for both the short-term (5 years) and long-term (20 years). Future needs and action strategies are presented as follows:

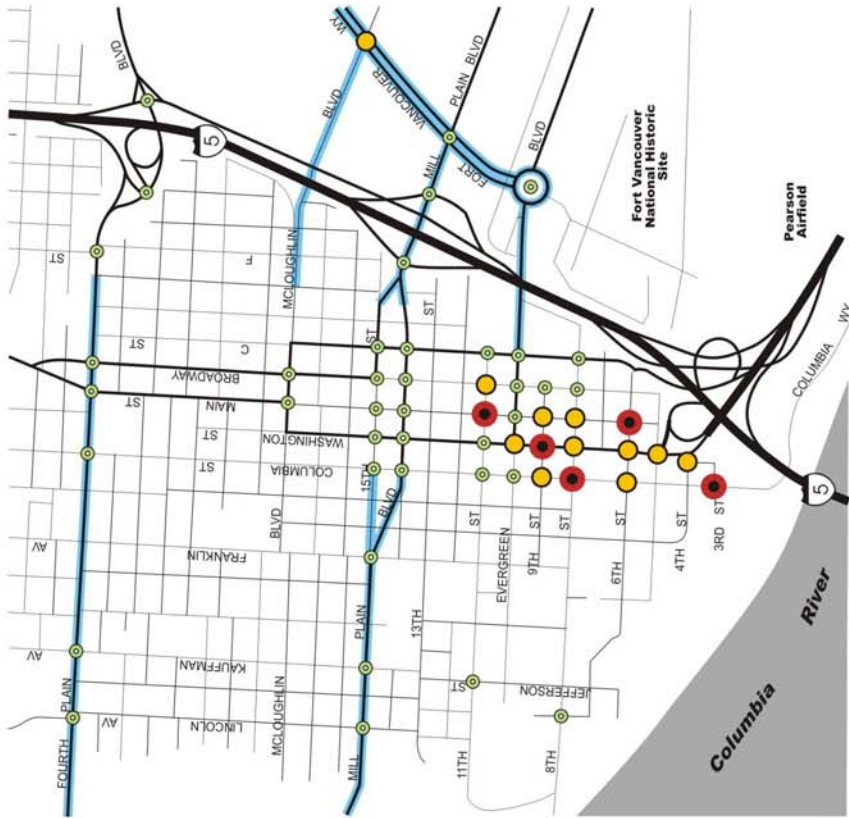
- Vehicle System: Figure 1-7 and Table 1-6
- Freight System: Figure 1-8
- Pedestrian System: Figure 1-9 and Table 1-7
- Bicycle System: Figure 1-10 and Table 1-8
- Transit System: Figure 1-11 and Table 1-9

The identified mitigation measures and strategies are not meant as an exhaustive list, or to preclude alternative mitigation measures that address the identified issues and are acceptable to the city.

PM Peak Hour Use



AM Peak Hour Use



Information Sources: DKS Associates
Count data collected June-August 2005

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EXISTING BICYCLE FACILITIES AND AM/PM USE

FIGURE 1-1B

N

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LEGEND

- Existing Bicycle Facilities
- High Bicycle Use (>10 bicycle movements)
- Medium Bicycle Use (6-10 bicycle movements)
- Low Bicycle Use (<5 bicycle movements)

PM Peak Hour Use



AM Peak Hour Use



LEGEND

- - High Pedestrian Use (>100 pedestrians counted)
- - Medium/High Pedestrian Use (51-100 pedestrians counted)
- - Medium Pedestrian Use (21-50 pedestrians counted)
- - Low Pedestrian Use (0-20 pedestrians counted)



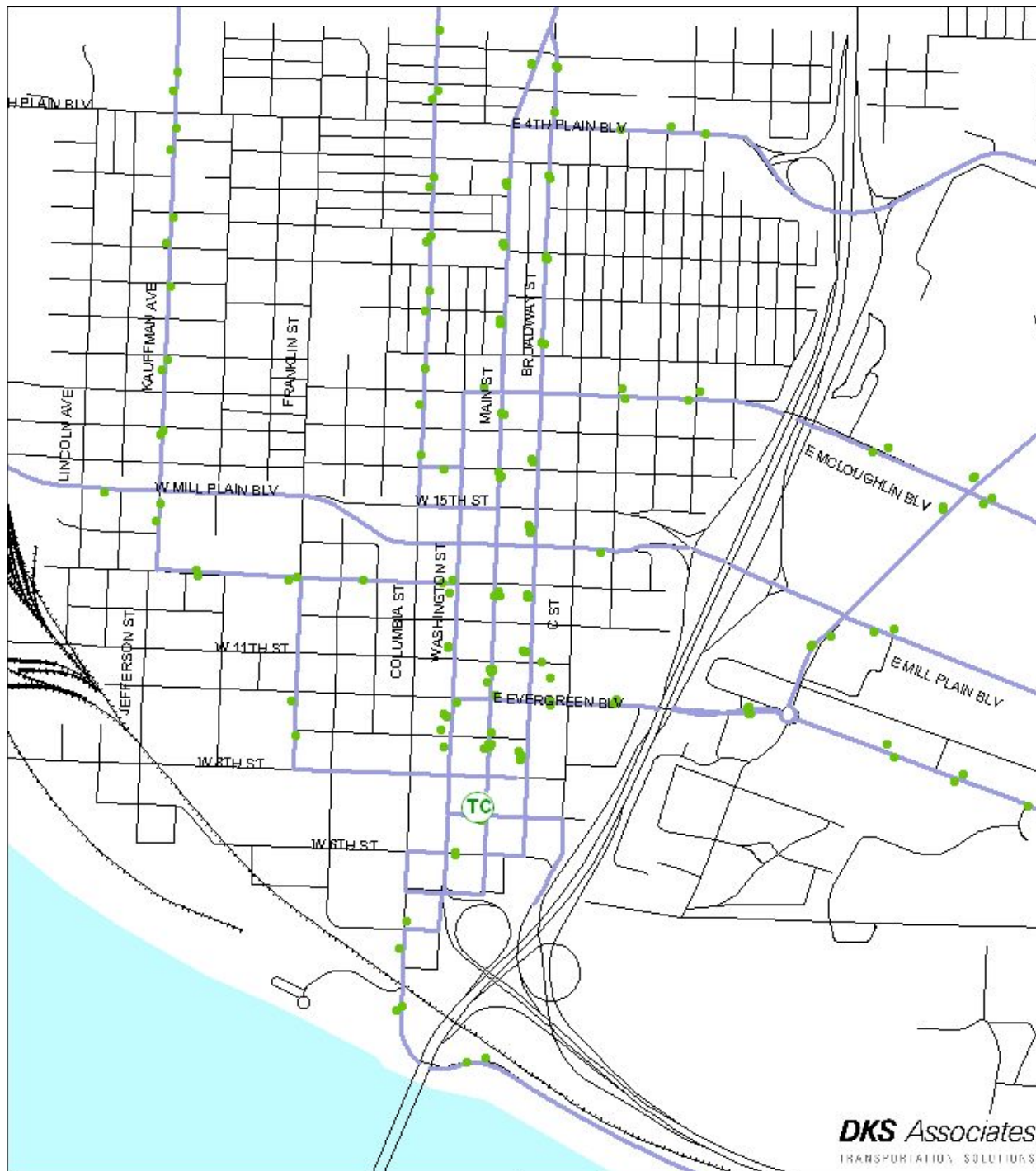
DKS Associates


Information Sources: DKS Associates
Count data collected June-August 2005

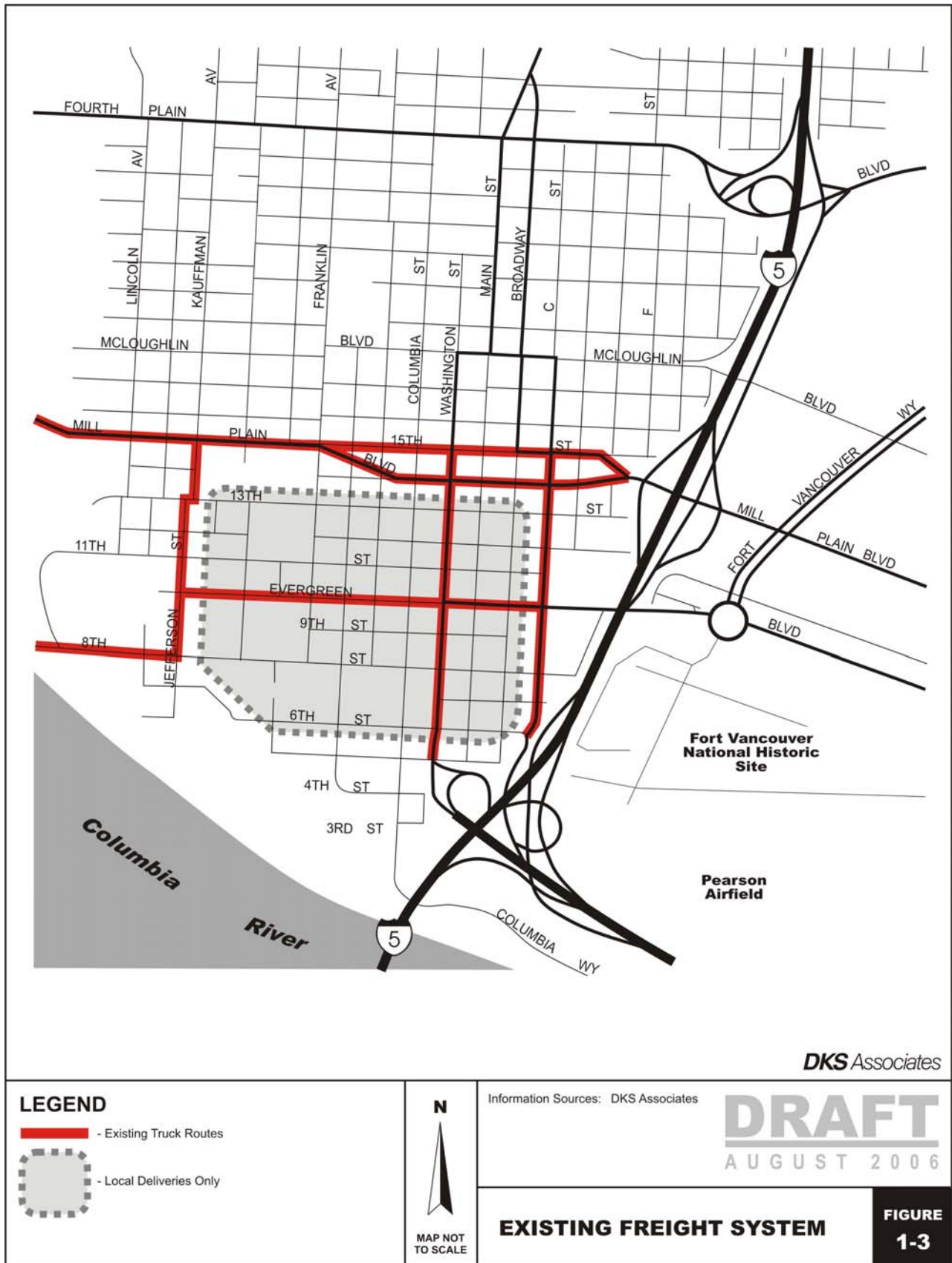
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EXISTING PEDESTRIAN AM/PM USE

FIGURE 1-1P



<p>LEGEND</p> <ul style="list-style-type: none"> ● - Bus Stops TC - Transit Center 	<p>N</p>  <p>MAP NOT TO SCALE</p>	<p>Information Sources: DKS Associates</p>
<p>EXISTING TRANSIT FACILITIES</p>		<p>FIGURE 1-2</p>





DKS Associates

LEGEND

 - Study Area Intersections

N



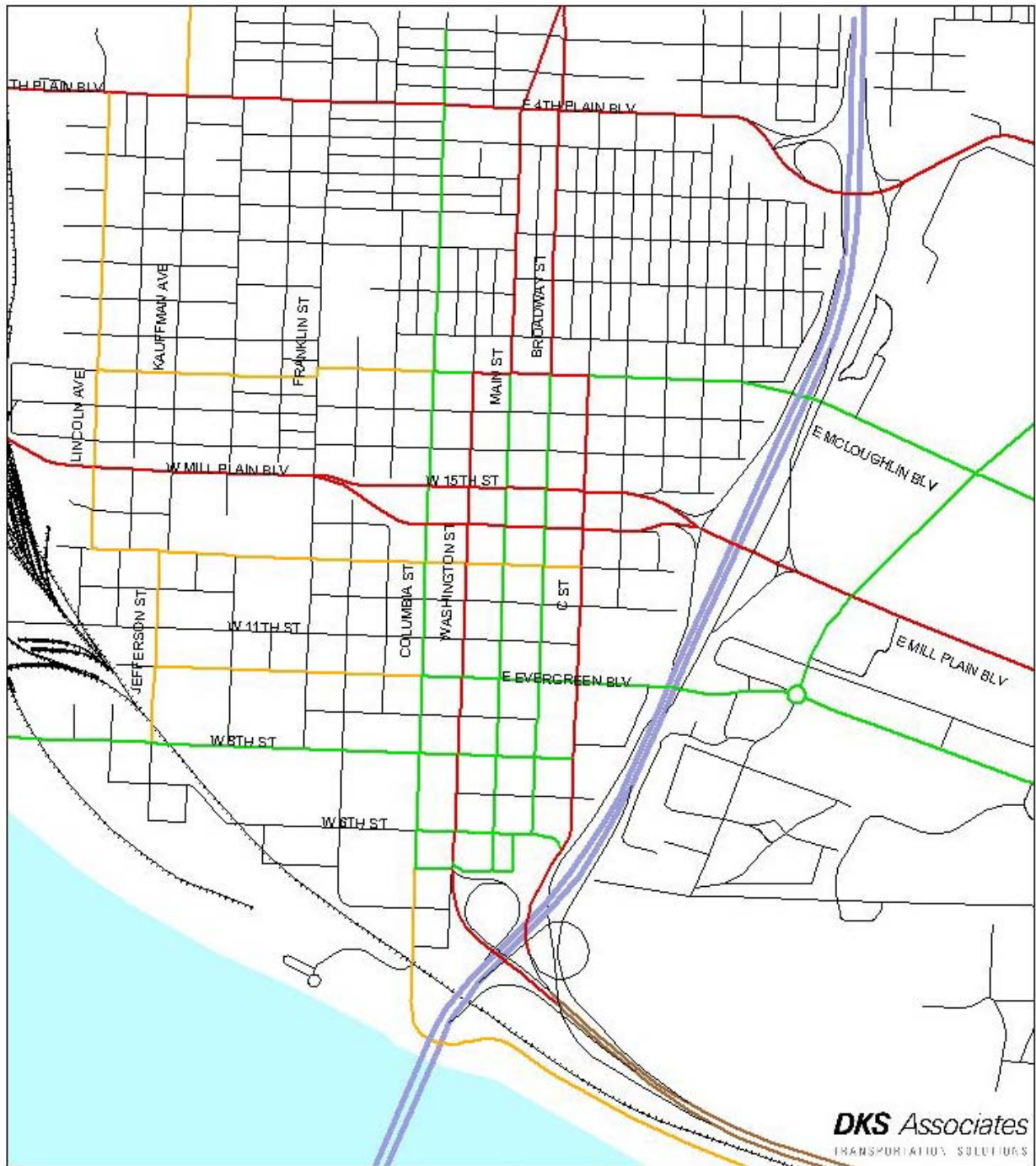
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Information Sources: DKS Associates

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STUDY AREA AND STUDY INTERSECTIONS

FIGURE 1-4



LEGEND

- Interstate
- Expressway
- Principal Arterial
- Minor Arterial
- Collector
- Minor Collector
- Local



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Information Sources: DKS Associates

EXISTING STREET FUNCTIONAL CLASSIFICATION

FIGURE 1-5



DKS Associates

LEGEND

- ▶ Columbia River Crossing Network Improvements
- ▶ Columbia River Crossing HCT Connector
- ▶ City of Vancouver Network Improvements
- ▶ Port of Vancouver Network Improvements
- ▶ Proposed Street Vacation
- ▶ New Roadway Connection/Alignment
- ▶ Grade Separated Crossing with Special Design Concern
- ▶ Waterfront Redevelopment Street Network



Information Sources: City of Vancouver
DKS Associates

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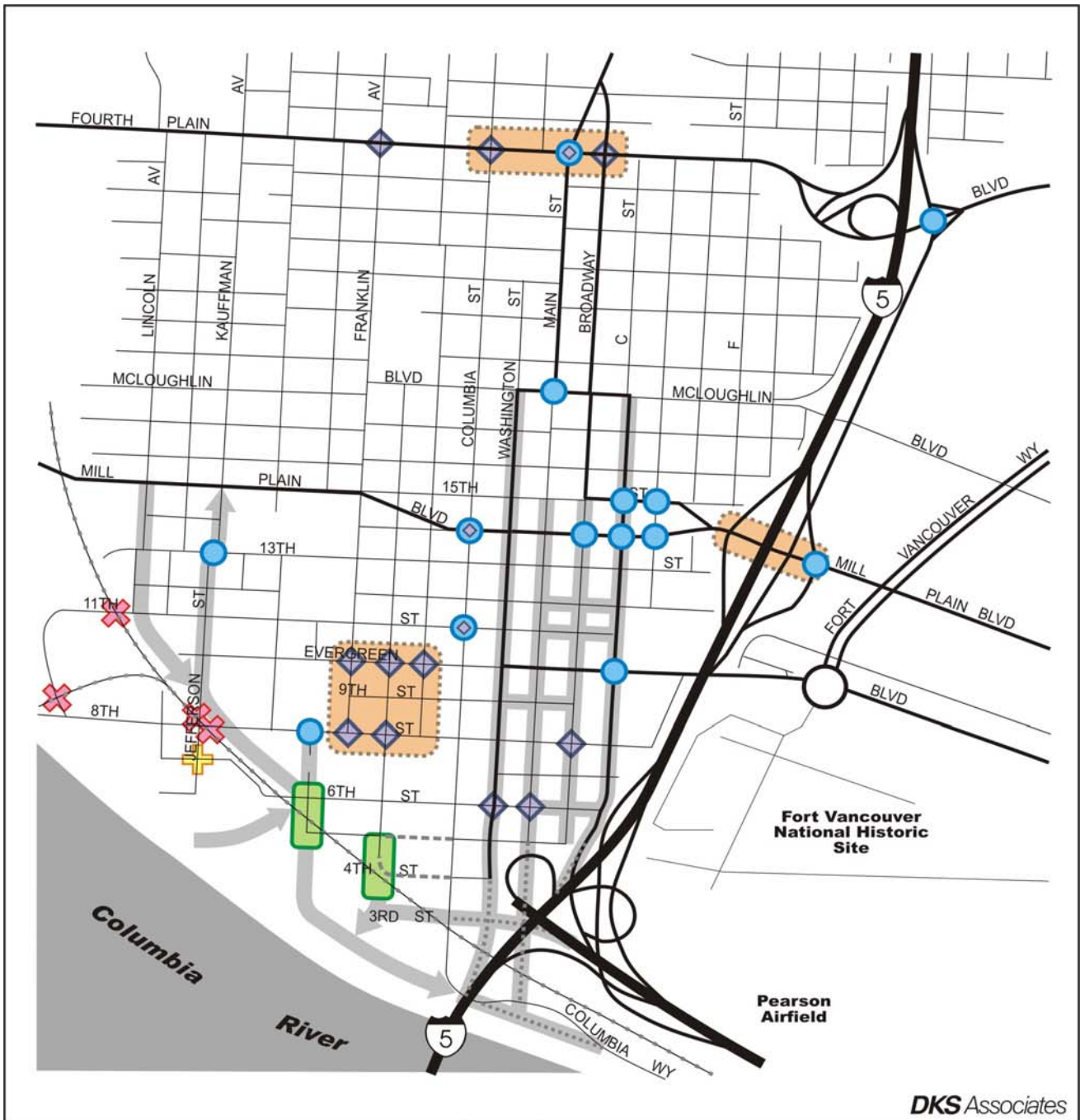
2023 ASSUMED ROADWAY NETWORK MODIFICATIONS

FIGURE 1-6

Table 1-5: Future Roadway Network Assumptions








Columbia River Crossing Projects	2. Location
SR 14 Eastbound/Westbound Connection	Columbia Street to Interstate 5
C Street Two-way	Mill Plain Boulevard to 6 th Street
C Street Southbound Connection to I-5 southbound	6 th Street to Interstate 5
Main Street Connection to South Waterfront Arterial	5 th Street to Columbia Way
Washington Street Two-way High Capacity Transit	McLoughlin Boulevard to 4 th Street and Interstate 5
6 th Street Two-way	Main Street to C Street
Washington Street Two-way Motor Vehicle*	McLoughlin Boulevard to 4 th Street
Straighten Columbia Way	Columbia Street to C Street alignment
City of Vancouver Projects	3. Location
South Waterfront Arterial Roadway	Approximately Grant St. alignment east to Columbia
SR14 – 3 rd /4 th Street Connection	Esther Street to Columbia Street
Ester Street extension	4 th Street to South Waterfront Arterial
Westside Connector Arterial	From Jefferson Street just north of 8 th Street connecting southeast to 6 th Street.
Lincoln Street – Jefferson/Kauffman Street Couplet	Between approximately 9 th Street and Mill Plain Boulevard. A couplet from 8 th Street north to Mill Plain was one of the options considered. Other option keeps all traffic on either Lincoln or Kauffman. Either corridor will work for traffic purposes.
Main Street Reconstruction & Two-way	Mill Plain Boulevard to 5 th Street
Broadway Two-way	Mill Plain Boulevard to 5 th Street
9 th Street Two-way	Washington Street to Broadway
11 th Street Two-way	Washington Street to C Street
Vacate/Realign 4 th Street	Esther Street to Columbia Street
Port of Vancouver Projects	4. Location
Rail Spur	not shown
West Port Access Road	6 th Street/Grant Street intersection to the west
Joint Jurisdiction Project	5. Location
South Waterfront Arterial Roadway Connection (Vancouver and Port of Vancouver)	8 th Street/Grant Street intersection south along Grant Street to new South Waterfront Arterial Roadway

* Analysis was conducted with Washington Street as a two-way and one-way facility for motor vehicles. Either operation did not produce additional mitigation measures. Analysis in the SDEIS is representative of Washington Street operating with one-way southbound motor vehicle operations.



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LEGEND

-  ▶ Grade Separated Crossing with Special Design Focus
-  ▶ Area of Special Focus
-  ▶ Safety Focus Locations
-  ▶ Existing At-grade Rail Crossing
-  ▶ Intersection Mitigation/Improvements
-  ▶ Intersection with Mitigation/Improvements and Safety Focus
-  ▶ Future Potential At-grade Rail Crossing

N



MAP NOT TO SCALE

Information Sources: City of Vancouver
DKS Associates

Note: This map shows the assumed network improvements (as shown on Figure 10-6) as being grayed out to represent the underlying location of the improvements.

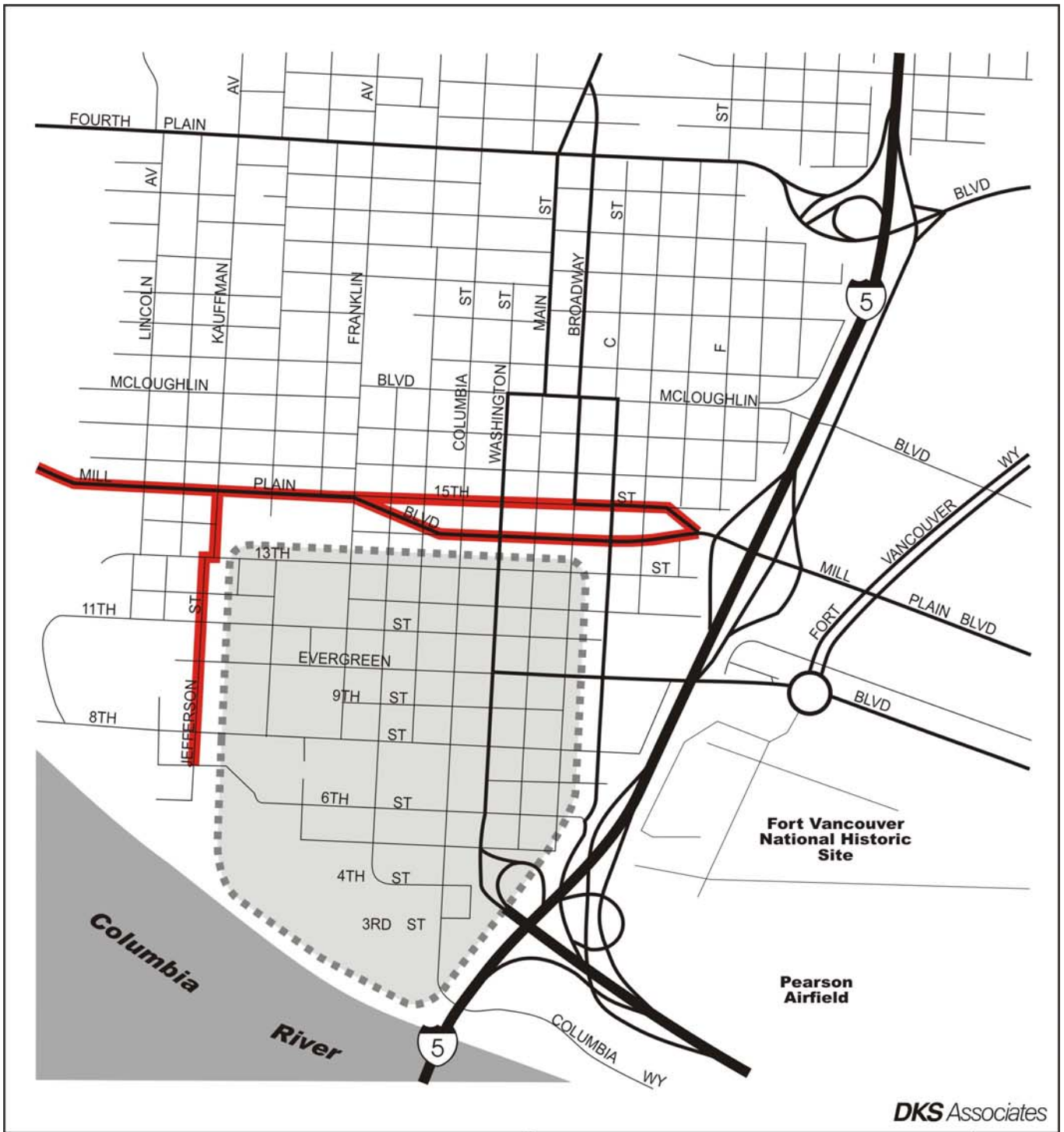
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2023 MOTOR VEHICLE IMPROVEMENT STRATEGY MAP

FIGURE 1-7

Table 1-6: Motor Vehicle Action Strategy

Operational Issues	Proposed Strategy
Fourth Plain Blvd/Main St	Optimize motor vehicle operations through corridor improvements such as coordinated signals, phasing improvements, optimized timing, and minor geometric modifications.
Fourth Plain Blvd/I-5 Northbound	Add northbound left turn pocket/lane.
Mill Plain Blvd/I-5 Northbound	Optimize motor vehicle operations through corridor improvements such as coordinated signals, phasing improvements and optimized timing.
Evergreen Blvd/C St	Modify northbound/southbound geometry to contain left turn pockets with permitted phase (part of two-way C Street operations in future). Stripe a westbound left turn pocket (not necessary, but would complement the eastbound left turn). Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
Mill Plain Blvd/Columbia St	Add southbound left turn lane with protected phase (full block). Add northbound right turn pocket. Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
Mill Plain Blvd/Broadway	Add southbound left turn pocket with permitted phasing (part of two-way Broadway operations in future). Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
Mill Plain Blvd/C St	Add northbound right turn pocket for full block. Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
15 th Ave/C St	Optimize motor vehicle operations through intersection improvements such as phasing modification & optimized timing.
11 th Ave/Columbia St	Signalize intersection (cusp of meeting peak hour warrant). Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
McLoughlin Blvd/Main St	Add eastbound left turn pocket with protected phase. Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
New Design Issues	Proposed Strategy
6 th St/Grant St Grade Separation	This intersection, including rail grade separation, will require special design based on the need from surrounding proposed development. In addition to auto traffic this intersection will serve trucks bound for the crescent area north of the Port rail lead line. It will also provide the primary west-side connection between the waterfront and regional bike and pedestrian system, linking the Columbia River Waterfront Trail to the Shared Use facility on Mill Plain Boulevard.
Esther Street Rail Under-crossing	New multimodal rail berm under-crossing consistent with urban plaza style design of existing Esther Street in downtown.
Main Street Revitalization	Develop and implement integrated urban design and streetscape transportation improvement to two-way main street.
Washington Street Urban Design	Develop urban design concept and roadway standards for new HCT corridor; adopt and implement with new development.
C Street Urban Design	Develop and implement corridor streetscape and street design standards; adopt and implement with new development.
Waterfront Street Design	Develop waterfront street and streetscape design standards; adopt and implement with new development.
Grant St/8 th Street and Jefferson Street/13 th Street	These roadways/intersections will need improvement consistent with the new roadway network configuration.
Safety Issues	Proposed Strategy
Safety Focus Locations	These locations have been identified as areas of special safety concern related to sight distance, speed, or a history of pedestrian or bicycle accidents. They are highlighted here for special attention to intersection operations for vehicles, bikes, and pedestrians. Mitigations might include intersection or signal modifications, new pedestrian crossing technologies or pavement treatments.
Area of Special Focus: Franklin to Daniels between Evergreen and 8 th .	This area has been identified as an area of special safety concern related to sight distance and speed hazard. Potential mitigation could include parking removal and/or landscape treatments, as well as enhanced pavement markings.
Area of Special Focus: Mill Plain Boulevard / I5 Interchange Area	This location is identified as an area of special operational concern because of very heavy peak period vehicle volumes. Improvement may require signal upgrades as well as consideration of lane channelization and vehicle storage.
Area of Special Focus: Fourth Plain intersections with Main & Broadway.	This location is identified as an area of special safety and operational concern because of heavy traffic and pedestrian volumes, close signal spacing, and small turning radii. Improvements may include intersection reconstruction, signal timing adjustments and/or curb extensions.
New At-grade Rail Crossing	Build all-way gate control with wayside horns for any new at-grade rail crossing.
Existing At-grade Rail Crossings: <ul style="list-style-type: none"> ◆ 11th St west of Lincoln St ◆ Jefferson St north of 8th St ◆ Port Way north of 8th St ◆ 8th St east of Jefferson St 	Upgrade intersections to all-way gate control with wayside horns. Long term potential closure of crossings on Jefferson and 8 th Streets with completion of west side arterial.



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LEGEND

-  - Truck Routes
-  - Local Deliveries Only

Information Sources: DKS Associates

Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

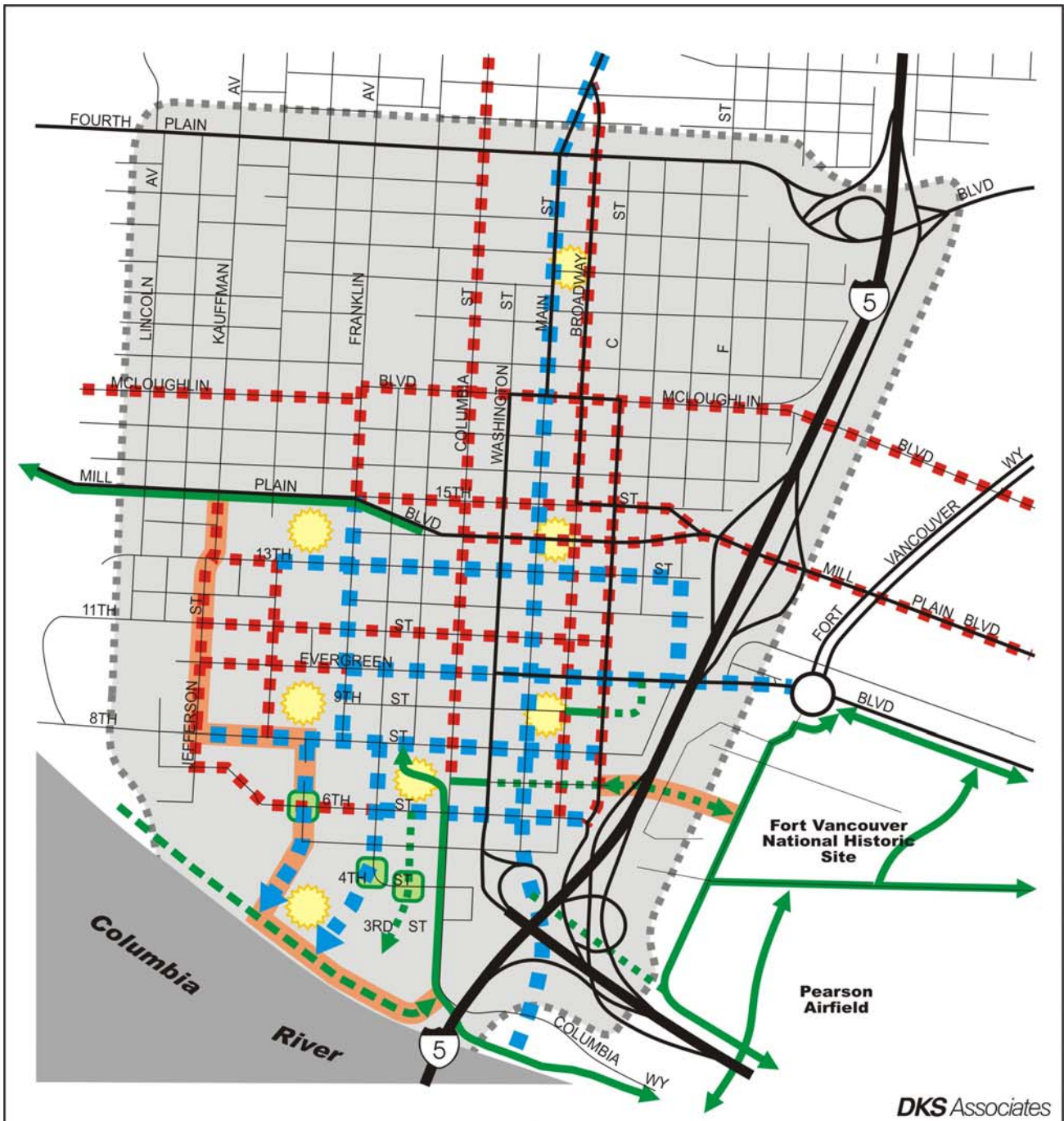
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2023 FREIGHT STRATEGY PLAN

FIGURE 1-8



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LEGEND

- ■ ■ ■ - Primary Corridor (15-20 foot width)
- ■ ■ ■ - Secondary Corridor (12-15 foot width)
- ↔ ↔ - Existing Multi-use Off-street Path
- - - - Proposed Multi-use Off-street Path
- ▬ - Regional System Connector Facility
- ◻ - Grade Separated Crossing with Special Design Focus
- ☀ - Activity Center (based on proposed development)
- ■ ■ ■ - Pedestrian Zone

Information Sources: DKS Associates

Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

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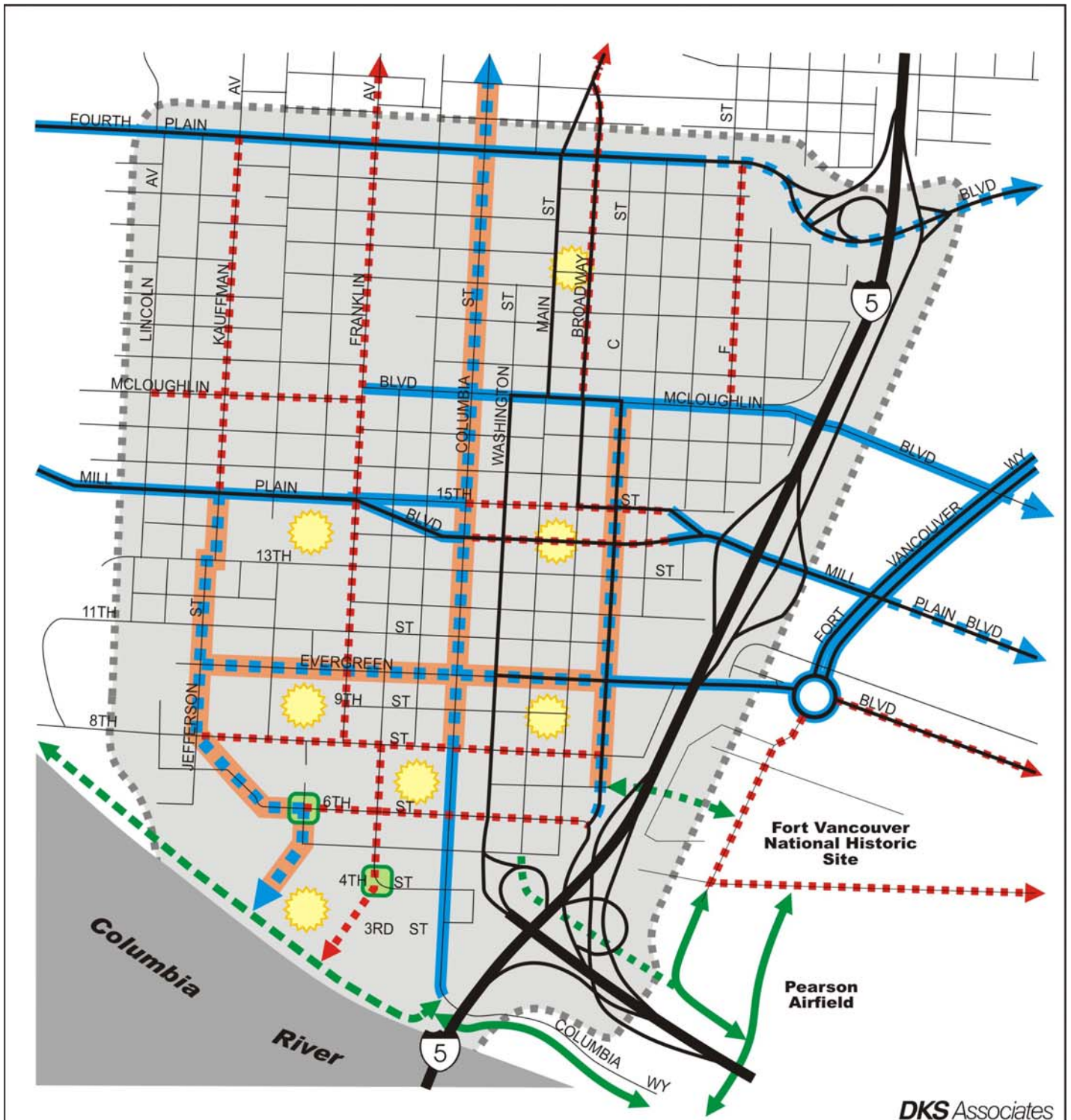
MAP NOT TO SCALE

2023 PEDESTRIAN IMPROVEMENT STRATEGY PLAN

FIGURE 1-9

Table 1-7 Pedestrian Action Strategy

Location	Action Strategy
Franklin Avenue	Designate as Primary Corridor from 8 th Street to Mill Plain Boulevard with 15-20 foot sidewalk facility.
Main Street	Designate as Primary Corridor from off-street multi-use path south of Columbia Way to north of Fourth Plain Boulevard, with 15-20 foot sidewalk facility.
E Street extension	Designate as Primary Corridor from 13 th Street to Evergreen Boulevard with 15-20 foot sidewalk facility.
Grant Street	Designate as Primary Corridor from 8 th Street south to South Waterfront multi-use path with 15-20 foot sidewalk facility.
Esther Street	Designate as Primary Corridor from 8 th Street south to South Waterfront multi-use path with 15-20 foot sidewalk facility.
13 th Street	Designate as Primary Corridor from Harney Street to E Street with 15-20 foot sidewalk facility.
Evergreen Boulevard	Designate as Primary Corridor from Harney Street to Fort Vancouver Way with 15-20 foot sidewalk facility.
8 th Street	Designate as Primary Corridor from Jefferson Street to C Street with 15-20 foot sidewalk facility.
6 th Street	Designate as Primary Corridor from Esther Street to C Street with 15-20 foot sidewalk facility.
Jefferson Street	Designate as Secondary Corridor from approximately 7 th Street to Mill Plain Boulevard with 12-15 foot sidewalk facility.
Harney Street	Designate as Secondary Corridor from 8 th Street to 13 th Street with 12-15 foot sidewalk facility.
Franklin Street	Designate as Secondary Corridor from Mill Plain Boulevard to McLoughlin Boulevard with 12-15 foot sidewalk facility.
Columbia Street	Designate as Secondary Corridor from 7 th Street to north of Fourth Plain Boulevard with 12-15 foot sidewalk facility.
Main Street	Designate as Secondary Corridor from 15 th Street to McLoughlin Boulevard with 12-15 foot sidewalk facility.
Broadway	Designate as Secondary Corridor from 6 th Street to north of Fourth Plain Boulevard with 12-15 foot sidewalk facility.
C Street	Designate as Secondary Corridor from 6 th Street to McLoughlin Boulevard with 12-15 foot sidewalk facility.
McLoughlin Boulevard	Designate as Secondary Corridor from west of Lincoln Street to east of Fort Vancouver Way with 12-15 foot sidewalk facility.
15 th Street	Designate as Secondary Corridor from Franklin Boulevard to E Street with 12-15 foot sidewalk facility.
Mill Plain Boulevard	Designate as Secondary Corridor from Columbia Street to east of Fort Vancouver Way with 12-15 foot sidewalk facility.
13 th Street	Designate as Secondary Corridor from Kauffman Avenue to Harney Street with 12-15 foot sidewalk facility.
11 th Street	Designate as Secondary Corridor from Jefferson Street to C Street with 12-15 foot sidewalk facility.
Evergreen Boulevard	Designate as Secondary Corridor from Franklin Street to Kauffman Avenue with 12-15 foot sidewalk facility.
6 th Street	Designate as Secondary Corridor from Jefferson Street to Esther Street with 12-15 foot sidewalk facility.
South Waterfront Multi-use Path	Implement a multi-use path along the south waterfront from Columbia Way west of Jefferson Street alignment.
Daniels Street extension	Implement a multi-use path along a Daniels Street extension from 6 th Street.
Heritage Bridge Multi-Use Path	Create a multi-use path for pedestrian and bicycle use that crosses Interstate 5 at approximately 5 th Street connection east to Fort Vancouver Way.
7 th Street	Implement a multi-use path from Washington Street to C Street.
9 th Street	Implement a multi-use path along a 9 th Street extension from C Street to Evergreen Boulevard.
Pedestrian Zone	The entire plan area should be designed with pedestrians in mind in order to promote and facilitate pedestrian trips within the study area. Consideration should be given to street furniture and other street amenities (such as covered walkways and convenient transit plazas where appropriate). Additionally, all signalized crossings should be upgraded to include countdown timers for pedestrian crossings and the most up to date ADA treatments. Un-signalized crossings should provide for enhanced safety with pavement markings, treatments, and/or raised platforms.
Design Issue	Proposed Strategy
6 th St/Grant St Grade Separation	This intersection will require special design consideration for implementation based on the need from surrounding proposed development.



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LEGEND

- Existing Bicycle Lanes
- Preferred Bicycle Lanes
- Preferred Bicycle Routes
- Preferred Multi-use Path
- Existing Multi-use Path
- Grade Separated Crossing with Special Design Concern
- Activity Center (based on proposed development)
- Regional System Connector Facility
- Bicycle Zone

Information Sources: DKS Associates

Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

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2023 BICYCLE IMPROVEMENT STRATEGY PLAN

FIGURE 1-10

Table 1-8: Bicycle Action Strategy

Location	Action Strategy
Columbia Street	Implement bicycle lanes from 8 th Street to north of Fourth Plain Boulevard
C Street	Implement bicycle lanes from 6 th Street to McLoughlin Boulevard
Jefferson St/Kauffman St	Implement bicycle lanes from Mill Plain Boulevard to 8 th Street
Jefferson St/8 th Street intersection to 6 th Street/Grant Street	Implement bicycle lanes along future roadway alignment running southeast to northwest connecting these two intersections.
Fourth Plain Boulevard	Implement bicycle lanes from E Street to east of Interstate 5 as a Preferred Bicycle Route, which has shared space for bicycle use.
McLoughlin Boulevard	Implement bicycle lanes east of Fort Vancouver Way.
Evergreen Boulevard	Implement bicycle lanes from Jefferson Street to C Street, and east of Fort Vancouver Way.
Kauffman Avenue	Designate facility from Mill Plain Boulevard to Fourth Plain Boulevard as a Preferred Bicycle Route, which has shared space for bicycle use.
Franklin Avenue	Designate facility from Mill Plain Boulevard to Fourth Plain Boulevard as a Preferred Bicycle Route, which has shared space for bicycle use.
Broadway	Designate facility from McLoughlin Boulevard to Fourth Plain Boulevard as a Preferred Bicycle Route, which has shared space for bicycle use.
Esther Street	Designate facility from 8 th Street to South Waterfront Multi-use Path as a Preferred Bicycle Route, which has shared space for bicycle use.
Fort Vancouver Way	Designate facility from Evergreen Boulevard to E 5 th Street as a Preferred Bicycle Route, which has shared space for bicycle use.
McLoughlin Boulevard	Designate facility from Lincoln Street to Franklin Avenue as a Preferred Bicycle Route, which has shared space for bicycle use.
Mill Plain Boulevard/15 th Street	Designate facility from Columbia Street to D Street, and east of Fort Vancouver Way as a Preferred Bicycle Route, which has shared space for bicycle use.
Evergreen Boulevard	Designate facility east of Fort Vancouver Way as a Preferred Bicycle Route, which has shared space for bicycle use.
8 th Street	Designate facility from Jefferson Street to C Street as a Preferred Bicycle Route, which has shared space for bicycle use.
6 th Street	Designate facility from Grant Street to C Street as a Preferred Bicycle Route, which has shared space for bicycle use.
E 5 th Street	Designate facility east of Fort Vancouver Way as a Preferred Bicycle Route, which has shared space for bicycle use.
South Waterfront Multi-Use Path	Create a multi-use path for pedestrian and bicycle use along the South Waterfront area (tied to redevelopment of the area) from Columbia Way to west of Jefferson Street.
Heritage Bridge Multi-Use Path	Create a multi-use path for pedestrian and bicycle use that crosses Interstate 5 at approximately 5 th Street connection east to Fort Vancouver Way.
Fort Vancouver Way extension	Create a multi-use path for pedestrian and bicycle use that extends south from Fort Vancouver Way (at E 5 th Street) to connect southeast to the existing multi-use path that crosses SR-14.
Bicycle Zone	The entire plan area should all be designed with bicycles in mind in order to promote and facilitate bike trips within the study area. Consideration should be given to supply adequate bicycle parking, convenient and safe routes and bike lanes, and intersection crossing safety.
Design Issues	Proposed Strategy
6 th St/Grant St Grade Separation	This intersection will require special design consideration for implementation based on the need from surrounding proposed development.

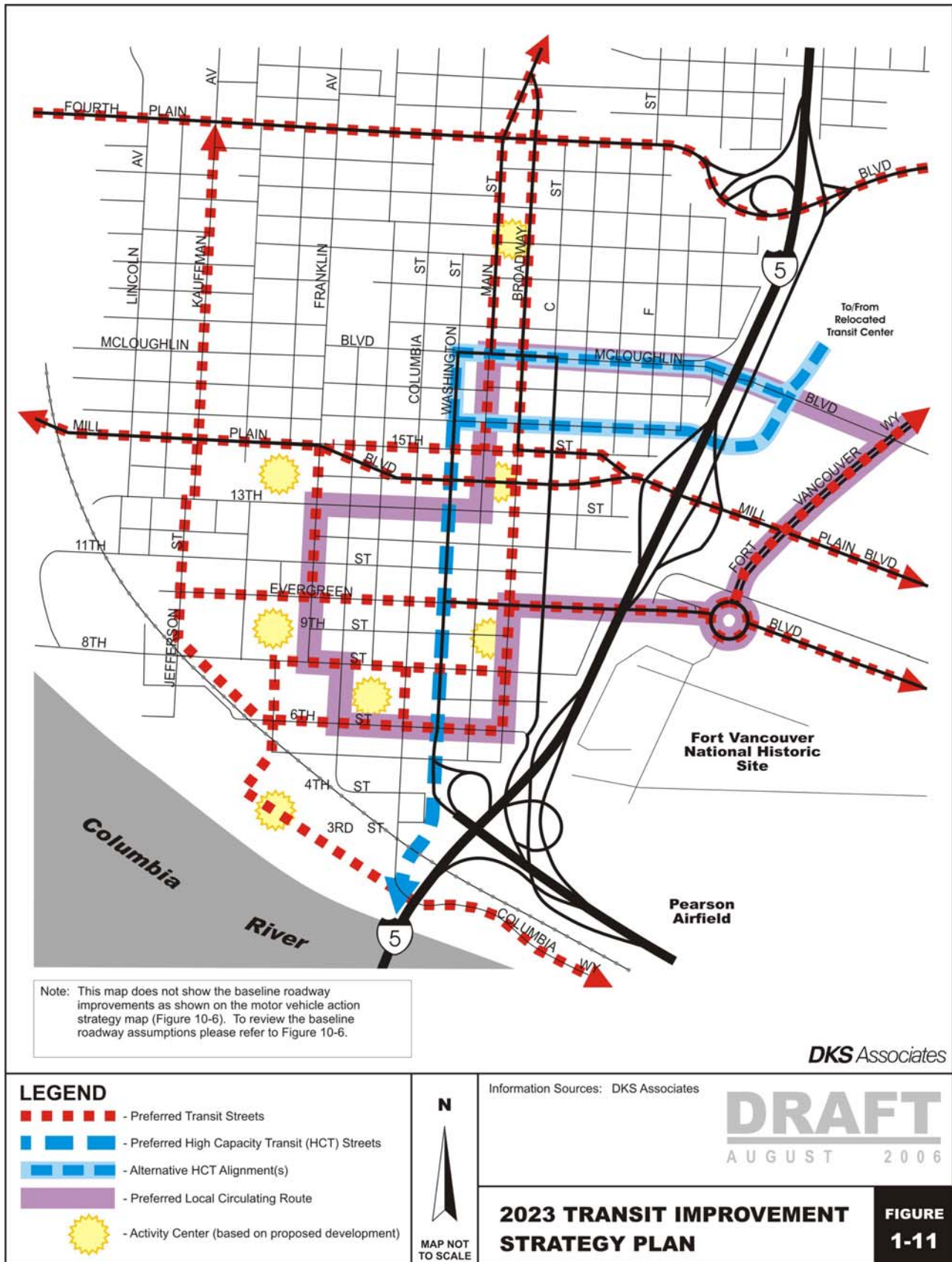


Table 1-9: Transit Action Strategy

Street Designations	6. Location
Preferred Transit Street Designation	Kauffman Avenue from Fourth Plain Boulevard to 13 th Street
Preferred Transit Street Designation	Jefferson Street from 13 th Street to 8 th Street
Preferred Transit Street Designation	6 th Street extension (from Grant Street) to 8 th Avenue
Preferred Transit Street Designation	Grant Street south to south waterfront arterial
Preferred Transit Street Designation	South waterfront arterial (from Grant Street to Columbia Street)
Preferred Transit Street Designation	Columbia Way from I-5 to the east
Preferred Transit Street Designation	Franklin Street from Mill Plain Boulevard to Evergreen Street
Preferred Transit Street Designation	Esther Street from Evergreen to south waterfront arterial
Preferred Transit Street Designation	Main Street from north of Fourth Plain Boulevard to Evergreen
Preferred Transit Street Designation	Broadway from north of Fourth Plain Boulevard to Evergreen
Preferred Transit Street Designation	Evergreen from Jefferson Street to Fort Vancouver Way (and to the east)
Preferred Transit Street Designation	Fort Vancouver Way from Evergreen to McLoughlin Boulevard (and to the north)
Preferred Transit Street Designation	Mill Plain Boulevard from Fort Vancouver Way to Lincoln Avenue (and to the west)
Preferred Transit Street Designation	15 th Street from Franklin Avenue to E Street
Preferred HCT Street Designation	Washington Street from I-5 to 16 th Street
Preferred HCT Street Designation	Option A: Along Washington Street from 16 th Street to McLoughlin Boulevard, then heading east along McLoughlin Boulevard to east of I-5
Preferred HCT Street Designation	Option B: Along 16 th Street east crossing I-5 then north to cross McLoughlin Boulevard
Preferred Local Circulating Route	From McLoughlin, Main St. south to 13 th Street, west on 13 th Street to Franklin Avenue, south on Franklin Avenue to 8 th Street, east on 8 th , south on Esther, east on 6 th , north on Broadway, east on Evergreen, north on Fort Vancouver Way, west on McLoughlin.
Action Items	7. Location
Preferred Local Circulating Route	Coordinate with C-TRAN to develop local transit circulator route.
Preferred HCT Street Designation	Coordinate with Columbia River Crossing (CRC) project for High Capacity Transit component; designate HCT corridor and alignment. Washington Street is currently identified as the primary HCT corridor and at this time is the most desirable alignment to serve downtown Vancouver.
High Capacity Transit	Complete a detailed corridor study for the street selected as the locally preferred alignment for High Capacity Transit. The corridor study shall address the cross section and design of the corridor, station area planning, traffic operations, transit operations, pedestrian accessibility and permeability, as well as urban design and corridor aesthetics. It will provide a complete picture of how HCT fits seamlessly into the downtown land use environment.
Emerging Issues	8. Location
Local High Capacity Transit Circulator	Evaluation of a local HCT system such as streetcar is in initial stages of exploration. Implementation of such a system is consistent with the VCCV traffic evaluation. It would likely take on a similar role to that of a local transit circulator and would have minimal traffic operations impacts.
Commute Trip Reduction and Transportation Demand Management	The CTR Efficiency Act (ESSB 6566), passed by the state legislature during the 2006 session carries a mandate for more energetic commute trip reduction (CTR) programs throughout the state. Vancouver will be expanding its CTR program to develop a Growth and Transportation Efficiency Center (GTEC) in the city center. Implementation of a program reduce single occupant vehicle trips will help to implement the goals of the VCCV.

CHAPTER

2

M E T H O D O L O G Y



The purpose of this chapter is to outline the key assumptions and methodology used to evaluate existing and future transportation conditions for the *Downtown Vancouver Traffic Impact Analysis*. Certain assumptions are critical to the process of evaluation for this project. This chapter will focus on defining the key elements for transportation operational analysis and describes the methods for developing future forecasts, and outlines the analysis process.

Overall Project Approach

As part of the initial assumptions and understanding of the project, the overall project approach must be defined. This helps in understanding the individual efforts that make up the entire project. Each step builds on the previous process and leads into the next step. Figure 2-1 outlines the steps for the overall project approach and process.

The initial step is to collect existing data to evaluate. This data needs to be verified against field observations and calibrated with field measurements to assure that the base year (existing) is calibrated and accurate. Once this is done the existing conditions can be evaluated. The existing conditions indicate the traffic operations for the study area for the base year.

The assumptions and methodology for future analysis must then be established to act as the basis for the development and assessment of future conditions. Once the assumptions and methodologies have been established, the future scenarios are developed. The scenarios for analysis have been split into a short-term period (3-5 years from baseline) and long-term period (20 years from baseline). Future volumes and needs are forecasted for each of these scenarios and evaluated for deficiencies. These deficiencies are then addressed with mitigation and an action strategy is developed for both scenarios.

Throughout the project there will also be an iterative process of feedback and review with the advisory committee. This allows each product of the final study to be reviewed and refined.

Study Area

The study area is bounded by the Columbia River to the south, railroad tracks (near the Port of Vancouver west of Lincoln Street) to the west, Fourth Plain Boulevard to the north, and I-5/Fort Vancouver Historic Reserve to the east.

Within the study area there are six sub-areas that define neighborhoods. The City of Vancouver has identified approximately 60 intersections within the study area to be included for analysis of existing conditions. Figure 2-2 shows the study area, neighborhoods and study area intersection locations.

Land Use and Parking

The study area is comprised of approximately 885 acres of land with the majority designated as “City Center” zoning. Additional short-term and long-term land use has been identified within the study area. The land use directly affects the potential future motor vehicle trips (and non-motorized trips) to/from the study area. Table 2-1 summarizes the existing, short-term and long-term land use currently proposed within the study area.

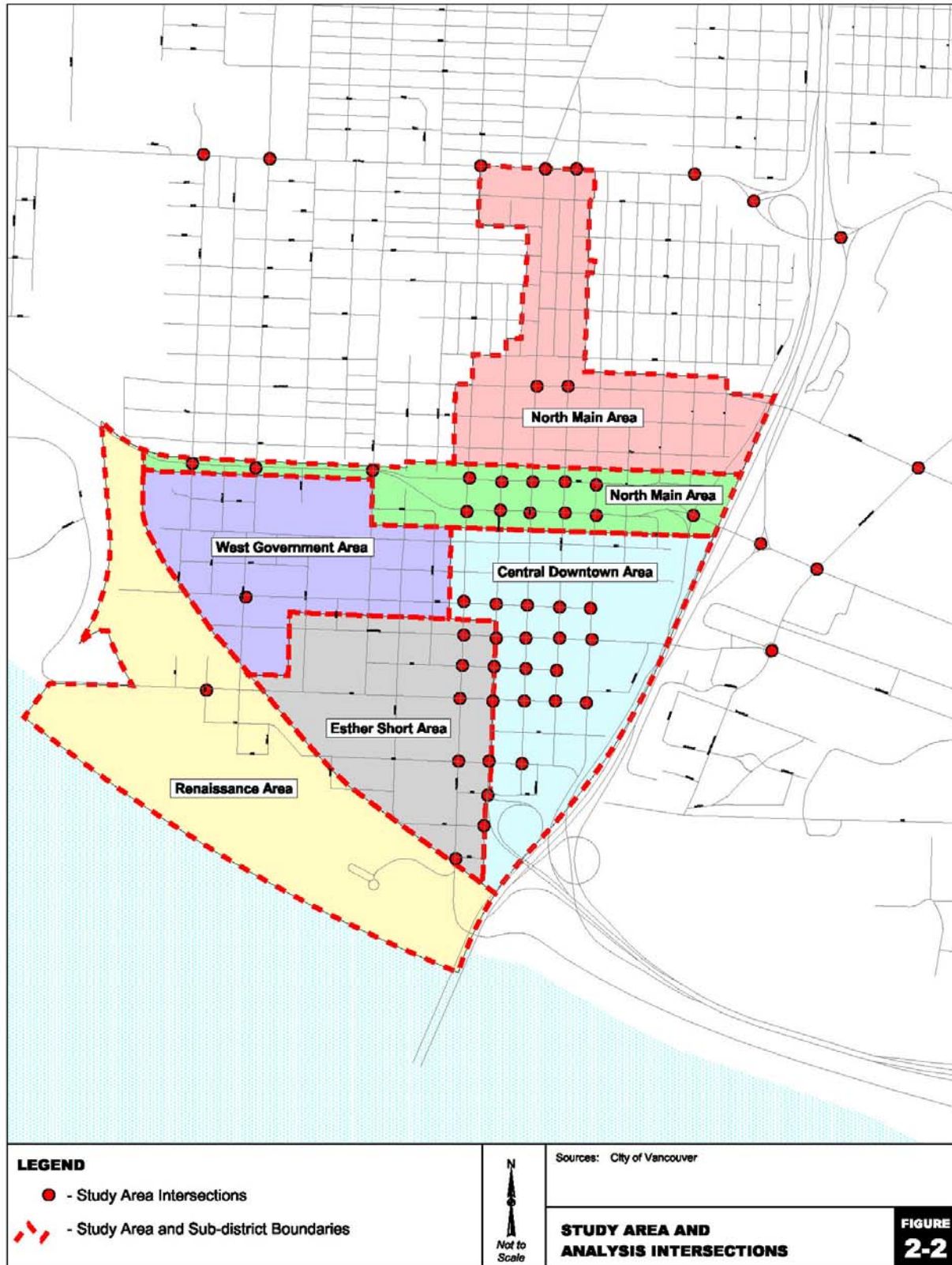
Table 2-1: Summary of Existing and Planned Land Use

Scenario	Retail/Services	Office	Institutional	Restaurant	Dwelling Units ²	Light Industrial	Hotels ³
Existing ¹	735,250	1,314,040	66,100	111,860	1000	221,730	320
Land Use Growth							
Short-Term (5 years)	164,000	704,000	91,500	26,000	1516	0	200
Long-Term (20 years)	237,000	1,721,000	500,000	0	3038	100,000	0
Total Growth	401,000	2,425,000	591,500	26,000	4554	100,000	200
Total Future Land Use	1,136,250	3,739,040	657,600	137,860	4,284		520

Notes:

- Existing land use shown is only for categories shown. The downtown Vancouver area has additional land use not shown in this table.
- Dwelling unit land use is indicated by the number of housing units (either rental or owned).
- Hotel land use is shown in number of rooms.

SOURCE: City of Vancouver



As Table 2-1 indicates, the majority of land use planned over the next 20 years within the downtown Vancouver area is office, retail and supporting housing, however there is a significant increase in institutional land use as well.

It is also useful to identify within the study area where this development is planning on taking place. The City of Vancouver has identified how much development in the short-term and long-term would occur within each neighborhood sub-area. Table 2-2 summarizes this information.

Table 2-2: Summary of Proposed Short and Long-Term Development by Sub-District

Scenario/Sub-District	Retail/Services	Office	Institutional	Restaurant	Dwellings ¹	Light Industrial	Hotels ³
Short-Term							
<i>Central Downtown</i>	39,000	154,000	0	6,000	183	0	0
<i>Esther Short</i>	30,000	350,000	81,500	0	293	0	0
<i>Mill Plain</i>	30,000	80,000	0	0	56	0	0
<i>North Main</i>	5,000	10,000	0	0	44	0	0
<i>Renaissance</i>	60,000	0	10,000	20,000	825	0	200
<i>West Government</i>	0	110,000	0	0	115	0	0
<i>Sub-Total</i>	164,000	704,000	91,500	26,000	1516	0	200
Long-Term							
<i>Central Downtown</i>	41,000	406,000	0	0	312	0	0
<i>Esther Short</i>	26,000	485,000	0	0	57	0	0
<i>Mill Plain</i>	78,000	120,000	0	0	116	0	0
<i>North Main</i>	15,000	10,000	0	0	211	0	0
<i>Renaissance</i>	65,000	450,000	0	0	2189	100,000	0
<i>West Government</i>	12,000	250,000	500,000	0	153	0	0
<i>Sub-Total</i>	237,000	1,721,000	500,000	0	3038	100,000	0
TOTAL	401,000	2,425,000	591,500	26,000	4,554	100,000	200

Notes:

- Existing land use shown is only for categories shown. The downtown Vancouver area has additional land use not shown in this table.
- Dwelling unit land use is indicated by the number of housing units (either rental or owned).
- Hotel land use is shown in number of rooms.

SOURCE: City of Vancouver

Most of the planned land use in the short-term and long-term is evenly allocated amongst the sub-districts, with the exception of the North Main sub-district due to the fact that it is much smaller in size than the other sub-districts.

In addition to the land use being proposed in the study area, there is additional parking being

proposed. Parking is also a direct input to potential motor vehicle trip making potential (and non-motorized linked trips). There are approximately 10,960 existing off-street parking spaces today, and a proposed 5,440 to be added in the short-term with an additional 8,580 to be added in the long-term. Table 2-3 summarizes the proposed locations of additional parking by sub-district within the study area.

Table 2-3: Summary of Existing and Additional Proposed Off-Street Parking

Sub-district	Existing	Short-Term Period	Long-Term Period
<i>Central Downtown</i>	2,996	1,070	1,710
<i>Esther Short</i>	2,593	1,840	1,830
<i>Mill Plain</i>	1,094	460	850
<i>North Main</i>	1,515	0	0
<i>Renaissance</i>	1,427	1,460	3,150
<i>West Government</i>	1,332	610	1,040
TOTAL	10,957	5,440	8,580

Notes:

1. Parking supplies have been rounded to the nearest multiple of ten.

SOURCE: City of Vancouver

Based on the proposed parking for the short-term and long-term periods, the majority of additional parking is being proposed in the Central Downtown, Esther Short and Renaissance sub-districts. This also coincides with the sub-districts where a large amount of the proposed development is planned to occur.

Trip Generation and Distribution

Two types of land activity create the potential for motor vehicle trips to occur. These two activities are land use (new development) and parking. Trip generation for the study area was done using land use (proposed development) rather than parking, because the parking supplements the land use, and it is actually the land use that generates the motor vehicle trip potential. Trip generation was conducted for both the short-term and long-term analysis periods based on the individual project/location.

Trip Generation

The trip generation analysis for individual projects was based on surveys of similar type land uses as reported by the Institute of Transportation Engineers (ITE). The analysis considered PM peak period because volumes (and therefore potential impacts) were higher in the PM peak hour.

The analysis of trip generation data was performed in two stages. The first stage is to estimate the total trips generated by each project, and the second stage was to estimate the potential for internal capture rate and mode share trip reduction.

The *Trip Generation Handbook* defines an internal capture rate “... a percentage reduction that can be applied to the trip generation estimates for individual land uses to account for trips

internal to the site.”¹ This definition is used for traditional suburban land uses where there are not many supplemental adjoining land uses, and consequently minimal opportunity for trip linking and trip reduction. This same theory could apply to a downtown area if the “site” is considered to include supplemental adjoining land uses. Research has indicated that the potential internal capture rate would be approximately 20% for a downtown area.

In addition to an internal capture rate within the downtown area due to surrounding supplemental land uses, there is also a potential trip reduction due to a shift in mode share. This would be due to a higher potential for walk, bike and transit trips due to density and available services. Typical ITE trip generation does not take into account the higher availability of transit which is found in the downtown, the potential for parking pricing also found in downtown environments, or the density of mixed complementary land uses such as residential and commercial/office. This can increase the potential for a mode shift from motor vehicle to another mode. Research indicates that there could be a potential for mode shift of 20% for a downtown environment.²

Table 2-4 summarizes the potential trips generated by each sub-district for the short-term and long-term planning horizon. While the trips are shown in aggregate for each sub-district, it should be noted that the trips were generated individually for each project. The technical appendix has detailed trip generation information specific for each individual project.

Table 2-4: Potential PM Peak Hour Trip Generation and Reductions

Sub-district	Short-Term Period	Long-Term Period	Total Trips
<i>Central Downtown</i>	570	680	1250
<i>Esther Short</i>	980	730	1710
<i>Mill Plain</i>	240	340	580
<i>North Main</i>	100	200	300
<i>Renaissance</i>	770	1,260	2,030
<i>West Government</i>	320	420	740
Total	2,980	3,630	6,610

SOURCE: DKS Associates

¹ *Institute of Transportation Engineers Trip Generation Handbook*, Chapter 7, October 1998.

² DKS Associates conducted a trip generation study for two office and two residential (one owned and one rental) land use sites in the downtown Bellevue Washington area to establish trip generation rates to compare to ITE calculated rates on comparable sizes. Bellevue was selected as an area that would be representative of the type of density and amenities that Vancouver WA projects would represent. Research indicated that a reduction in calculated trip generation could occur within the range of 20-40% because of the density of surrounding uses. This would include both an internal capture rate and mode shift. As a worst case scenario the 20% was selected and was divided evenly between internal capture rate and mode shift. The technical appendix contains the research data.

In comparison, the RTC regional travel demand model has growth of approximately 2,900 PM peak hour trips for the land use assumed in the model. Therefore there is additional growth assumed with the updated land use that is not accounted for in the RTC regional travel demand model. This additional growth will be accounted for through the disaggregation of the regional model to deconstruct larger transportation analysis zones into much smaller analysis zones.

Trip Distribution

Trip distribution represents the estimation and forecast of where trips go to and come from. It is based upon predicted patterns from the SWRTC regional travel demand forecast model. The distribution is represented as a percentage of the trips generated by a specific zone (or activity) to another location. These zones reflect the transportation activity within the study area. Because the study area is large and incorporates approximately 30 transportation analysis zones (TAZs) there is potential for trips to travel between the TAZs within the study area. These were accounted for and Figure 2-3 summarizes the trip distribution to/from (and within) the study area.

Once the trip distribution was calculated, the trip assignment was determined. Trips have the potential to take multiple routes within a study area when arriving or departing from a proposed project. The assignment of trips determines the route the trip(s) will take when traveling to or from the study area to the calculated distribution points. The trips were assigned to the roadway network by evaluating the routes assigned through the SWRTC model.

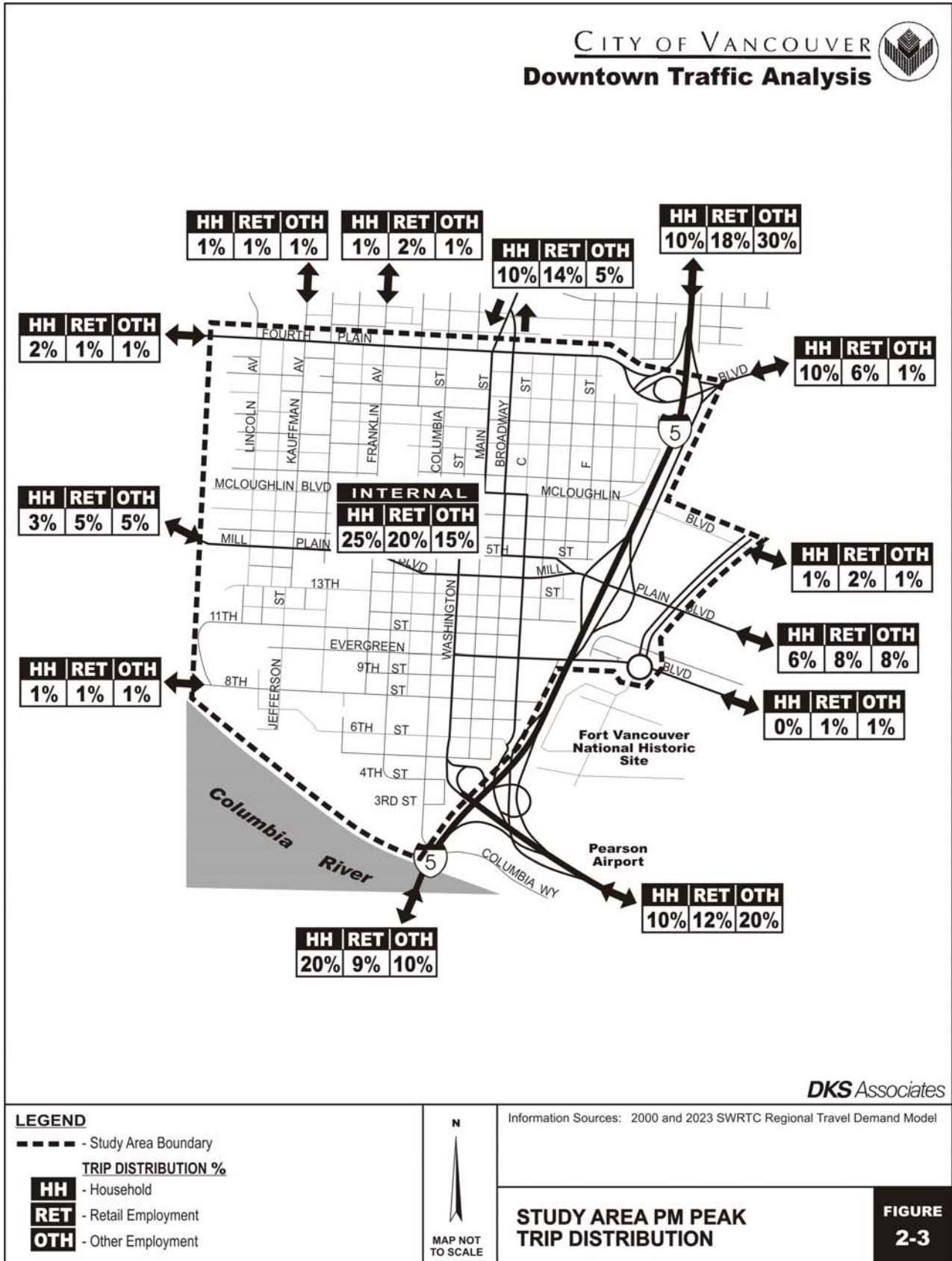
Activity Centers

Planning improvements for the short-term and/or long-term should be based on modal activity. It is therefore critical to locate the activity centers within the study area, and determine how active each area is. The downtown study area was broken down to assess potential activity (motorized and non-motorized) at a block level detail. To do this, the larger TAZ structure was disaggregated from approximately 35 TAZs to approximately 165 “blocks”. Then parcel level data for each tax lot was aggregated within each block.

Once the blocks were defined, trip generation (for parking and land use) was estimated for each block, and normalizing to a “typical” block coverage (in area) in the downtown. For example, if a block area was larger than the average downtown block it was divided by the number of average blocks to represent and “average” size. Conversely, blocks that may have been smaller than an average block were multiplied to represent an average size block. This allowed for data within each block to be normalized to an average block size in the downtown. This allowed each block to be compared to all other blocks and not favor larger or discount smaller blocks based on their relative size (and/or trip making based on that size).

The median value for trip making (both land use and parking) was derived for the long-term scenario and used as the gauge for activity. The long-term median value was used as the basis for existing and short-term activity because a comparable basis for all three scenarios needed to be assigned and this allowed blocks to become more active in the future if additional trip making potential was added to them (i.e. land use or parking).

CITY OF VANCOUVER Downtown Traffic Analysis



Blocks with values larger than the median value were assigned a value of one, where blocks with values less than the mean value were assigned the fraction of the value divided by the mean value. Effectively blocks that have more activity than the mean value were assumed to be highly active and blocks with values less than the mean value had only a fraction of that activity. This allowed ranges of activity to be assigned to blocks. Blocks were categorized into four levels (0-25%, 25-50%, 51-75%, and 76-100%) to show activity.

In addition to activity based on land use and parking, activity centers such as parks, libraries, schools and civic centers were given a value of one (100% activity), because these are activity centers that support multi-modal environments. Using these criteria, Figures 2-4 through 2-6 show the existing, short-term and long-term activity levels.

As shown in Figures 2-4 through 2-6, as additional development (land use and parking) is added over time, the activity level for blocks changes and reveals blocks that become more active and therefore indicate blocks that would lend to enhancements for connectivity. These activity maps indicate four high level activity centers within the downtown area creating a four-square pattern to link connections and plan connectivity.

Future Forecasting

The Southwest Regional Transportation Council provided the Vancouver/Clark County EMME/2 travel demand models for both base year (2002) and future year (2020) scenarios. The travel demand models are based on PM peak hour input and results.

Modeling Inputs

It is useful to compare the base year model and future year model to identify what growth is occurring, and the level the growth that is occurring. Table 2-5 summarizes the land use activities assumed in the base and future model, and Figure 2-7 shows the individual TAZ locations and the growth for each TAZ by activity.

Table 2-5: Base Year and Future Year Land Use Activity Summary

	Household ¹	Retail ²	Other ²
2000	1,990	1,400	14,300
2023	2,650	2,300	18,350
Delta (2023-2000)	+ 660	+ 900	+ 4,050
% Increase from base	+ 33%	+ 64%	+ 28%

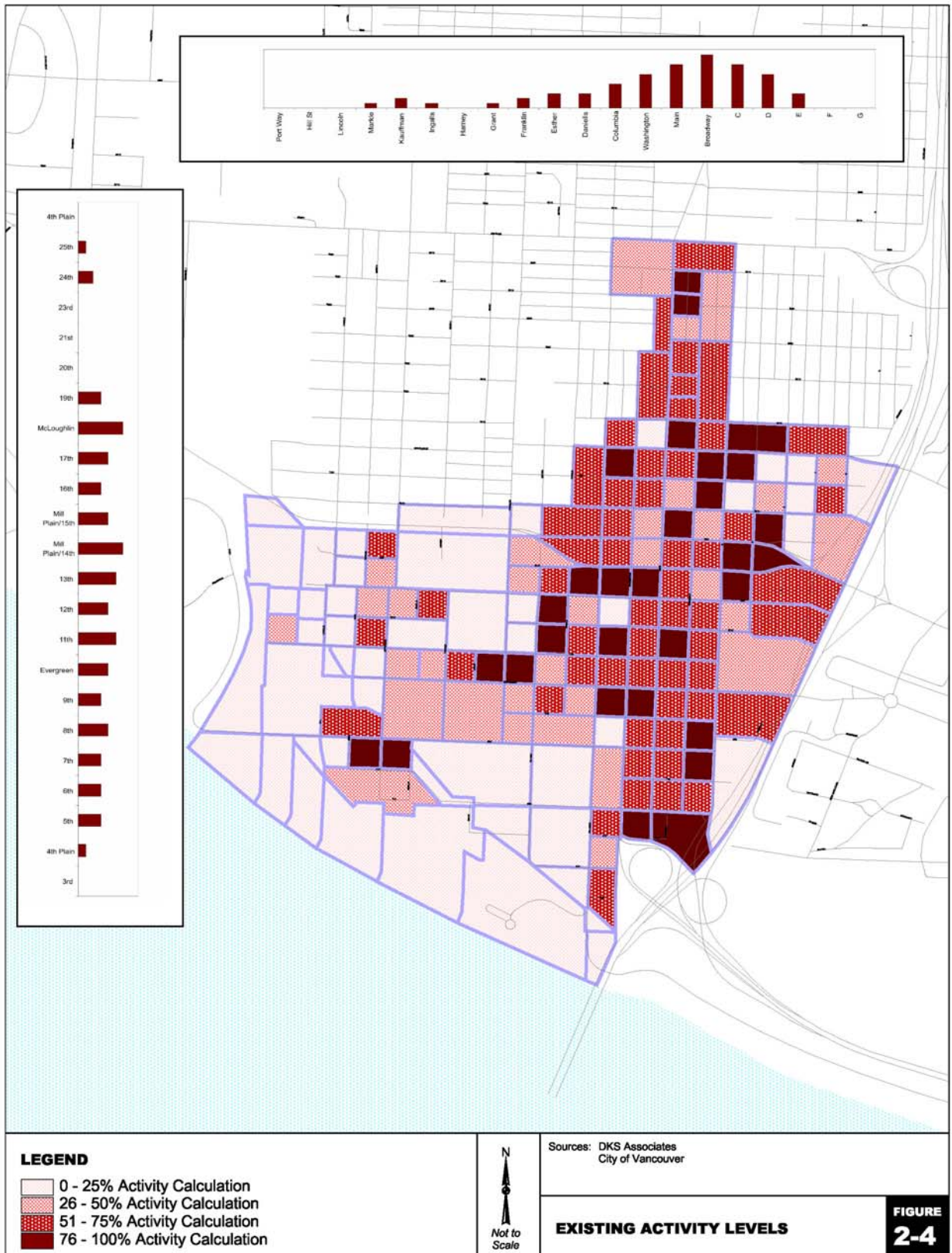
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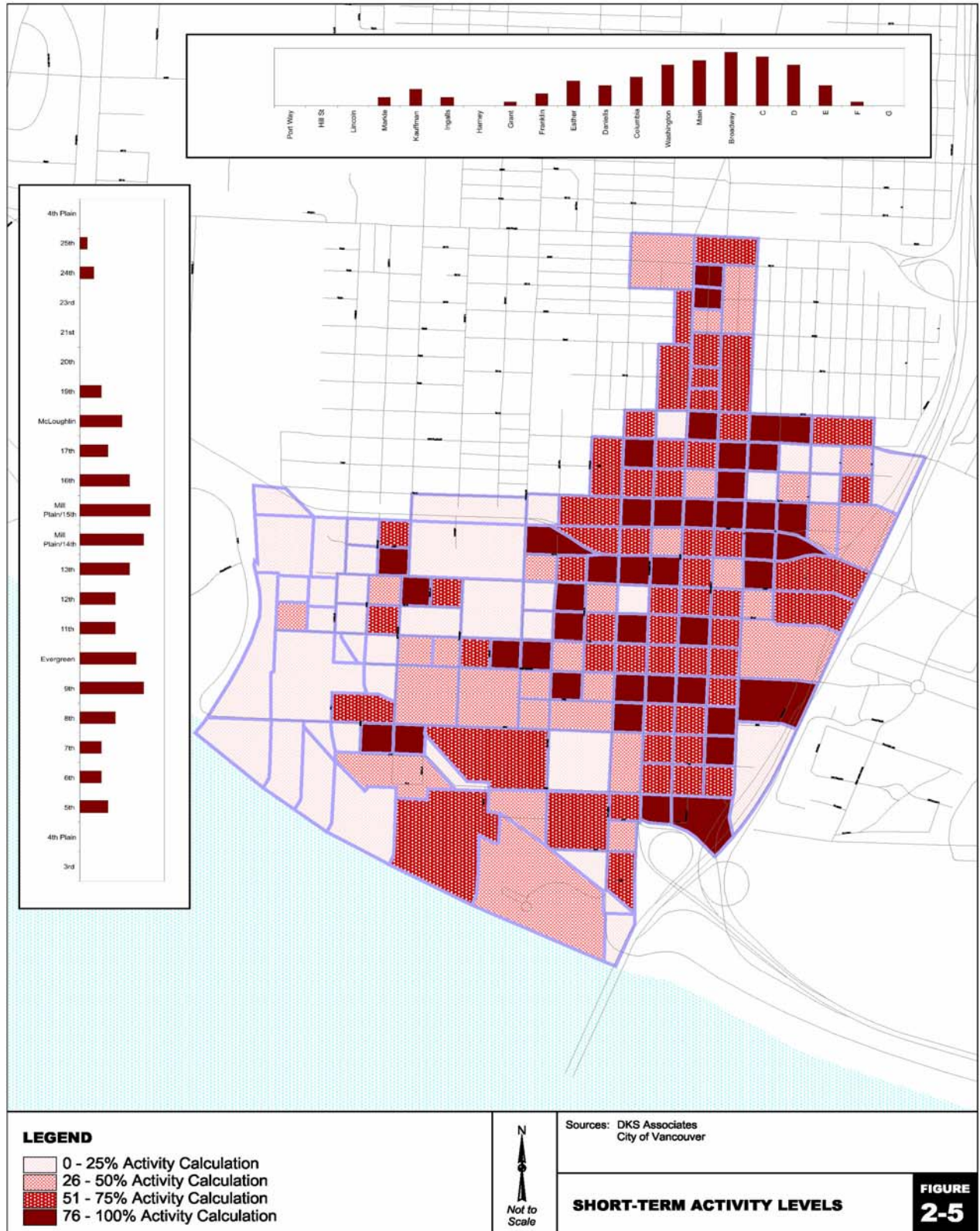
1. Households are based on number of dwelling units.
2. Retail and Other categories is based on number of employees.

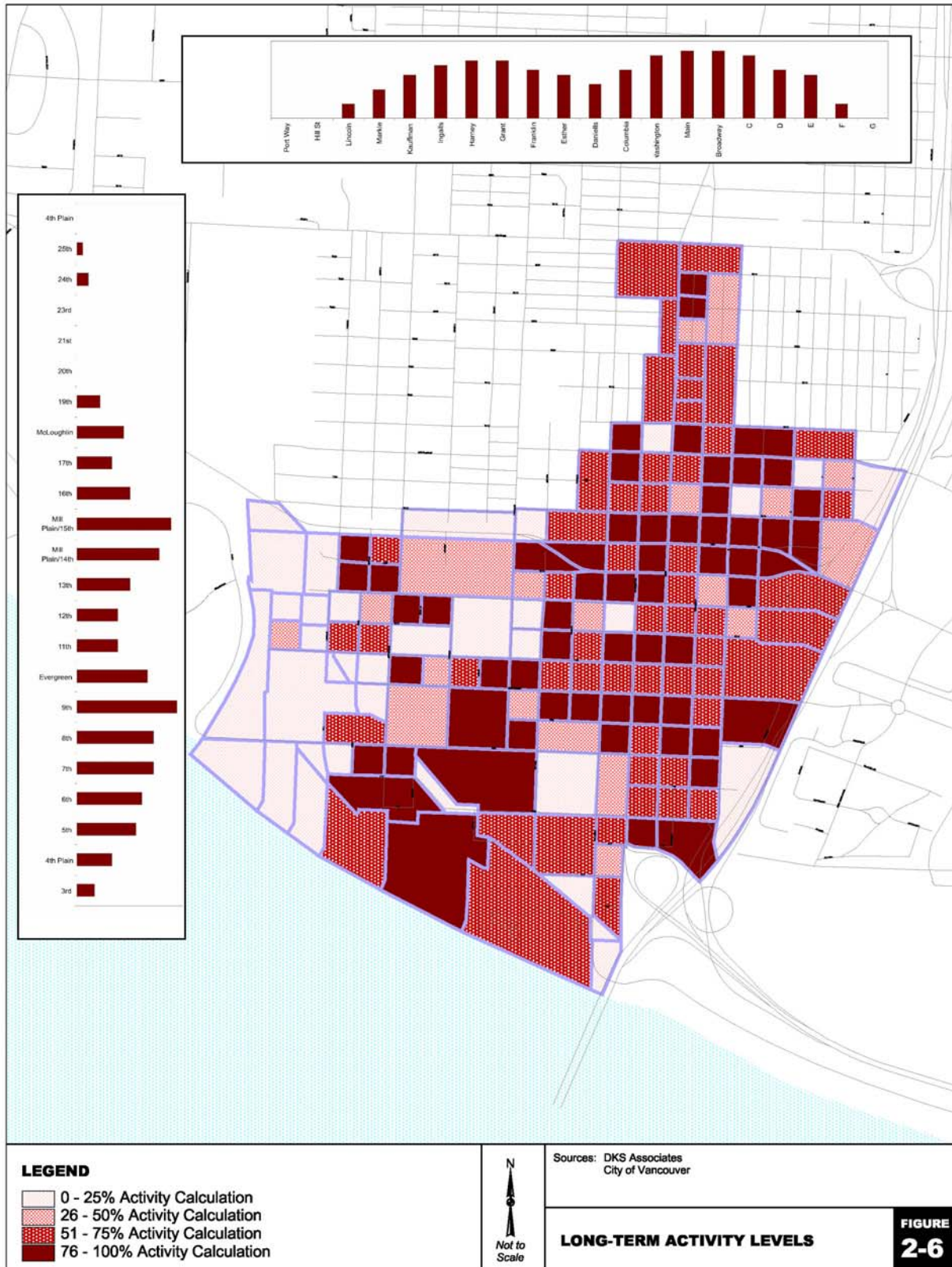
SOURCE: City of Vancouver

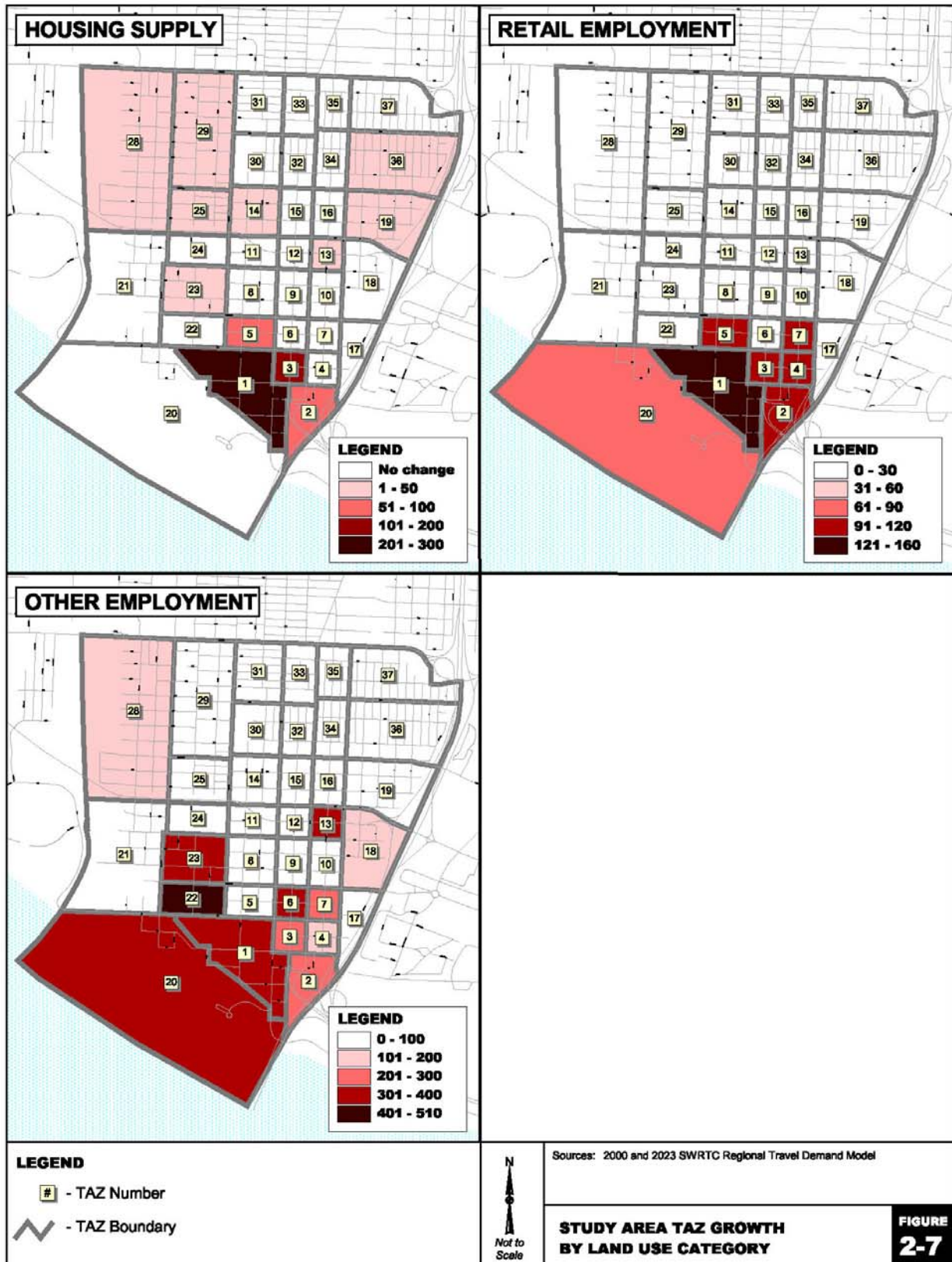
Short-Term Forecasting

The travel demand models were used to help estimate the potential growth from base year to future years. This potential growth was converted to a growth rate per year for each study area









corridor using straight-line interpolation between the base and future year models. It is important to determine a growth rate per year because the base year model (2002) does not coincide with the base year traffic counts (2005).

In addition to a growth rate per year, there are a number of short-term projects that have been identified to occur within the short-term planning horizon. These projects were individually assessed for their trip making potential and overlaid on top of the roadway network to represent a build-out of the short-term planning horizon.

Disaggregation

The regional travel demand model is typically used for growth along corridors or the type of growth within a region. A limitation that it can present is the size of the transportation analysis zones (the areas that contain information about land use that creates the in and out trips for an area). Many times these zones are much too large to use for smaller level of detailed analysis because the zone may cover up to 10 city blocks all at once, with access for trips only placed at a minimum amount of locations. Typically these connections to the local roadway network are on major facilities, which neglects the affects on collector roadways.

To help overcome this limitation, the regional model can be disaggregated, which means to take the larger transportation analysis zones (TAZs) and break them down to smaller levels that connect to the roadway system in a manner consistent with the existing roadway network. The downtown study area has approximately 30 TAZs within the model. For the level of detail of this analysis these TAZs were disaggregated to approximately 130 smaller zones. These zones were then connected to the roadway system at existing driveway access points to better reflect local circulation on the roadway system.

Typically the larger TAZs are broken into smaller pieces, yet the number of in and out trips is help constant to the larger TAZ. In the case of this analysis, a more intense land use is being analyzed in comparison to the regional model land use and therefore in and out trips were adjusted base on the type and intensity of land use within each district in the downtown.

Long-Term Forecasting

Forecasting the amount of future traffic at the study area intersections was done using a methodology incorporating existing counts, base case travel demand model counts, and future travel demand model counts.

This methodology minimizes the effects of model error by adding the increment of growth projected by the travel demand model (modeled 2023 volumes – modeled 2003 base model) to the base year counts. Therefore, intersection approach and departure volumes used in the LOS calculations have been adjusted and will not exactly match raw model volumes produced from the travel demand model.

Alternative Modes

Another key assumption to outline related to alternative modes is the relocation of the current

transit center from 7th Street (between Broadway and Washington Streets) northeast to Clark County Community College. While it is uncertain when this would occur, it is unlikely this would happen in the short-term (5 years), and therefore has been assumed to happen in the long-term planning horizon.

Future Roadway Network Assumptions

There were a number of future roadway network assumptions in place as part of the analysis for this project. Initial analysis was conducted using the base and future regional travel demand model to assess the potential for roadways to perform at or below capacities. If roadways were forecasted to have demand that exceeded the capacity alternative measures were explored to provide relief for these roadways.

Currently the roadways of Main Street and Broadway Street are being converted from a one-way system to a two-way circulation pattern (Main Street is northbound and Broadway Street is southbound). This conversion was carried forward into the future long-term analysis.

Additional land use intensity in the south waterfront area pointed to the need for connections north to the downtown as well as an arterial roadway that ran parallel to the waterfront connecting all of the portals to the north. These portals to the north appeared to be located at Esther Street (currently planned), Columbia Boulevard (existing) and somewhere in the 6th Avenue/Harney Street alignment. This allowed for connectivity in the roadway system that did not overload one roadway. The waterfront arterial also allowed for an east/west connection that could service connections to the west and act as a western bypass roadway as well to help alleviate traffic in the south waterfront area from traveling through the downtown to travel to the east or west. This western bypass connection could connect to Jefferson Street and align with Kauffman Avenue to the north.

In addition to these connections to the south, light rail transit is a potential in the future and it would have an alignment within the downtown area. The proposed alignment for this analysis was along Washington Street (two-way), which would only allow one southbound travel lane on Washington Street for motor vehicles.

Another project currently being planned is the Columbia River Crossing project. This project is focused on providing better facilities to cross the Columbia River via Interstate 5. This has the potential to reconfigure access to Interstate 5 and SR 14 for the downtown area. Currently access to both SR 14 (eastbound) and Interstate 5 (southbound) occur from the intersection of 5th Avenue/Washington Street. This creates potential constraints at this intersection, and these constraints were verified in the field, as well as the regional travel demand model.

To help alleviate this constraint, reconfiguration of the interchange through the Columbia River Crossing could allow for an extension of SR 14 eastbound access to the east along 3rd Avenue, while separating access to Interstate 5 southbound from the intersection of 6th Avenue/C Street via a new southbound on-ramp. Currently C Street is one-way northbound, and with the light rail running along Washington Street creating a capacity constraint for motor vehicles

southbound, and southbound access to Interstate 5 shifting to C Street, the roadway of C Street was modeled as a two-way circulator allowing both northbound and southbound travel. This helped access to Interstate 5 southbound to relieve other corridors in the downtown. With the conversion of C Street to two-way, all the north/south roadways in the central downtown area became two-way (with the exception of Washington Street which remained one-way but provided two-way light rail access).

All of these assumed roadway changes created the basis for a future baseline network for analysis and are illustrated in Figure 3-9. This roadway network was then tested for future operations using the following operational characteristics.

Traffic Operations Overview

It is helpful to define the traffic analysis terminology as well as summarizes the measures of effectiveness used to evaluate traffic operations for this study.

Level-of-Service

An intersection's LOS is similar to a "report card" rating, based on the average vehicle delay for all movements at the intersection. Level-of-service A, B and C indicate conditions where vehicles can move freely. Level-of-service D and E are progressively worse and generally indicate intersections where queuing of vehicles occur. Level-of-service F is the worst performance an intersection can attain.

Volume-to-Capacity Ratio

Another measure of effectiveness is the volume-to-capacity (V/C) ratio for signalized intersections. This is a measure of the amount of capacity (number of vehicles an intersection can accommodate) compared to the actual number of vehicles that utilize the intersection during the peak hour. As an intersection becomes more heavily utilized, the V/C ratio increases (with a maximum value of 1.0). Intersections start to reach a "capacity" constrained condition when the V/C ratio is at approximately 0.90 to 0.95 or higher (meaning that 90% to 95% of the intersection capacity is used with only 5% to 10% available for new demand).

Each jurisdiction has their own measures for traffic operations to determine acceptable operating standards. The City of Vancouver and Washington State Department of Transportation both use delay (calculated as a level-of-service) as their operating standard. Table 2-6 summarizes the minimum level of operating standards by jurisdiction.

Table 2-6: Traffic Operating Standards by Jurisdiction

Jurisdiction	Measure of Standard	Minimum Acceptable Operations
City of Vancouver	Level-of-service	D (signalized intersection)
		E (unsignalized intersection)
WSDOT	Level-of-service	D (signalized and unsignalized intersection)

Notes: Standards taken from the City of Vancouver Transportation System Plan and WSDOT Design Manual.

CHAPTER

3

A U T O M O B I L E

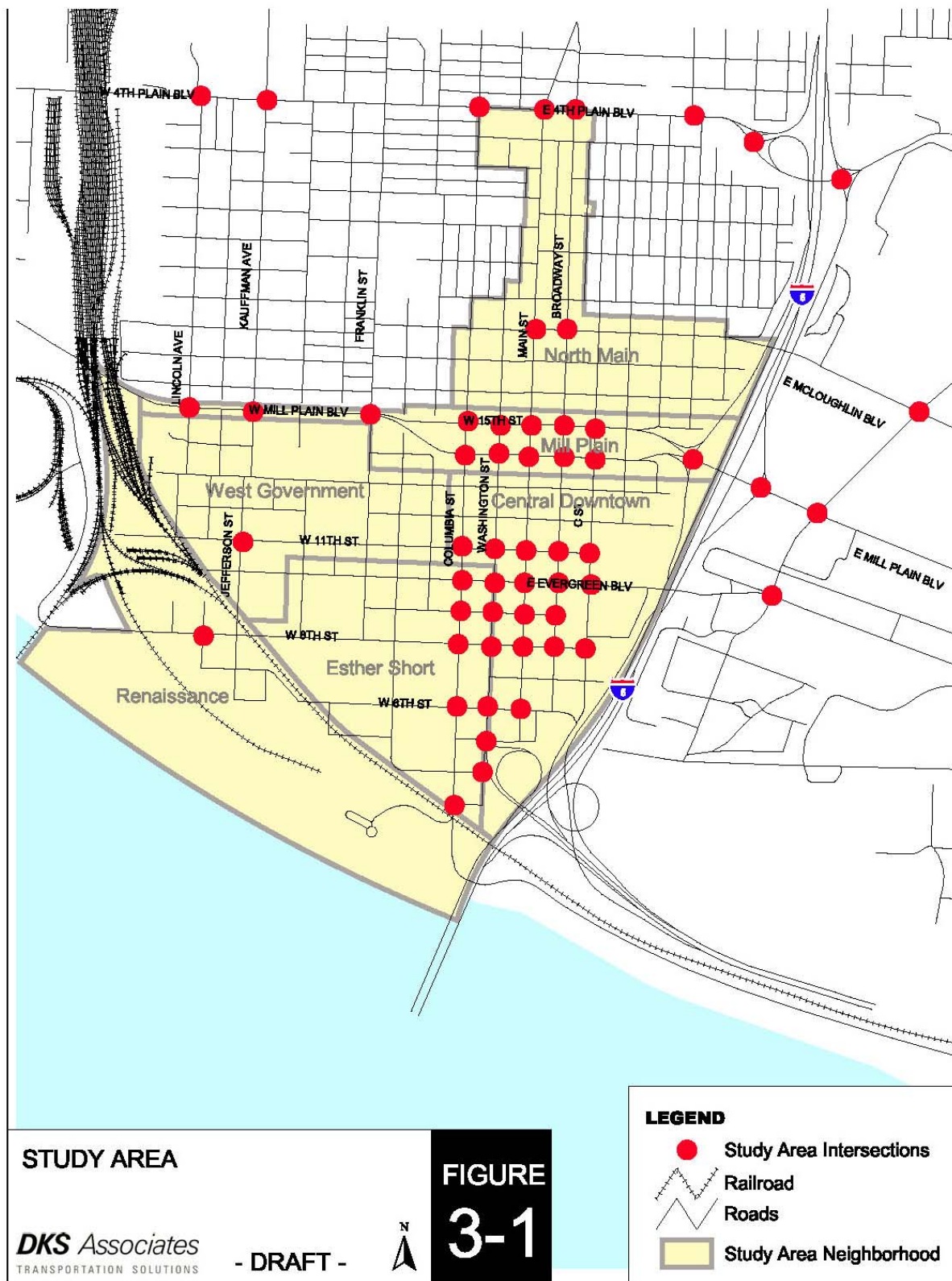


This chapter addresses the motor vehicle system within the study area. It includes information about the roadway network, traffic volumes, operations and collision data. Forecasts for short and long-term conditions are included to identify system deficiencies and to develop mitigation strategies.

Existing Conditions

The following section summarizes the existing motor vehicle conditions, roadway classifications and descriptions, existing turn movement data, and collision data. Fieldwork was conducted during the first and second week of June 2005 to verify intersection geometries, and motor vehicle operational issues. This data composes the existing conditions analysis and provides a basis of comparison for future assessment of transportation performance in the downtown Vancouver area. Figure 3.1 illustrates the study area and the intersection included for detailed modeling analysis.

Figure 3-1: Study area & area intersections

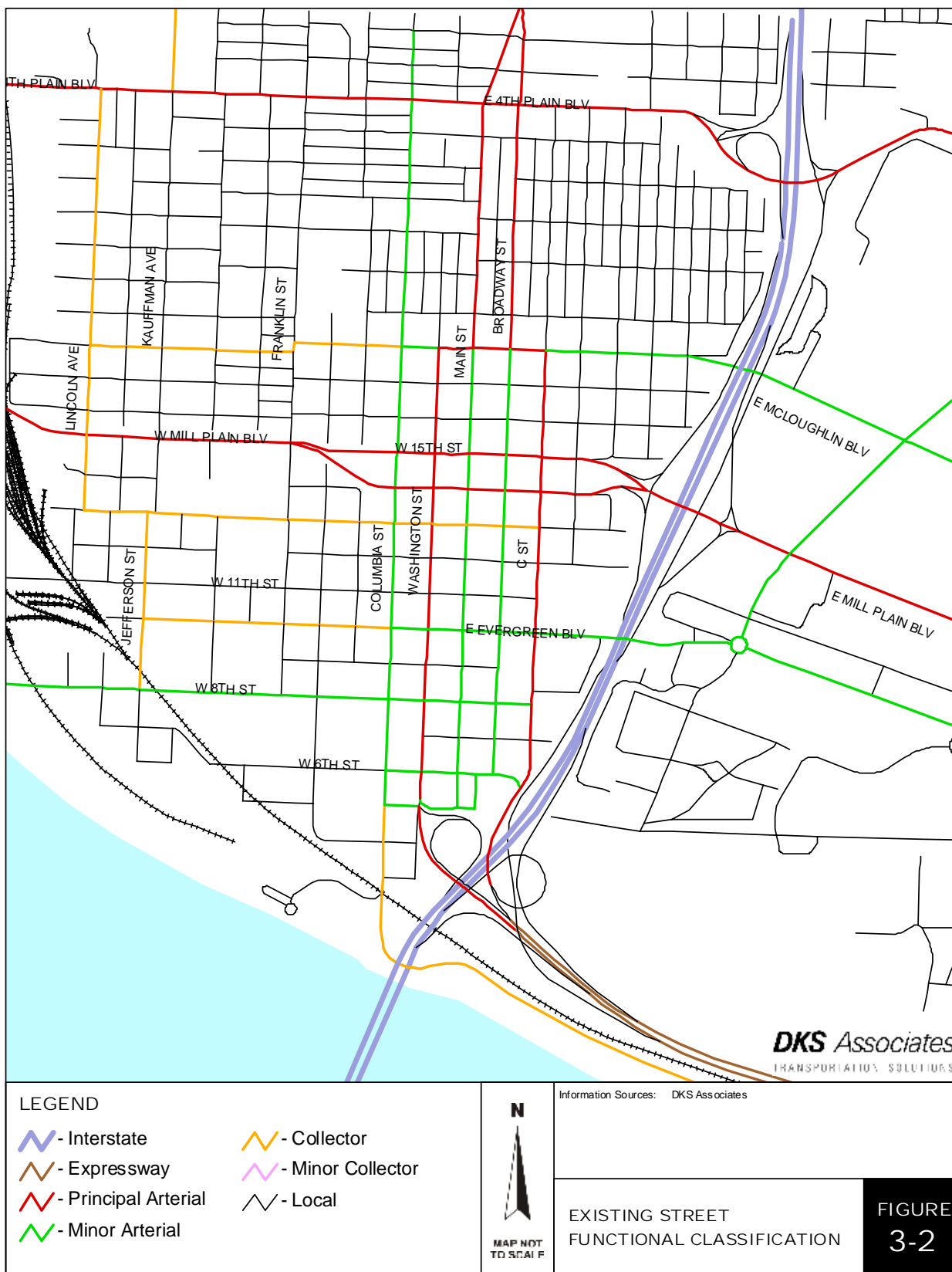


Roadway Classification

The majority of city streets within the study area have a speed limit of 25 mph. Fourth Plain Boulevard and Interstate 5 are the exceptions. Fourth Plain Boulevard has a 30 mph speed limit within the study area and Interstate 5 is posted at 55 mph. Once outside of the study/urban area, speed limits on Fourth Plain Boulevard and Interstate 5 increase.

The character of the study environment is that all of the roadways are inherently multi-modal—that is they all serve pedestrians, bikes, transit, freight, and automobiles. While that is true of most roadways in Vancouver, it is especially so in city center environment. Figure 3.2 illustrates the existing roadway arterial classifications.

Figure 3-2: Arterial Designations



The majority of roads in the study area are two travel lanes (one each direction), exceptions being the Mill Plain/15th Street couplet (3 lanes), Washington Street (3 lanes), C Street (3 lanes), sections of McLoughlin Boulevard to the east (4 lanes), Mill Plain Boulevard to the east and west of downtown (4 lanes), Fort Vancouver Way (4 lanes) and Fourth Plain Boulevard (4 lanes). Many of these street are either one-way (and part of a couplet system) or are higher functioning roadways designed to carry heavier volumes of traffic, thus requiring additional travel lanes.

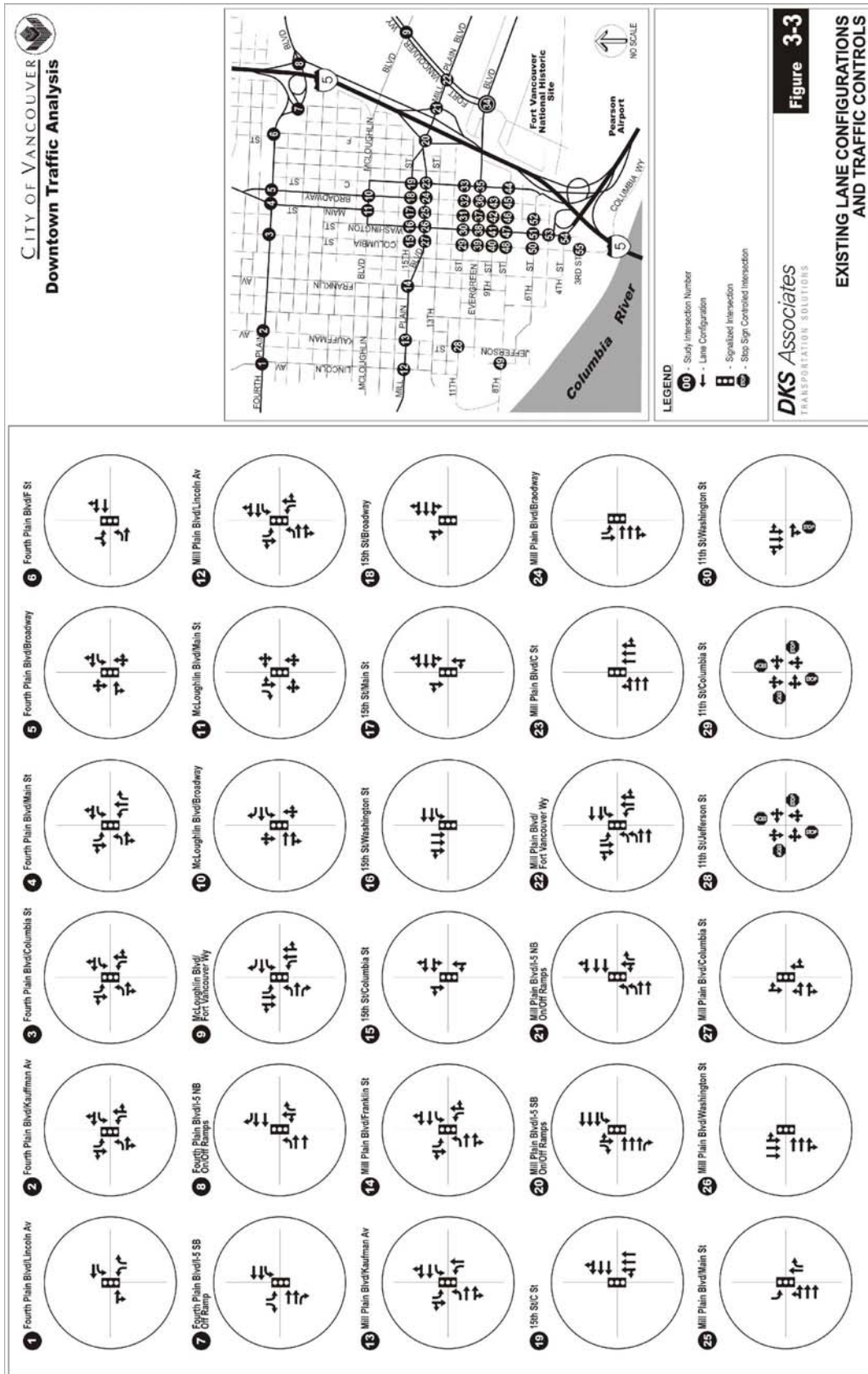
Traffic Volumes

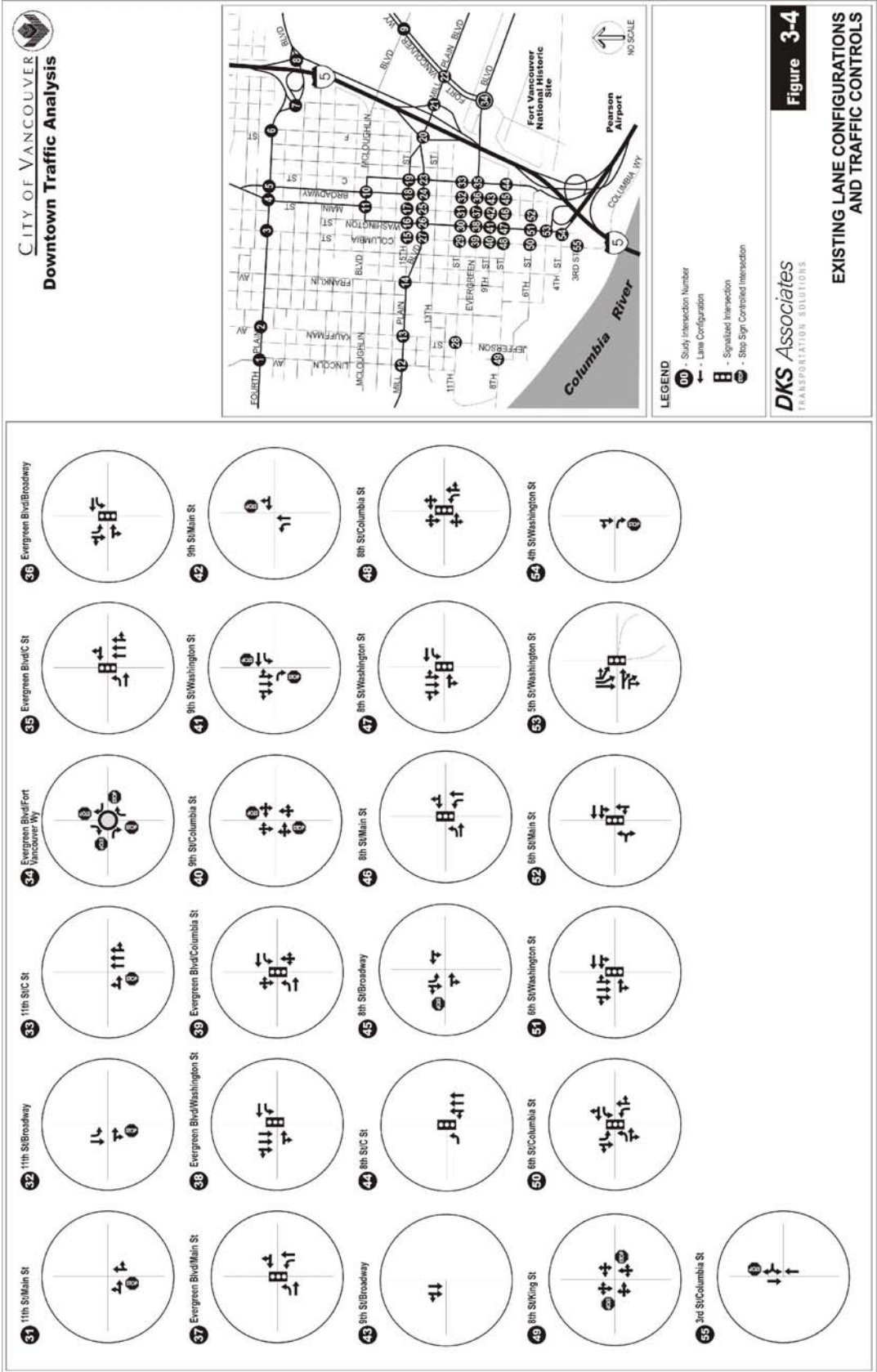
Morning (7:00AM – 9:00AM) and evening (4:00PM – 6:00PM) turn movement counts were conducted the week of May 30, 2005 and included motor vehicles, bicycles, pedestrians and truck volumes. While the analysis of traffic volume profiles is useful to reach an understanding of the peak times of the day and the nature of the traffic flow in the area. Traffic volumes alone do not indicate the ability of the street network to carry additional traffic, or the quality of service provided by the street facilities. For this reason, the concept of level-of-service (LOS) has been developed to correlate traffic volume data to subjective descriptions of traffic performance at intersections. Figure 3-3 shows existing intersection lane configuration and Figures 3-4 through 3-7 summarize the detailed turn movement counts for all study area intersections.

Table 3.1 shows the existing intersection level of service for study intersections. Level-of-service A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hour travel demand. Level-of-service D and E are progressively worse peak hour operating conditions and F represents failure or delay of greater than 80 seconds per vehicle entering a signalized intersection. This condition is evident in long queues and delays. Level-of-service D or better is the generally accepted urban standard for signalized intersections.

Unsignalized intersections provide level-of-service for major and minor street turning movements. For this reason, LOS E and even LOS F can occur for a specific turning movement; however, the majority of traffic may not be delayed (in cases where major street traffic is not required to stop). LOS E or F conditions at unsignalized intersections generally provide a basis to study intersections further to determine availability of acceptable gaps, safety and traffic signal warrants.

Figure 3-4 : Existing Turns







CITY OF VANCOUVER
Downtown Traffic Analysis

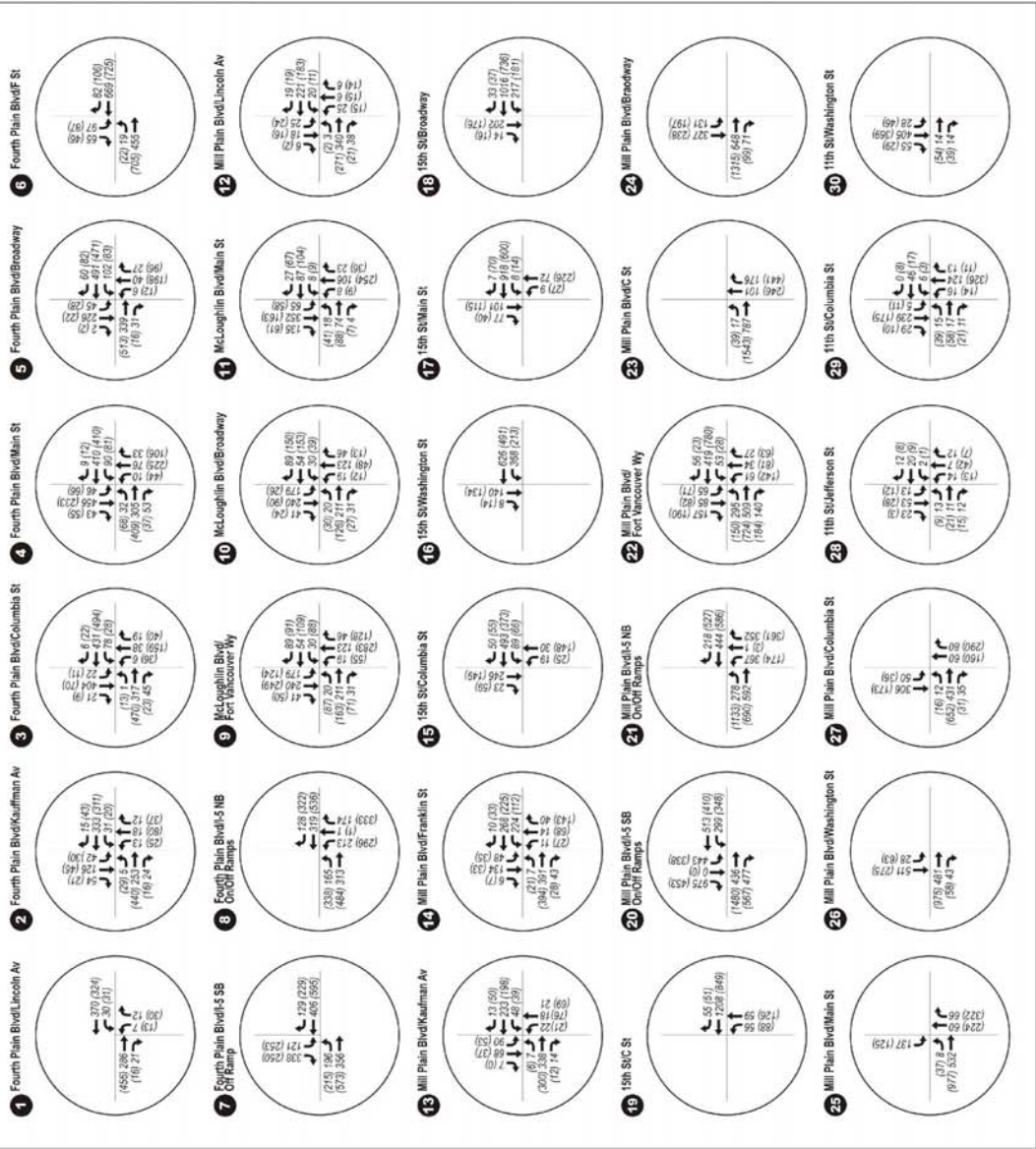


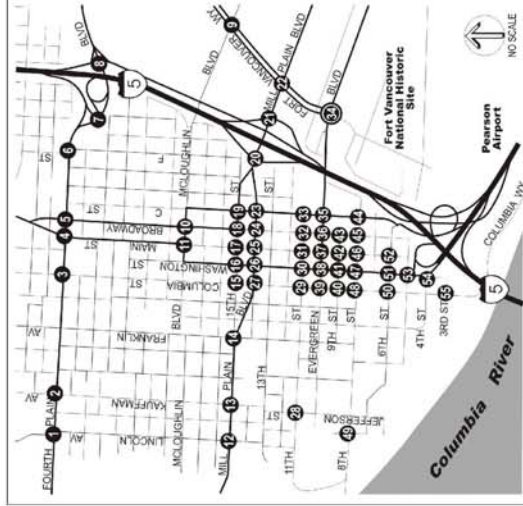
Figure 3-5

DKS Associates
TRANSPORTATION SOLUTIONS

EXISTING AM/PM PEAK HOUR VOLUMES



CITY OF VANCOUVER
Downtown Traffic Analysis

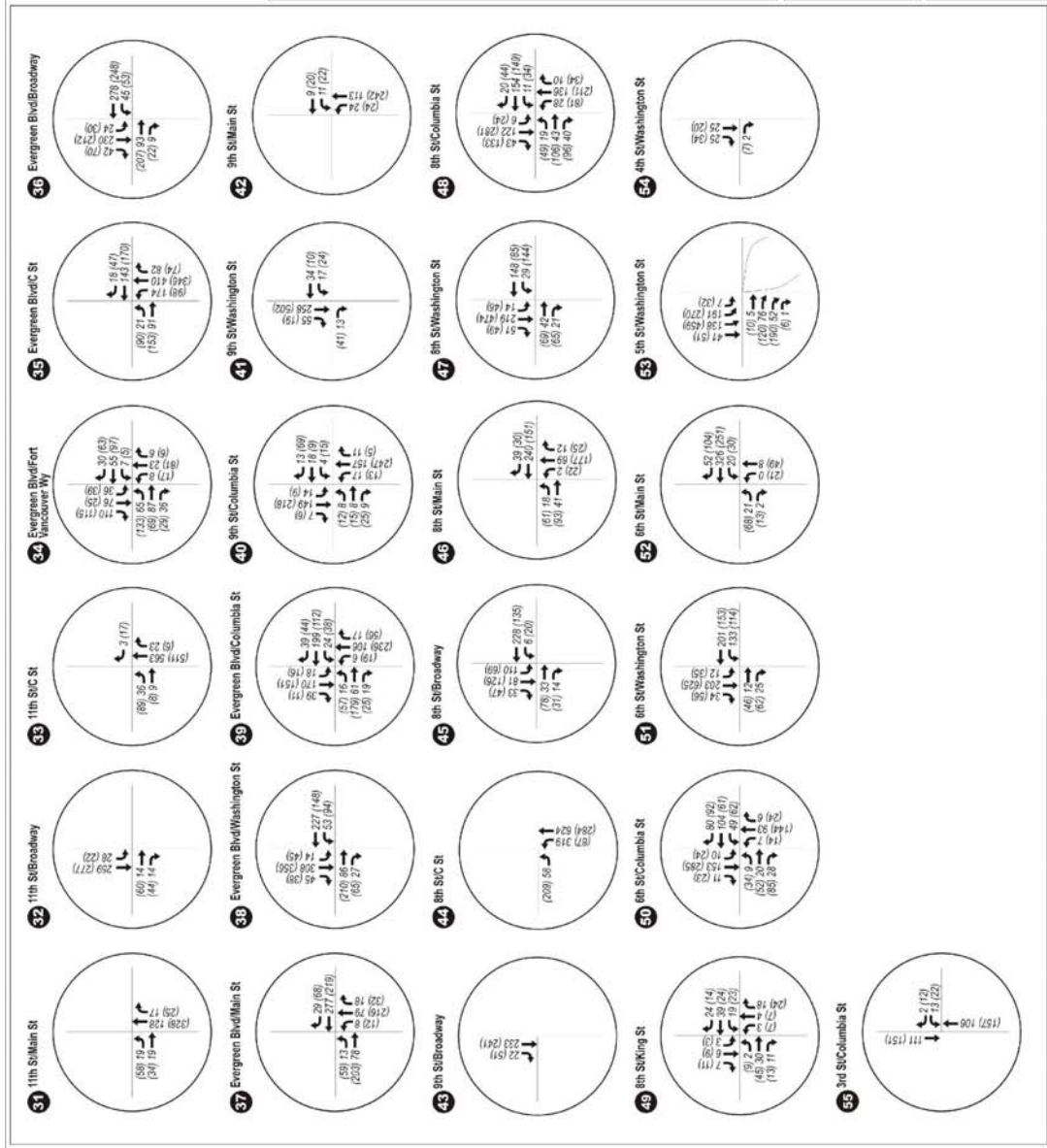


LEGEND
← 00001 - AM/PM Traffic Volume
NO SCALE

Figure 3-6

DKS Associates
TRANSPORTATION SOLUTIONS

EXISTING AM/PM PEAK HOUR VOLUMES



The intersection turn movement counts conducted during the AM and PM peak periods were used to determine the existing 2005 LOS based on the 2000 *Highway Capacity Manual* methodology for signalized and unsignalized intersections¹. Table 3-1 summarizes the AM and PM peak hour intersection operations results.

Table 3-1: 2005 AM and PM Peak Hour Intersection Operations.

Intersection	AM Peak			PM Peak		
	Delay	LOS	V/C	Delay	LOS	V/C
Signalized Intersections						
Fourth Plain Blvd/Lincoln Ave	1.8	A	0.22	3.6	A	0.33
Fourth Plain Blvd/Kauffman Ave	17.9	B	0.34	16.1	B	0.40
Fourth Plain Blvd/Columbia St	25.3	C	0.54	16.7	B	0.46
Fourth Plain Blvd/Main St	33.5	C	0.60	33.0	C	0.54
Fourth Plain Blvd/Broadway St	19.8	B	0.55	20.7	C	0.61
Fourth Plain Blvd/F St	7.4	A	0.34	5.9	A	0.52
Fourth Plain Blvd/I-5 southbound on-off ramp	7.7	A	0.34	10.5	B	0.50
Fourth Plain Blvd/I-5 northbound on-off ramp	19.6	B	0.33	33.8	C	0.60
Fort Vancouver Way/McLoughlin Blvd	23.8	C	0.41	23.6	C	0.39
McLoughlin Blvd/Broadway St	27.8	C	0.33	20.8	C	0.20
McLoughlin Blvd/Main St	10.7	B	0.33	19.1	B	0.35
Mill Plain Blvd/Lincoln Ave	7.5	A	0.19	7.9	A	0.16
Mill Plain Blvd/Kauffman Ave	11.3	B	0.25	11.3	B	0.23
Mill Plain Blvd/Franklin St	14.9	B	0.44	13.0	B	0.37
15 th St/Columbia St	7.6	A	0.42	6.7	A	0.31
15 th St/Washington St	4.5	A	0.29	5.7	A	0.23
15 th St/Main St	5.5	A	0.34	4.5	A	0.35
15 th St/Broadway St	3.8	A	0.44	6.9	A	0.39
15 th St/C Street	16.0	B	0.32	18.1	B	0.29
Mill Plain Blvd/I-5 southbound on-off ramp	52.3	D	0.76	20.8	C	0.74
Mill Plain Blvd/I-5 northbound on-off ramp	17.0	B	0.46	> 80.0	F	0.76
Mill Plain Blvd/Fort Vancouver Way	22.1	C	0.42	22.5	C	0.45
Mill Plain Blvd/C St	8.8	A	0.30	15.5	B	0.66
Mill Plain Blvd/Broadway St	11.0	B	0.48	14.2	B	0.59
Mill Plain Blvd/Main St	4.8	A	0.28	9.4	A	0.56
Mill Plain Blvd/Washington St	11.8	B	0.25	6.4	A	0.35
Mill Plain Blvd/Columbia St	16.3	B	0.46	17.0	B	0.63
Evergreen Blvd/C St	12.1	B	0.29	12.5	B	0.31
Evergreen Blvd/Broadway St	13.6	B	0.41	10.1	B	0.38
Evergreen Blvd/Main St	7.8	A	0.28	10.3	B	0.38
Evergreen Blvd/Washington St	14.2	B	0.23	13.1	B	0.33
Evergreen Blvd/Columbia St	18.1	B	0.32	15.4	B	0.39
8 th St/Columbia St	10.2	B	0.24	13.0	B	0.47
8 th St/Washington St	10.1	B	0.16	11.4	B	0.34
8 th St/Main St	10.4	B	0.26	15.0	B	0.26
8 th St/C St	8.0	A	0.30	14.6	B	0.23
6 th St/Columbia St	11.2	B	0.22	12.0	B	0.28
6 th St/Washington St	8.0	A	0.19	12.6	B	0.32
6 th St/Main St	9.2	A	0.15	8.8	A	0.17
5 th St/Washington St	6.3	A	0.20	6.1	A	0.41
Unsignalized Intersections						
11 th St/Jefferson St (4-way stop)		A			A	
11 th St/Columbia St		A/B			A/C	
11 th St/Washington St		A/B			A/C	

¹ 2000 *Highway Capacity Manual*, Transportation Research Board, 2000.

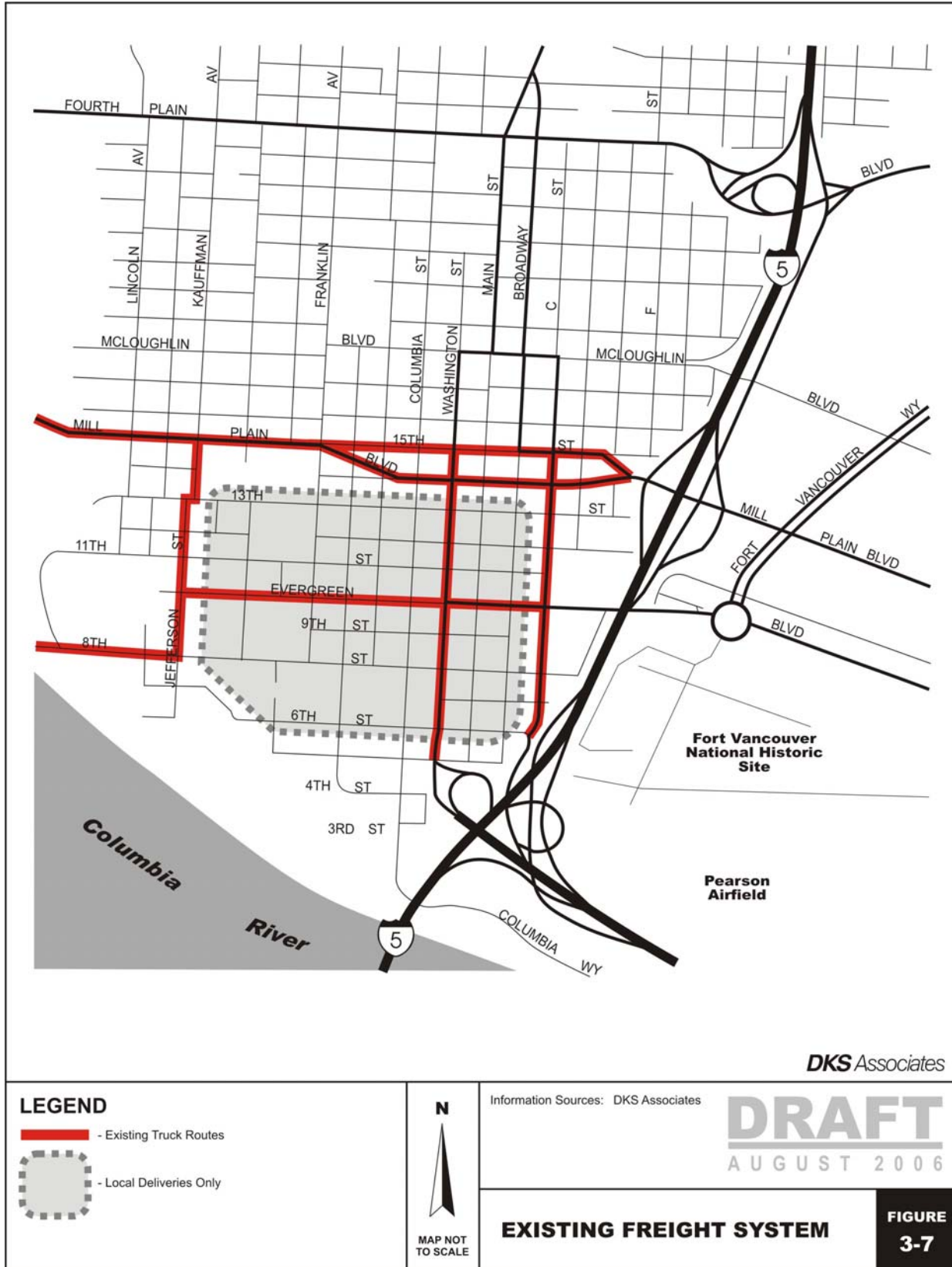
Intersection	AM Peak			PM Peak		
	Delay	LOS	V/C	Delay	LOS	V/C
11 th St/Main St		A/B			A/B	
11 th St/Broadway St		A/B			A/B	
11 th St/C St		A/A			A/B	
Evergreen Blvd/Fort Vancouver Way (roundabout)		B			B	
9 th St/Columbia St		A/B			A/B	
9 th St/Washington St		A/B			A/B	
9 th St/Main St		A/A			A/B	
9 th St/Broadway St		A/A			A/A	
8 th St/Broadway St		A/B			A/B	
8 th St/King St		A/A			A/A	
4 th St/Washington St		A/A			A/A	
3 rd St/Columbia St		A/A			A/B	

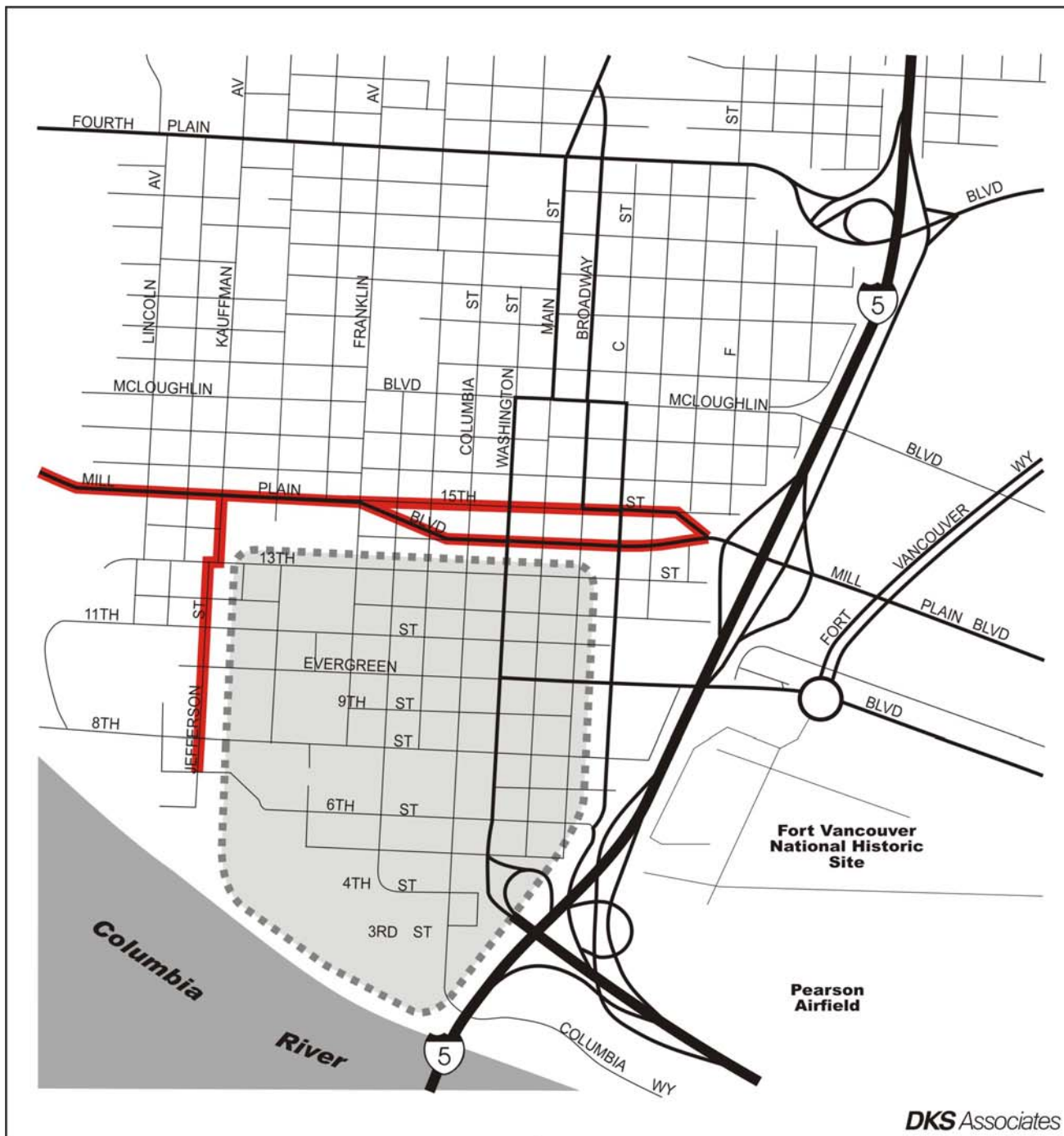
Notes: Delay = Average intersection delay
 A/A=major street LOS/minor street LOS
 Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
 LOS = Intersection level-of-service
 V/C = Volume-to-capacity ratio

Generally intersections operate at an LOS of “C” or better, with the exception of the northbound access intersection to Interstate 5 at Mill Plain Boulevard in the PM peak which operates at LOS “F”. This is due to the access in the eastbound direction taking a left turn onto Interstate 5. The left turn at this location can experience significant delay and when operating can create delay for the conflicting westbound through movement.

Freight

Freight activity was collected along with the motor vehicle turn movement data. Generally freight activity is equal to approximately 2-5% of the total volume at an intersection, although the ration is higher on identified freight routes. Three intersections that have much more freight activity: Mill Plain Boulevard/Lincoln Street (11%), 11th Avenue/Jefferson Street (11%) and 8th Street/King Street (40%). Figures 3.7 and 3.8 show the existing and future designated freight routes for the study area.





DKS Associates

LEGEND

- Truck Routes
- Local Deliveries Only

Information Sources: DKS Associates

Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

DRAFT
AUGUST 2006



2023 FREIGHT STRATEGY PLAN

FIGURE 3-8

Collision History

Motor vehicle collision data collected by Vancouver and the Washington State Department of Transportation between January 2001 and July 2005 was analyzed and a crash rate calculated for each intersection by dividing the million entering vehicles (MEV) per intersection a year and by the total number of crashes at the intersection. Typically a crash rate above 1.00 indicates a safety concern. Table 3-2 lists study intersections with rates above 0.80.

Table 3-2: Study Area Intersection Collisions

Intersection	Number of Collisions (2002-2005)	Million Entering Vehicles (MEV)	Crash Rate
Fourth Plain Blvd/Columbia St	18	4.68	1.28
Fourth Plain Blvd/Broadway St	20	5.18	1.28
Mill Plain Blvd/Broadway St	19	5.71	1.11
Evergreen Blvd/Columbia St	10	3.21	1.04
15 th St/C Street	11	3.92	0.95
Fourth Plain Blvd/Kauffman Ave	10	3.81	0.87
15 th St/Columbia St	7	2.79	0.84
15 th St/Washington St	7	2.89	0.81

SOURCE: City of Vancouver, August, 2005.

Forecasted Conditions and Needs

Existing traffic volumes indicate that the PM peak levels are higher and therefore represent a “worse case” operations scenario; the PM peak hour is used for future traffic analysis.

Future volumes were developed and forecasted for short-term (5 years) and long-term (20 years) planning horizons. Volumes were forecasted based on background growth in traffic associated with land use in the Southwest Washington Regional Transportation Council (SWRTC) regional travel demand model and on the land use forecasts developed for the Vancouver City Center Vision.

Short-term Conditions (5 year)

The short-term period is approximately 5 years beyond the existing baseline conditions. Two different scenarios are analyzed in the short-term: short-term with development and short-term without development. Both scenarios include background growth (assumed to be 1% per year for 5 years), and both were analyzed based on the planned transportation infrastructure for the five-year time frame. Two major changes to the existing network are assumed to be in place:

- Main Street: Two-way (one lane northbound, one lane southbound)
- Broadway Street: Two-way (one lane northbound, one lane southbound)

Main Street and Broadway are currently one-way-- southbound and northbound respectively. Traffic operations for these two short-term scenarios are shown in Table 3-3.

Table 3- 3: Short-term PM peak hour Intersection Operations

Intersection	Without Development			With Development		
	PM Peak			PM Peak		
	Delay	LOS	V/C	Delay	LOS	V/C
Signalized Intersections						
Fourth Plain Blvd/Lincoln Ave	3.6	A	0.34	3.5	A	0.35
Fourth Plain Blvd/Kauffman Ave	16.3	B	0.42	16.2	B	0.42
Fourth Plain Blvd/Columbia St	17.0	B	0.48	18.3	B	0.51
Fourth Plain Blvd/Main St	33.7	C	0.57	34.5	C	0.64
Fourth Plain Blvd/Broadway St	21.4	C	0.64	24.3	C	0.69
Fourth Plain Blvd/F St	6.1	A	0.54	6.1	A	0.55
Fourth Plain Blvd/I-5 southbound on-off ramp	10.9	B	0.53	11.0	B	0.53
Fourth Plain Blvd/I-5 northbound on-off ramp	39.3	D	0.63	40.0	D	0.63
Fort Vancouver Way/McLoughlin Blvd	23.8	C	0.41	23.7	C	0.45
McLoughlin Blvd/Broadway St	20.7	C	0.21	20.5	C	0.23
McLoughlin Blvd/Main St	19.6	B	0.37	16.6	B	0.46
Mill Plain Blvd/Lincoln Ave	7.8	A	0.17	7.0	A	0.21
Mill Plain Blvd/Kauffman Ave	11.1	B	0.25	11.9	B	0.32
Mill Plain Blvd/Franklin St	13.1	B	0.39	12.8	B	0.38
15 th St/Columbia St	7.1	A	0.33	8.3	A	0.51
15 th St/Washington St	5.9	A	0.24	6.3	A	0.33
15 th St/Main St	12.8	B	0.37	14.3	B	0.49
15 th St/Broadway St	16.7	B	0.50	26.6	C	0.58
15 th St/C Street	14.1	B	0.28	15.2	B	0.37
Mill Plain Blvd/I-5 southbound on-off ramp	22.6	C	0.78	38.6	D	0.96
Mill Plain Blvd/I-5 northbound on-off ramp	> 80.0	F	0.81	> 80.0	F	> 1.0
Mill Plain Blvd/Fort Vancouver Way	22.9	C	0.47	39.3	D	0.65
Mill Plain Blvd/C St	18.1	B	0.62	52.2	D	0.78
Mill Plain Blvd/Broadway St	20.6	C	0.75	24.4	C	0.84
Mill Plain Blvd/Main St	34.6	C	0.79	43.8	D	0.86
Mill Plain Blvd/Washington St	6.1	A	0.35	8.4	A	0.47
Mill Plain Blvd/Columbia St	17.9	B	0.67	> 80.0	F	> 1.0
Evergreen Blvd/C St	12.6	B	0.27	11.4	B	0.60
Evergreen Blvd/Broadway St	23.9	C	0.54	25.4	C	0.52
Evergreen Blvd/Main St	17.8	B	0.53	30.9	C	0.80
Evergreen Blvd/Washington St	12.7	B	0.31	11.5	B	0.59
Evergreen Blvd/Columbia St	15.1	B	0.42	28.5	C	0.71
8 th St/Columbia St	13.4	B	0.50	42.0	D	0.80
8 th St/Washington St	10.7	B	0.25	14.3	B	0.55
8 th St/Main St	16.5	B	0.28	32.9	C	0.47
8 th St/C St	14.6	B	0.17	15.3	B	0.27
6 th St/Columbia St	12.1	B	0.29	12.5	B	0.33
6 th St/Washington St	10.2	B	0.27	15.2	B	0.54
6 th St/Main St	10.2	B	0.29	10.3	B	0.40
5 th St/Washington St	6.3	A	0.44	7.9	A	0.56
Unsignalized Intersections						
11 th St/Jefferson St (4-way stop)		A			A	
11 th St/Columbia St		A/D			A/F	
11 th St/Washington St		A/B			A/C	
11 th St/Main St		A/C			A/C	
11 th St/Broadway St		A/C			A/C	
11 th St/C St		A/B			A/B	
Evergreen Blvd/Fort Vancouver Way (roundabout)		B			B	
9 th St/Columbia St		A/B			A/D	

Intersection	Without Development			With Development		
	Delay	PM Peak LOS	V/C	Delay	PM Peak LOS	V/C
9 th St/Washington St		A/B			A/B	
9 th St/Main St		A/B			A/B	
9 th St/Broadway St		A/A			A/A	
8 th St/Broadway St		A/C			A/D	
8 th St/King St		A/A			A/A	
4 th St/Washington St		A/A			A/A	
3 rd St/Columbia St		A/B			A/B	

Notes: Delay = Average intersection delay
 A/A=major street LOS/minor street LOS
 Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
 LOS = Intersection level-of-service
 V/C = Volume-to-capacity ratio

Short-term Needs

Most of the intersections operate within the City of Vancouver’s level-of-service standard. In the short-term without development analysis, one intersection is forecasted to operate at level-of-service F. With the addition of traffic from development, two more intersections degrade below the City’s standards. Details of these three intersection deficiencies are outlined below.

Mill Plain Boulevard/Interstate 5 NB operates at level-of-service F under the existing conditions analysis. As volumes increase for both short-term scenarios, operations are forecasted to degrade causing more delay and significant capacity constraints.

11th Avenue/Columbia Street(unsignalized) is forecasted to operate at level-of-service F for the eastbound (minor street) approach. The critical movement that contributes delay is the eastbound left turning movement. This intersection does not meet signal warrants for this scenario.

Mill Plain Boulevard/Columbia Street: is forecasted to operate at level-of-service F with the added trips from short-term development. The critical movement is the northbound right movement, which functions as a shared through-right lane.

Short-Term Recommended Improvements

Many of the short-term deficiencies can be mitigated without the need for additional lane geometry or right-of-way impact. Recommended short-term mitigation follow in Table 3-4.

Table 3-4: Short-term PM Peak Hour Mitigation Measures

Intersection	Mitigation Strategy
Mill Plan Boulevard/Interstate 5 NB	▪ Optimize signal timing.
Mill Plain Boulevard/Columbia Street	▪ Optimize signal timing.

These mitigation measures will create acceptable operations during the PM peak hour for the short-term conditions with the exception of the intersection at 11th Avenue/Columbia Street where side street operations would continue to operate at LOS F during the peak hour. A traffic signal would mitigate the failing condition, but the intersection does not meet signal warrant.

Long-term Conditions (20 year)

- The future baseline scenario assumes changes to the existing transportation system that would affect circulation patterns and traffic operations in the study area for the year 2023, but assumes no adjustments to signal timing. The assumed changes related to roadway alignments and the addition of high capacity transit (HCT) through downtown affect numerous intersections within the study area. The key assumptions for the future baseline scenario are shown in Figure 3-9 and Table 3-6.
- The identified mitigation measures and strategies are not meant as an exhaustive list, or to preclude alternative mitigation measures that address the identified issues and are acceptable to the city.

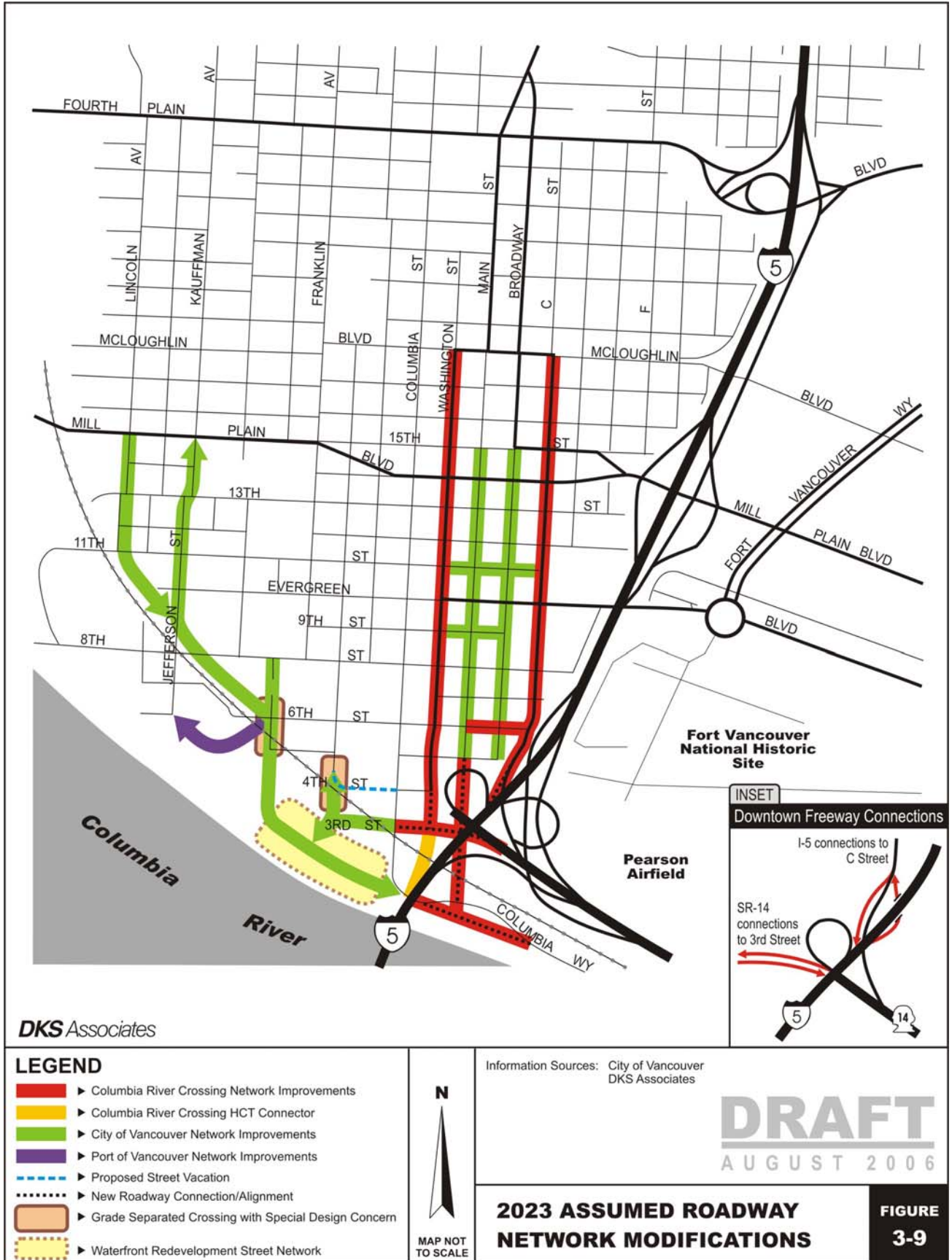


Table 3-6: Future Roadway Network Assumptions

Columbia River Crossing Projects		2. Location
SR 14 Eastbound/Westbound Connection		Columbia Street to Interstate 5
C Street Two-way		Mill Plain Boulevard to 6 th Street
C Street Southbound Connection to I-5 southbound		6 th Street to Interstate 5
Main Street Connection to South Waterfront Arterial		5 th Street to Columbia Way
Washington Street Two-way High Capacity Transit		McLoughlin Boulevard to 4 th Street and Interstate 5
6 th Street Two-way		Main Street to C Street
Washington Street Two-way Motor Vehicle*		McLoughlin Boulevard to 4 th Street
Straighten Columbia Way		Columbia Street to C Street alignment
City of Vancouver Projects		3. Location
South Waterfront Arterial Roadway		Approximately Grant St. alignment east to Columbia
SR14 – 3 rd /4 th Street Connection		Esther Street to Columbia Street
Ester Street extension		4 th Street to South Waterfront Arterial
Westside Connector Arterial		From Jefferson Street just north of 8 th Street connecting southeast to 6 th Street.
Lincoln Street – Jefferson/Kauffman Street Couplet		Between approximately 9 th Street and Mill Plain Boulevard. A couplet from 8 th Street north to Mill Plain was one of the options considered. Other option keeps all traffic on either Lincoln or Kauffman. Either corridor will work for traffic purposes.
Main Street Reconstruction & Two-way		Mill Plain Boulevard to 5 th Street
Broadway Two-way		Mill Plain Boulevard to 5 th Street
9 th Street Two-way		Washington Street to Broadway
11 th Street Two-way		Washington Street to C Street
Vacate/Realign 4 th Street		Esther Street to Columbia Street
Port of Vancouver Projects		4. Location
Rail Spur		not shown
West Port Access Road		6 th Street/Grant Street intersection to the west
Joint Jurisdiction Project		5. Location
South Waterfront Arterial Roadway Connection (Vancouver and Port of Vancouver)		8 th Street/Grant Street intersection south along Grant Street to new South Waterfront Arterial Roadway

* Analysis was conducted with Washington Street as a two-way and one-way facility for motor vehicles. Either operation did not produce additional mitigation measures. Analysis in the SDEIS is representative of Washington Street operating with one-way southbound motor vehicle operations.

Using these projects as a baseline for the 20-year planning horizon, operations analysis was conducted on the study area intersections. Table 3-5 summarizes the operational analysis

Table 3-5: Future 2023 Baseline PM Peak Hour Intersection Operations - Unmitigated

	Delay	PM Peak LOS	V/C
Signalized Intersections			
Fourth Plain Blvd/Lincoln Ave	3.4	A	0.37
Fourth Plain Blvd/Kauffman Ave	21.4	C	0.53
Fourth Plain Blvd/Columbia St	22.6	C	0.63
Fourth Plain Blvd/Main St	42.4	D	0.74
Fourth Plain Blvd/Broadway St	32.7	C	0.90
Fourth Plain Blvd/F St	6.4	A	0.61
Fourth Plain Blvd/I-5 southbound on-off ramp	9.0	A	0.52
Fourth Plain Blvd/I-5 northbound on-off ramp	61.8	E	0.86
Fort Vancouver Way/McLoughlin Blvd	32.5	C	0.39
McLoughlin Blvd/Broadway St	16.9	B	0.27
McLoughlin Blvd/Main St	28.5	C	0.55
Mill Plain Blvd/Lincoln Ave	8.2	A	0.35
Mill Plain Blvd/Kauffman Ave	14.2	B	0.52
Mill Plain Blvd/Franklin St	17.2	B	0.63
15 th St/Columbia St	16.4	B	0.59
15 th St/Washington St	13.0	B	0.44
15 th St/Main St	8.0	A	0.55
15 th St/Broadway St	9.4	A	0.54
15 th St/C Street	13.9	B	0.68
Mill Plain Blvd/I-5 southbound on-off ramp	47.5	D	0.99
Mill Plain Blvd/I-5 northbound on-off ramp	24.9	C	0.86
Mill Plain Blvd/Fort Vancouver Way	29.4	C	0.68
Mill Plain Blvd/C St	83.2	F	>1.0
Mill Plain Blvd/Broadway St	61.1	E	>1.0
Mill Plain Blvd/Main St	27.5	C	0.82
Mill Plain Blvd/Washington St	20.6	C	0.55
Mill Plain Blvd/Columbia St	> 80.0	F	> 1.0
Evergreen Blvd/C St	60.1	E	0.86
Evergreen Blvd/Broadway St	10.2	B	0.44
Evergreen Blvd/Main St	34.4	C	0.78
Evergreen Blvd/Washington St	46.9	D	0.68
Evergreen Blvd/Columbia St	19.8	B	0.56
8 th St/Columbia St	18.0	B	0.56
8 th St/Washington St	26.7	C	0.64
8 th St/Main St	16.4	B	0.40
8 th St/C St	16.4	B	0.69
6 th St/Columbia St	14.6	B	0.50
6 th St/Washington St	30.9	C	0.55
6 th St/Main St	7.9	A	0.26
5 th St/Washington St	19.8	B	0.46
Unsignalized Intersections			
11 th St/Jefferson St (4-way stop)		A	
11 th St/Columbia St		A/F	
11 th St/Washington St		A/B	
11 th St/Main St		A/C	
11 th St/Broadway St		A/C	
11 th St/C St		A/F	
Evergreen Blvd/Fort Vancouver Way (roundabout)		D	

	Delay	PM Peak LOS	V/C
9 th St/Columbia St		A/F	
9 th St/Washington St		A/B	
9 th St/Main St		A/B	
9 th St/Broadway St		A/A	
8 th St/Broadway St		A/D	
8 th St/King St		A/B	
4 th St/Washington St		A/C	
3 rd St/Columbia St		A/C	

Notes: Delay = Average intersection delay
 A/A=major street LOS/minor street LOS
 Signalized and all-way stop delay = average vehicle delay in seconds for entire intersection
 LOS = Intersection level-of-service
 V/C = Volume-to-capacity ratio

Long-Term Recommended Improvements

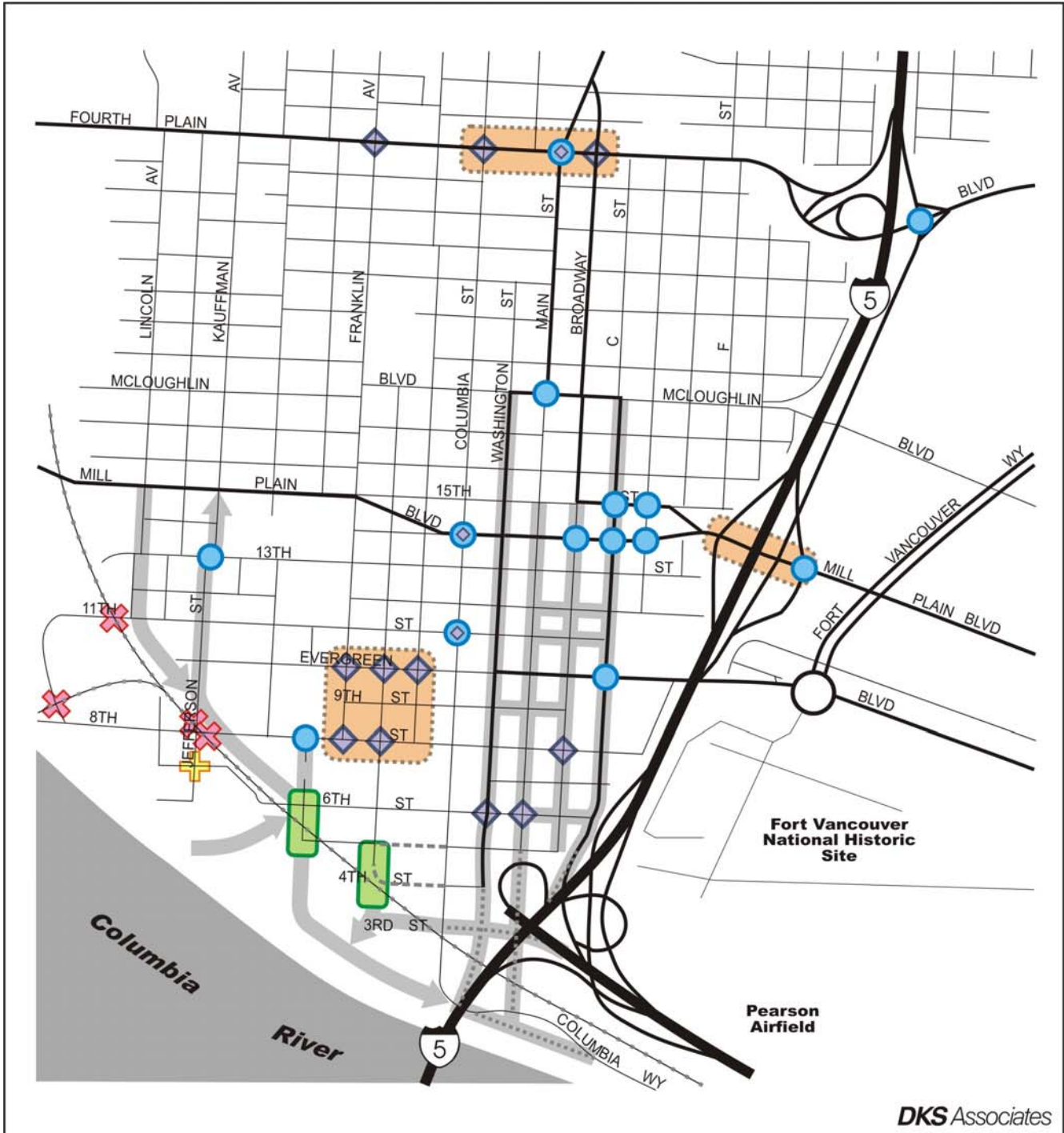
Figure 3-10 illustrates long term mitigation measures and Table 3.8 provides additional detail for each improvement location or area.

Table 3-7 summarizes and compares the 2023 intersection operation for the PM peak hour for both unmitigated and mitigated scenarios after implementing the recommendations previously outlined.

Table 3-7: 2023 PM Peak Traffic Operations for Unmitigated and Mitigated Scenarios

Intersection	Unmitigated			Mitigated		
	Delay	PM Peak LOS	V/C	Delay	PM Peak LOS	V/C
Signalized Intersections						
Fourth Plain/Main Street	42.4	D	0.74	38.0	D	0.73
Fourth Plain/Interstate 5 NB	61.8	E	0.86	18.4	B	0.66
Mill Plain Boulevard/Interstate 5 NB	46.8	D	1.03	15.8	B	0.78
Evergreen Boulevard/C Street	59.5	E	0.86	14.5	B	0.70
Mill Plain Boulevard/Columbia Street	152.4	F	1.53	30.0	C	0.76
Mill Plain Boulevard/Broadway	61.1	E	1.05	13.4	B	0.80
Mill Plain Boulevard/C Street	83.1	F	1.12	16.3	B	0.90
15 th Avenue/C Street	13.9	B	0.68	10.4	B	0.52
McLoughlin Boulevard/Main Street	28.5	C	0.55	19.1	B	0.49
Unsignalized Intersections						
11 th Avenue/Columbia Street		A/F		9.6	A	0.50

SOURCE: DKS Associates (July, 2006)



DKS Associates

LEGEND

- ▶ Grade Separated Crossing with Special Design Focus
- ▶ Area of Special Focus
- ▶ Safety Focus Locations
- ▶ Existing At-grade Rail Crossing
- ▶ Intersection Mitigation/Improvements
- ▶ Intersection with Mitigation/Improvements and Safety Focus
- ▶ Future Potential At-grade Rail Crossing

N



MAP NOT TO SCALE

Information Sources: City of Vancouver
DKS Associates

Note: This map shows the assumed network improvements (as shown on Figure 10-6) as being grayed out to represent the underlying location of the improvements.

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2023 MOTOR VEHICLE IMPROVEMENT STRATEGY MAP

FIGURE 3-10

Table 3-7: Motor Vehicle Action Strategy

Operational Issues	Proposed Strategy
Fourth Plain Blvd/Main St	Optimize motor vehicle operations through corridor improvements such as coordinated signals, phasing improvements, optimized timing, and minor geometric modifications.
Fourth Plain Blvd/I-5 Northbound	Add northbound left turn pocket/lane.
Mill Plain Blvd/I-5 Northbound	Optimize motor vehicle operations through corridor improvements such as coordinated signals, phasing improvements and optimized timing.
Evergreen Blvd/C St	Modify northbound/southbound geometry to contain left turn pockets with permitted phase (part of two-way C Street operations in future). Stripe a westbound left turn pocket (not necessary, but would complement the eastbound left turn). Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
Mill Plain Blvd/Columbia St	Add southbound left turn lane with protected phase (full block). Add northbound right turn pocket. Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
Mill Plain Blvd/Broadway	Add southbound left turn pocket with permitted phasing (part of two-way Broadway operations in future). Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
Mill Plain Blvd/C St	Add northbound right turn pocket for full block. Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
15 th Ave/C St	Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
11 th Ave/Columbia St	Signalize intersection (cusp of meeting peak hour warrant). Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
McLoughlin Blvd/Main St	Add eastbound left turn pocket with protected phase. Optimize motor vehicle operations through intersection improvements such as phasing modification and optimized timing.
New Design Issues	Proposed Strategy
6 th St/Grant St Grade Separation	This intersection, including rail grade separation, will require special design based on the need from surrounding proposed development. In addition to auto traffic this intersection will serve trucks bound for the crescent area north of the Port rail lead line. It will also provide the primary west-side connection between the waterfront and regional bike and pedestrian system, linking the Columbia River Waterfront Trail to the Shared Use facility on Mill Plain Boulevard.
Esther Street Rail Under-crossing	New multimodal rail berm under-crossing consistent with urban plaza style design of existing Esther Street in downtown.
Main Street Revitalization	Develop and implement integrated urban design and streetscape transportation improvement to two-way main street.
Washington Street Urban Design	Develop urban design concept and roadway standards for new HCT corridor; adopt and implement with new development.
C Street Urban Design	Develop and implement corridor streetscape and street design standards; adopt and implement with new development.
Waterfront Street Design	Develop waterfront street and streetscape design standards; adopt and implement with new development.
Grant St/8 th Street and Jefferson Street/13 th Street	These roadways/intersections will need improvements/mitigation consistent with the new roadway network configuration.
Safety Issues	Proposed Strategy
Safety Focus Locations	These locations have been identified as areas of special safety concern related to sight distance, speed, or a history of pedestrian or bicycle accidents. They are highlighted here for special attention to intersection operations for vehicles, bikes, and pedestrians. Mitigations might include intersection or signal modifications, new pedestrian crossing technologies or pavement treatments.
Area of Special Focus: Franklin to Daniels between Evergreen and 8 th .	This area has been identified as an area of special safety concern related to sight distance and speed hazard. Potential mitigation could include parking removal and/or landscape treatments, as well as enhanced pavement markings.
Area of Special Focus: Mill Plain Boulevard / I5 Interchange Area	This location is identified as an area of special operational concern because of very heavy peak period vehicle volumes. Improvement may require signal upgrades as well as consideration of lane channelization and vehicle storage.
Area of Special Focus: Fourth Plain intersections with Main & Broadway.	This location is identified as an area of special safety and operational concern because of heavy traffic and pedestrian volumes, close signal spacing, and small turning radii. Improvements may include intersection reconstruction, signal timing adjustments and/or curb extensions.
New At-grade Rail Crossing	Build all-way gate control with wayside horns for any new at-grade rail crossing.

CHAPTER

4

B I C Y C L E



This chapter summarizes existing and future bicycle system needs within the study area and identifies an action strategy for bicycle connectivity based on future need.

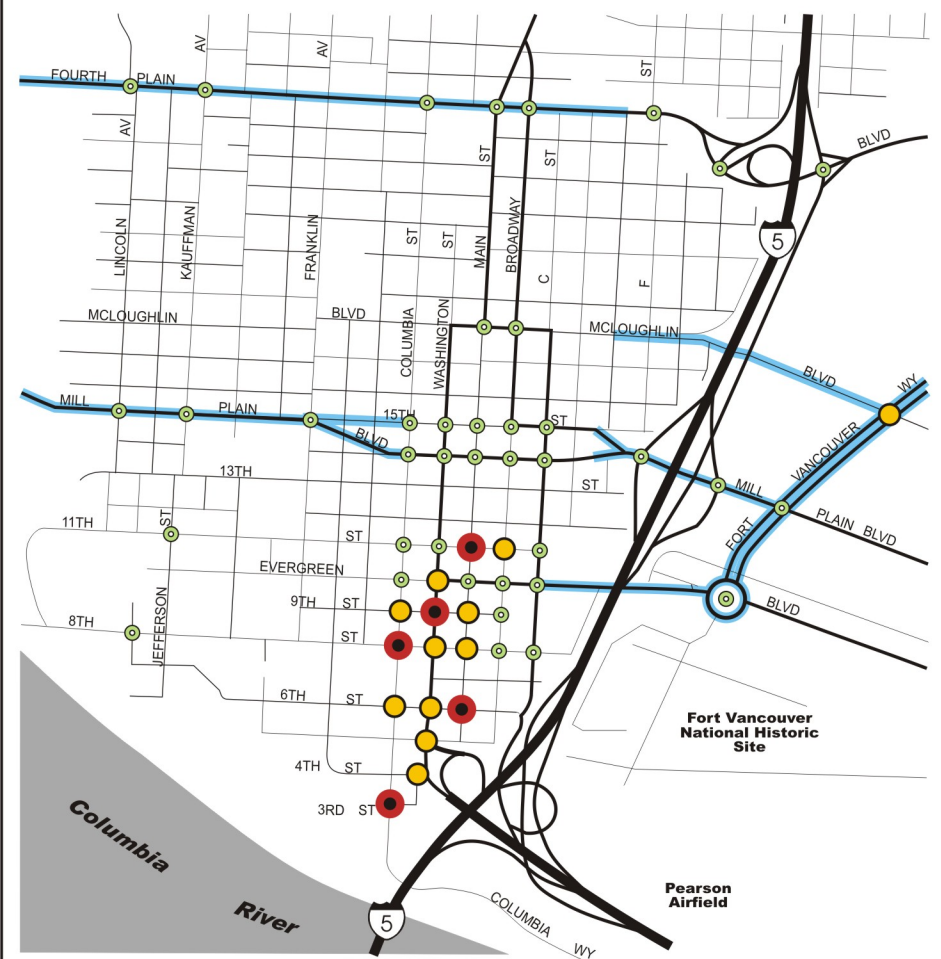
Existing Conditions

Bicycle counts were conducted during the morning (7:00AM to 9:00AM) and evening (4:00PM to 6:00PM) peak periods at study area intersections and are illustrated in Figure 4-1. Most locations show bicycle use at 10 or fewer bicycle movements during peak hours.

An inventory of bicycle facilities was conducted as part of the reconnaissance of the study area along study area corridors. Existing bicycle lanes are found on a majority of the roadways crossing Interstate 5 (McLoughlin Boulevard, Mill Plain Boulevard and Evergreen Way), although significant gaps do exist in places. Figure 4-1 summarizes the existing bicycle facilities, as well as documents the combined level of AM and PM peak hour bicycle counts at study area intersections. Figures 4-2 and 4-3 show the detailed bicycle approach data for each intersection.

As shown in Figures 4-1 through 4-3, the primary activity “hot spots” for bicycle movements are located in the downtown core area (Esther Short and Central Downtown districts). The five highest bike volume intersections listed in Table 4-1 for both the AM and PM peak hours (highest counts for each period are bolded).

AM Peak Hour Use







PM Peak Hour Use



DKS Associates

LEGEND

-  - Existing Bicycle Facilities
-  - High Bicycle Use (>10 bicycle movements)
-  - Medium Bicycle Use (6-10 bicycle movements)
-  - Low Bicycle Use (<5 bicycle movements)

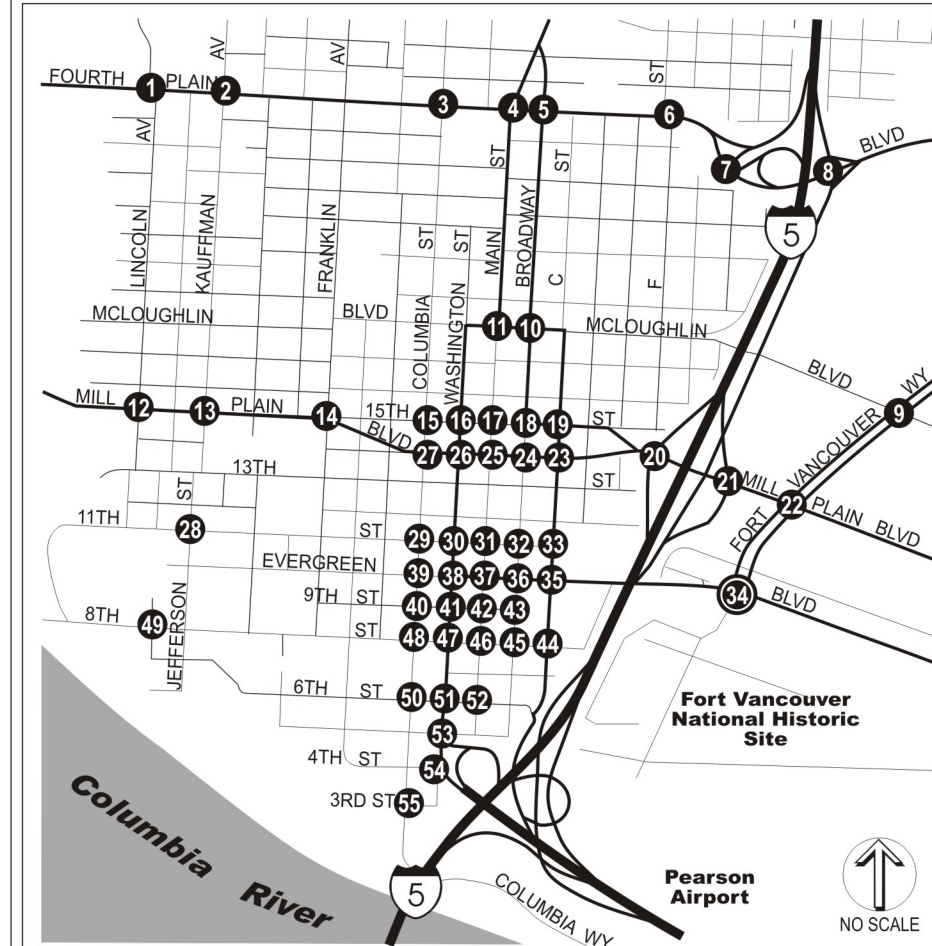
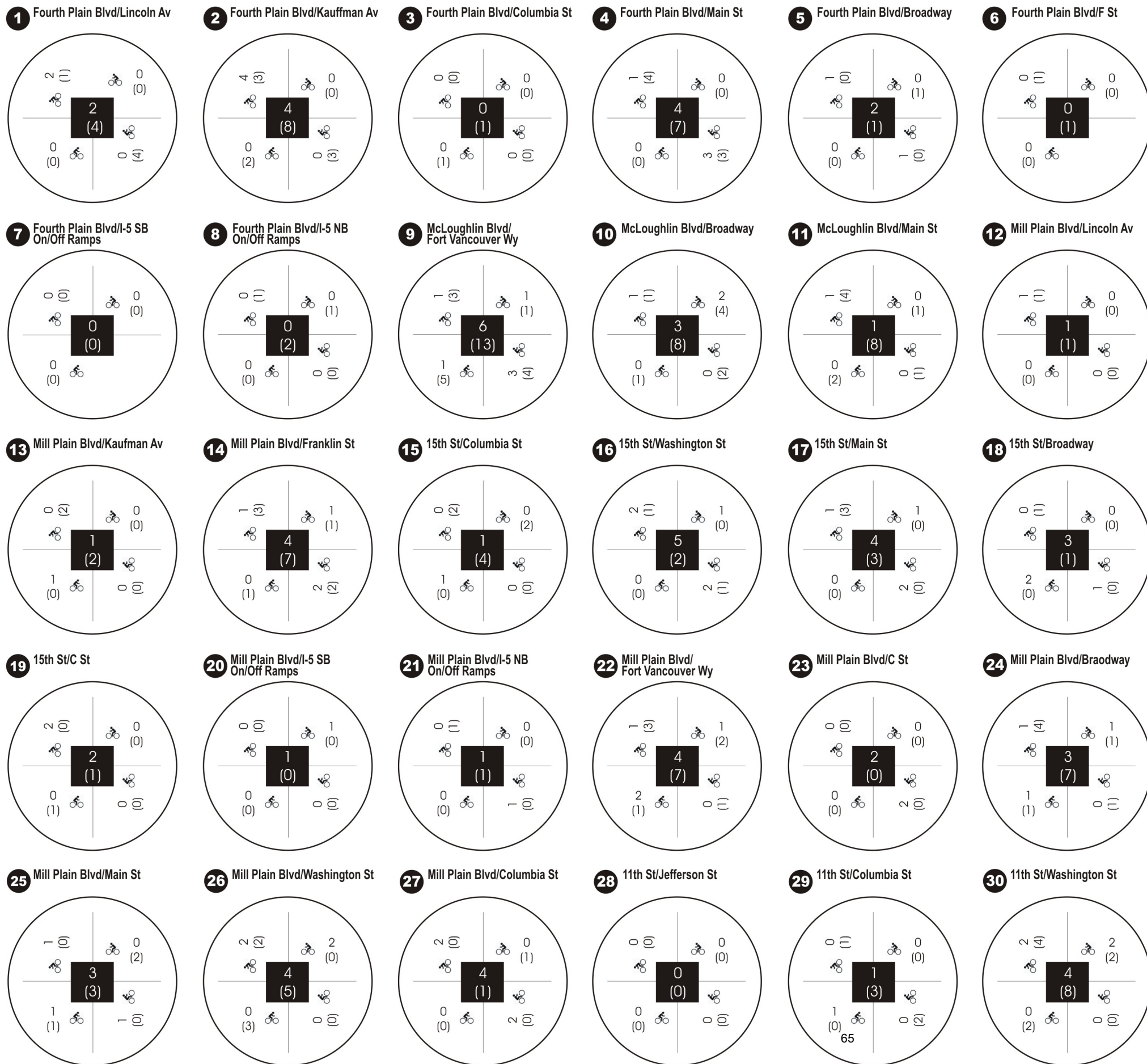


Information Sources: DKS Associates
Count data collected June-August 2005

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EXISTING BICYCLE FACILITIES AND AM/PM USE

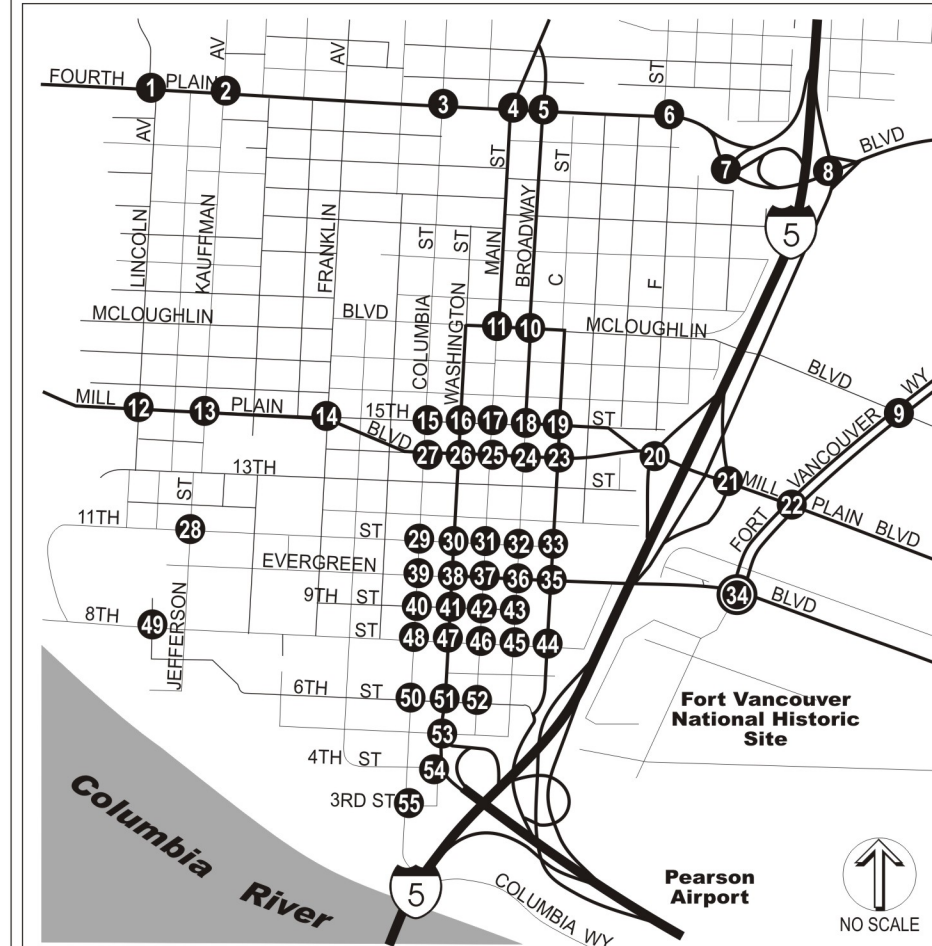
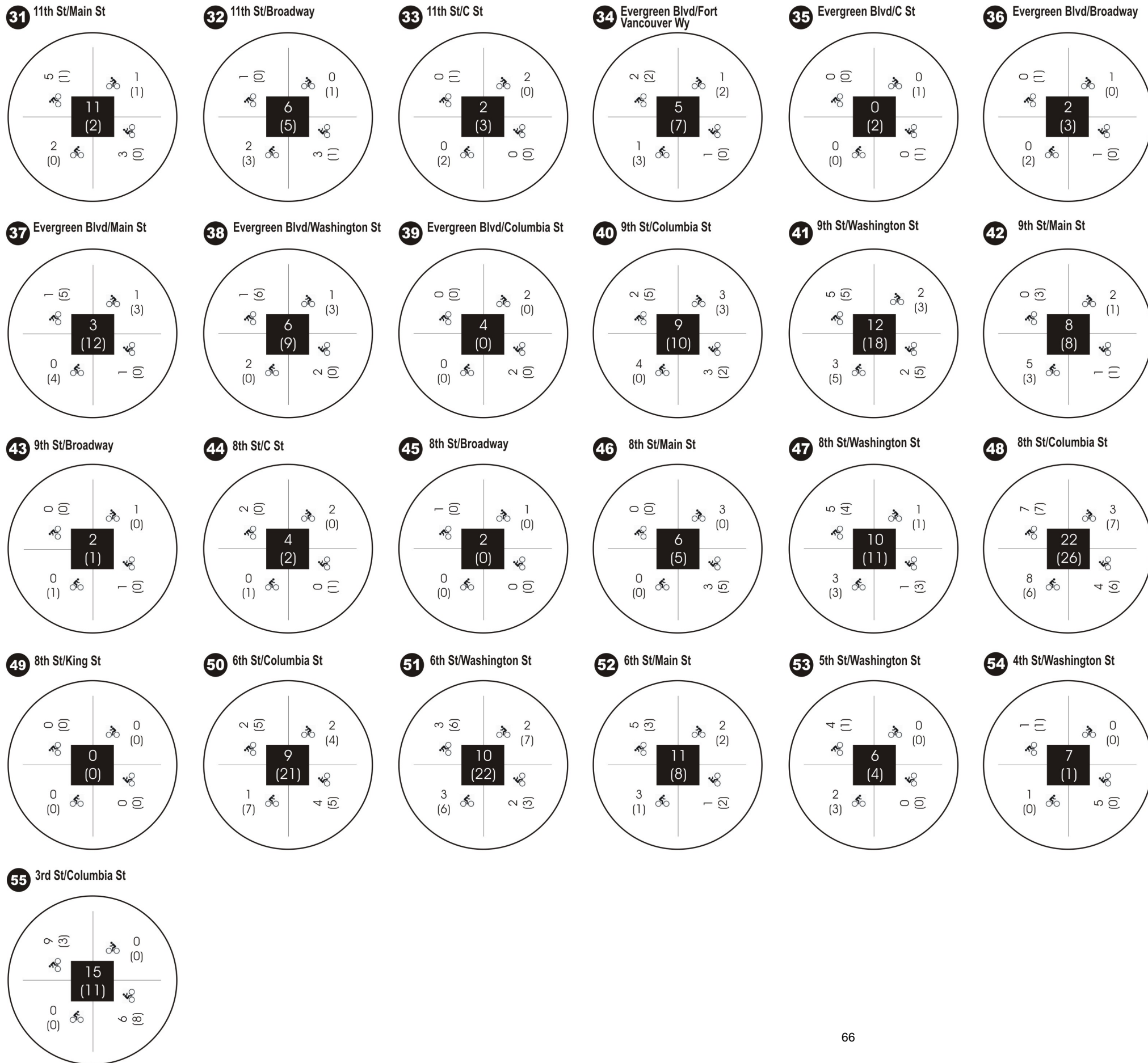
FIGURE 4-1



LEGEND
 XX (XX) - AM(PM) Bicycle Approach Volume

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LEGEND
 XX (XX) - AM(PM) Bicycle Approach Volume

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EXISTING AM/PM BICYCLE INTERSECTION COUNT DATA **FIGURE 4-3**

Table 4-1: Existing AM and PM Peak Hour Highest Bicycle Count Intersections

Intersection	AM Peak Hour	PM Peak Hour
8 th Street/Columbia Street	22	26
6 th Street/Washington Street	10	22
6 th Street/Columbia Street	9	21
9 th Street/Washington Street	12	18
3 rd Street/Columbia Street	15	11
McLoughlin Boulevard/Fort Vancouver Way	6	13
6 th Street/Main Street	11	8
11 th Street/Main Street	11	2

SOURCE: All Traffic Data, data collected during June-August 2005.

Performance Measures

The existing and future bicycle network was evaluated based on established performance standards derived from local and regional policies, as well as existing standards of professional transportation planning practice. These standards identify thresholds for determining acceptable versus unacceptable conditions in the bicycle network. The primary evaluation categories include: system connectivity, continuity, and safety. System connectivity standards indicate the continuity and proximity of bicycle facilities should be within one mile from schools, parks, retail and other major non-auto trip generators.

Continuity in the bicycle network is based on the number and location of bicycle facilities throughout the study area. General standards call for the installation of bicycle lanes along arterials and collector roadways.

Forecasted Conditions and Needs

The future transportation system and the projected redevelopment of downtown includes an increase in high-density housing and other mixed-use developments that will support and typically result in a larger modal split between automobiles, pedestrians, bicycles, and transit compared with the current activity documented in the existing conditions analysis.

Activity centers within the study area (including retail, work and residential) focus in four quadrants of the downtown area (see Chapter 2 for a map of these areas). In addition to these four areas, the south waterfront area will grow dramatically and must be served with bicycle facilities to meet forecasted demand and to provide for safe circulation.

Bicycle trips are longer than walking trips and generally shorter than motor vehicle trips; although about ½ of all motor vehicle trips are less than three miles or so. Where walking trips are attractive at lengths of a quarter mile to up to about a mile, bicycle trips are usually most comfortable up to three miles, with many being longer. System Continuity and connectivity, and safety are key issues for bicyclists. The lack of safe facilities and gaps in the system cause the most significant problems for bicyclists traveling to and from downtown Vancouver.

Bicycle facility needs should consider three common bicycle trip types: commuters, activity-based (e.g. short local errands & etc.) and recreational. Typically bicyclists of all abilities make all types of trips. That is to say that some commuter bicycle riders move slowly and don't have a great deal of comfort and confidence on higher volume roadways. Likewise, sometimes the most experienced riders appreciate travel for activity based and recreational trips on quality low-volume, high-bike-amenity facilities.

Commuter trips are typically home-to-work-to-home and are most efficient and attractive on direct, major connecting roadways and/or local streets. Bicycle lanes provide good accommodations for these types of trips.

Activity based trips can be home-to-school, home-to-park, home-to-neighborhood commercial or home-to-home. Many of these trips are made on local streets with some connections to the major functional classification streets. The needs are for lower volume/speed traffic streets, safety and connectivity.

Recreational trips share many of the needs of both the commuter and activity-based trips, but create greater needs for off-street routes, connections to rural routes and community recreation destinations, and safety.

All three of these types of bicycle trips previously listed are likely to occur within the study area due to the residential and retail land uses, as well as the close proximity to surrounding parks and other similar destinations. The Provision of a mix of facilities will help promote all types of bicycle trips in a safe and efficient manner in the study area.

Most of the study area is within one mile from central downtown, so trips within the study will be short by definition. However longer trips (those in the two to three mile radius) have difficulty in reaching the downtown due to limited accessibility. Generally, the existing bike lane system on arterial and collector streets does not provide adequate connections from neighborhoods to schools, parks, retail centers, or transit stops. As shown in Figure 4-1, the city has limited designated on-street bike facilities.

The existing facilities generally cross Interstate 5 and the rail lines to the west, but lack east-west connectivity through the downtown area, and connections to the north. Without connectivity of the bicycle system, this mode of travel is severely limited. Local streets do not require dedicated bike facilities since the lower motor vehicle volumes and speeds typically allow for both motorists and bicyclists to share the roadway. Cyclists desiring to travel through the City generally either shares the roadway with motor vehicles on major streets or find alternate routes on lower volume local streets.

Downtown Guidelines for Bicycle Development

With the planned and proposed development to occur in the downtown area (and surrounding areas), it is useful to have development guidelines that apply specifically to the use and promotion of bicycle use. This allows a potential mode shift for the greater opportunity to utilize bicycles for trips to/from downtown. In addition to the City of Vancouver Municipal

Code (20.945.050 – Bicycle Parking Design Standards) the following are guidelines to be used for to planning of bicycle facilities and circulations for future development and/or redevelopment within the Vancouver downtown area.

- ◆ Establish a solid system of on-street bicycle facilities that provide a safe and continuous system for people to ride on. This can be done by developing and implementing the program for bicycle lanes and bicycle routes as outlined in the Vancouver Transportation System Plan. The following table summarizes development guidelines for bicycle facility width (in unobstructed widths):

	Desired Width	Minimum Width
Multi-use Trail	14 feet	12feet
On-street Bicycle Lanes	6 feet	5 feet

- ◆ Provide bicycle parking with each new building project or redevelopment project. Bicycle parking should be provided with short-term and long-term spaces. Short-term spaces should be located within 50 feet of entrances and vertical circulation of buildings, with care taken to not conflict with pedestrian access or circulation. Long-term parking should be provided with bicycle lockers or dedicated parking rooms or cages with signage from the street directing cyclists where to access these facilities. To the extent possible, bike parking should be visible, inviting and integrated with building, street front and landscape design. The following rate table may be used as a guide for the number of parking spaces to provide based on individual land use:

Land Use	Rate	Type and % Class I/Class II
Retail	1 space per 4,000 sq. ft.	80% / 20%
Restaurant	1 space per 1,000 sq. ft	80 % / 20%
Office	1 space per 3,000 sq. ft.	20% / 80%
Housing	1 space per 4 dwelling units	0% / 100%
Industrial	1 space per 10,000 sq. ft.	0% / 100%
Institutional	1 space per 3,000 sq. ft.	20% / 80%

- ◆ Any new bike rack being planned should meet the standards as defined in the City of Vancouver Municipal Code section 20.945.050 – Bicycle Parking Design Standards. Bicycle racks are required to support the bicycle at two points and allow for the use of a U-lock. Traditional bicycle racks that support only the wheel and “ribbon” or “wave” bicycle racks are not acceptable.
- ◆ When bicycle parking facilities are required, a minimum of 50% of the facilities should be covered when more than 10 spaces area being provided.
- ◆ A bicycle station or “center” for storage, possibly including shower facilities and lockers, should be considered in the south waterfront area. This center would include secure long-term bicycle parking, and should include elements such as shower facilities, lockers, and a retail component, that at a minimum would provide repair services. This would help

promote shorter trips to/from the area and allow for successful intermodal transition from bicycle to pedestrian or transit use once in the south waterfront area.

- ◆ Shower and locker facilities should be included in developments to better accommodate bicycling and walking to work. This is especially true for the large retail and office developments that are evaluated in the Vancouver City Center Vision. Facilities must be easily accessible by bicycle and close to large population concentrations (retail/commercial, office, institutional or housing).
- ◆ Design for bicycle mobility even when bicycles are not being ridden. For example, when bicycles are being walked, provide for a channelized travel path for wheels alongside steps so that bicycles will be safely secured as they are transitioned down or up slopes. See adjacent figure for example of this type of transition.
- ◆ When roadways are being repaved and/or new signals are being implemented, special consideration should be taken on primary bicycle corridors for loop detectors to be placed in the bicycle travel lane.
- ◆ Bicycle parking areas should be well lit to avoid theft and provide personal safety and placed in locations that are visible and easily accessible
- ◆ The City should also support a Transportation Demand Management (TDM) program for new employers in the downtown area that includes:
 - Transit Incentive
 - Parking pricing
 - Bike/Pedestrian Facilities
 - Flexible work schedules
 - Car pooling
 - Van pooling
- ◆ Specifically, development of a Transportation Management Association or Growth and Transportation Efficiency Center as identified in the 2006 CTR Efficiency Act (ESSB 6566) is a recommended vehicle that could be developed to implement these strategies.

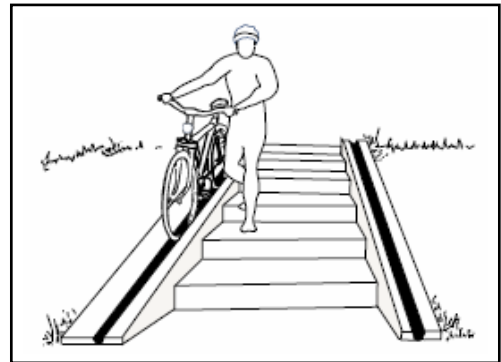


Image from "City of Portland Bicycle Master Plan" Figure A3-7, page A28

Downtown Bicycle Improvement Strategy Plan

There are a number of proposed bicycle lanes/facilities called out within the study area in the City of Vancouver Transportation System Plan. Using these as a starting point, a list of projects was developed by reviewing the proposed development in the downtown area and comparing

that with the forecasted needs for bicycle connectivity. These projects defined the Downtown Bicycle Improvement Strategy Plan. This includes on-street bicycle lanes, multi-use paths and shared facilities. Table 4-2 summarizes these improvements and Figure 4-4 graphically locates these improvements in the downtown area.



DKS Associates

LEGEND

- Existing Bicycle Lanes
- Preferred Bicycle Lanes
- Preferred Bicycle Routes
- Preferred Multi-use Path
- Existing Multi-use Path
- Grade Separated Crossing with Special Design Concern
- Activity Center (based on proposed development)
- Regional System Connector Facility
- Bicycle Zone

Information Sources: DKS Associates

Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

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MAP NOT TO SCALE

2023 BICYCLE IMPROVEMENT STRATEGY PLAN

FIGURE 4-4

Table 4-2: Bicycle Action Strategy

Location	Action Strategy
Columbia Street	Implement bicycle lanes from 8 th Street to north of Fourth Plain Boulevard
C Street	Implement bicycle lanes from 6 th Street to McLoughlin Boulevard
Jefferson St/Kauffman St	Implement bicycle lanes from Mill Plain Boulevard to 8 th Street
Jefferson St/8 th Street intersection to 6 th Street/Grant Street	Implement bicycle lanes along future roadway alignment running southeast to northwest connecting these two intersections.
Fourth Plain Boulevard	Implement bicycle lanes from E Street to east of Interstate 5 as a Preferred Bicycle Route, which has shared space for bicycle use.
McLoughlin Boulevard	Implement bicycle lanes east of Fort Vancouver Way.
Evergreen Boulevard	Implement bicycle lanes from Jefferson Street to C Street, and east of Fort Vancouver Way.
Kauffman Avenue	Designate facility from Mill Plain Boulevard to Fourth Plain Boulevard as a Preferred Bicycle Route, which has shared space for bicycle use.
Franklin Avenue	Designate facility from Mill Plain Boulevard to Fourth Plain Boulevard as a Preferred Bicycle Route, which has shared space for bicycle use.
Broadway	Designate facility from McLoughlin Boulevard to Fourth Plain Boulevard as a Preferred Bicycle Route, which has shared space for bicycle use.
Esther Street	Designate facility from 8 th Street to South Waterfront Multi-use Path as a Preferred Bicycle Route, which has shared space for bicycle use.
Fort Vancouver Way	Designate facility from Evergreen Boulevard to E 5 th Street as a Preferred Bicycle Route, which has shared space for bicycle use.
McLoughlin Boulevard	Designate facility from Lincoln Street to Franklin Avenue as a Preferred Bicycle Route, which has shared space for bicycle use.
Mill Plain Boulevard/15 th Street	Designate facility from Columbia Street to D Street, and east of Fort Vancouver Way as a Preferred Bicycle Route, which has shared space for bicycle use.
Evergreen Boulevard	Designate facility east of Fort Vancouver Way as a Preferred Bicycle Route, which has shared space for bicycle use.
8 th Street	Designate facility from Jefferson Street to C Street as a Preferred Bicycle Route, which has shared space for bicycle use.
6 th Street	Designate facility from Grant Street to C Street as a Preferred Bicycle Route, which has shared space for bicycle use.
E 5 th Street	Designate facility east of Fort Vancouver Way as a Preferred Bicycle Route, which has shared space for bicycle use.
South Waterfront Multi-Use Path	Create a multi-use path for pedestrian and bicycle use along the South Waterfront area (tied to redevelopment of the area) from Columbia Way to west of Jefferson Street.
Heritage Bridge Multi-Use Path	Create a multi-use path for pedestrian and bicycle use that crosses Interstate 5 at approximately 5 th Street connection east to Fort Vancouver Way.
Fort Vancouver Way extension	Create a multi-use path for pedestrian and bicycle use that extends south from Fort Vancouver Way (at E 5 th Street) to connect southeast to the existing multi-use path that crosses SR-14.
Bicycle Zone	The entire plan area should all be designed with bicycles in mind in order to promote and facilitate bike trips within the study area. Consideration should be given to supply adequate bicycle parking, convenient and safe routes and bike lanes, and intersection crossing safety.
Design Issues	Proposed Strategy
6 th St/Grant St Grade Separation	This intersection will require special design consideration for implementation based on the need from surrounding proposed development.

CHAPTER

5

P E D E S T R I A N



This chapter summarizes the existing inventory and future facility needs for pedestrians within the study area in downtown Vancouver. It also identifies a potential action strategy for pedestrian connectivity based on the outlined future needs.

Existing Conditions

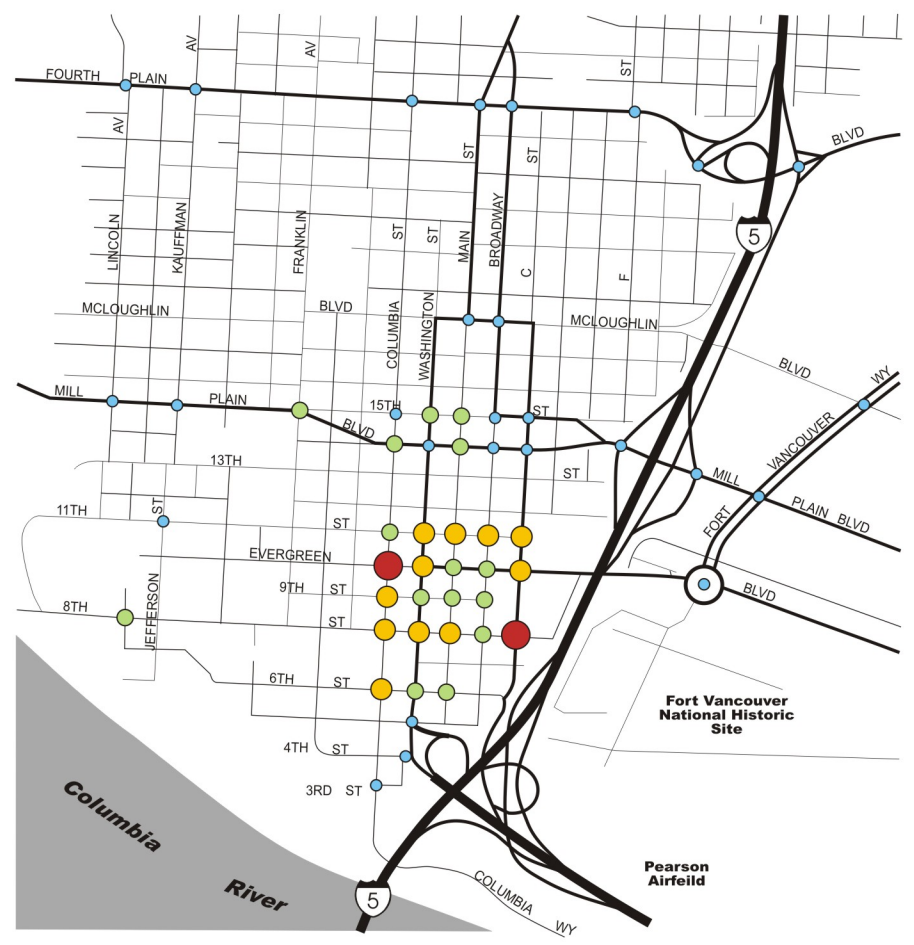
An inventory of existing pedestrian facilities was conducted, and generally all key roadways with study area intersections on them have sidewalks on both sides of the street that range in width from 6 feet to 10 feet. This provides connections to major roadways, parks, schools and other neighborhoods. However, there are some areas in the sidewalk network with gaps. The majority of these gaps occur north of the central downtown and in residential neighborhoods.

Within the study area there is an existing multi-use path that travels south from 8th Street approximately half a mile to Interstate 5, before turning east along the Columbia River. Future multi-use paths are proposed for the study area, providing a connection with the current path to neighborhoods northwest of the study area and across Interstate 5 at approximately 6th Street.

In addition to the existing pedestrian facility inventory, existing pedestrian count data was collected at study area intersections during the morning (7:00AM to 9:00AM) and evening (4:00PM to 6:00PM) peak periods. Figure 5-1 shows the AM and PM peak hour activity levels for pedestrian count data collected at intersections, while Figures 5-2 and 5-3 show the detailed pedestrian crossing activity for all legs of study area intersections during the AM and PM peak hours.

As shown in Figure 5-1, pedestrian activity in the study area is concentrated in the central business district (CBD). However, there are modest levels of pedestrian crossings at most of the study area intersections. The PM peak hour tends to have higher pedestrian activity at all intersections in comparison to the AM peak hour. The CBD area has a variety of small specialty

AM Peak Hour Use



PM Peak Hour Use



DKS Associates

LEGEND

- - High Pedestrian Use (>100 pedestrians counted)
- - Medium/High Pedestrian Use (51-100 pedestrians counted)
- - Medium Pedestrian Use (21-50 pedestrians counted)
- - Low Pedestrian Use (0-20 pedestrians counted)

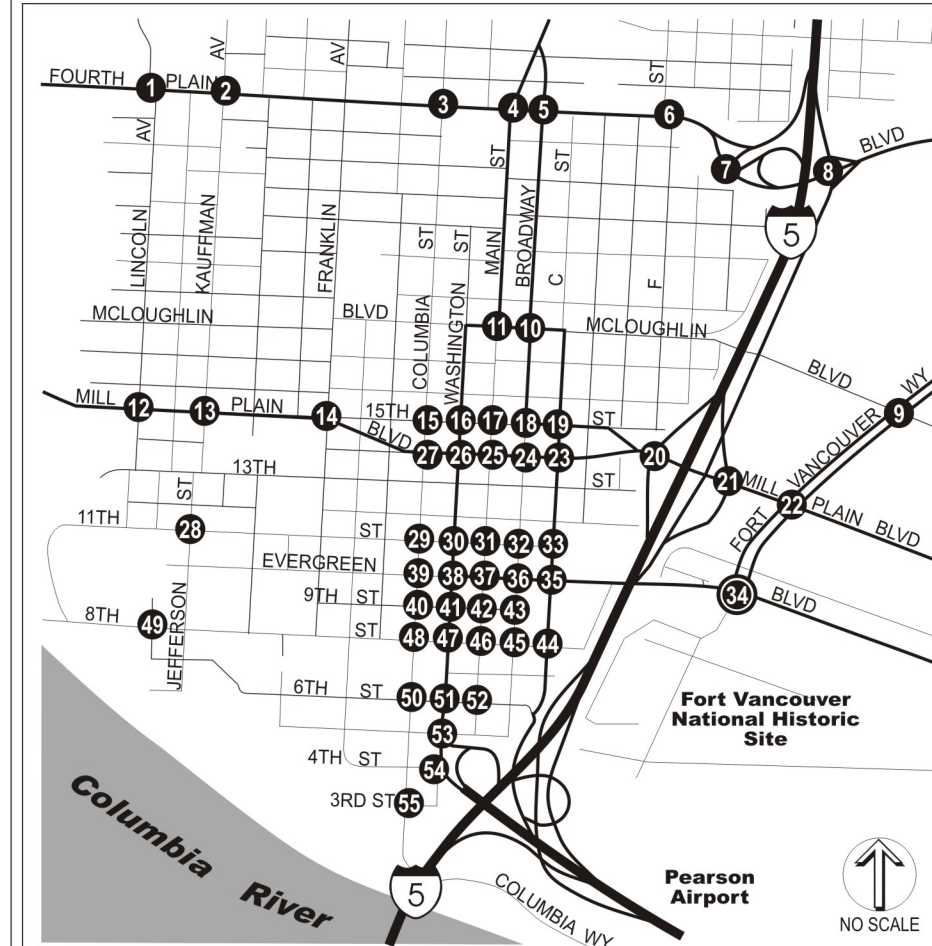
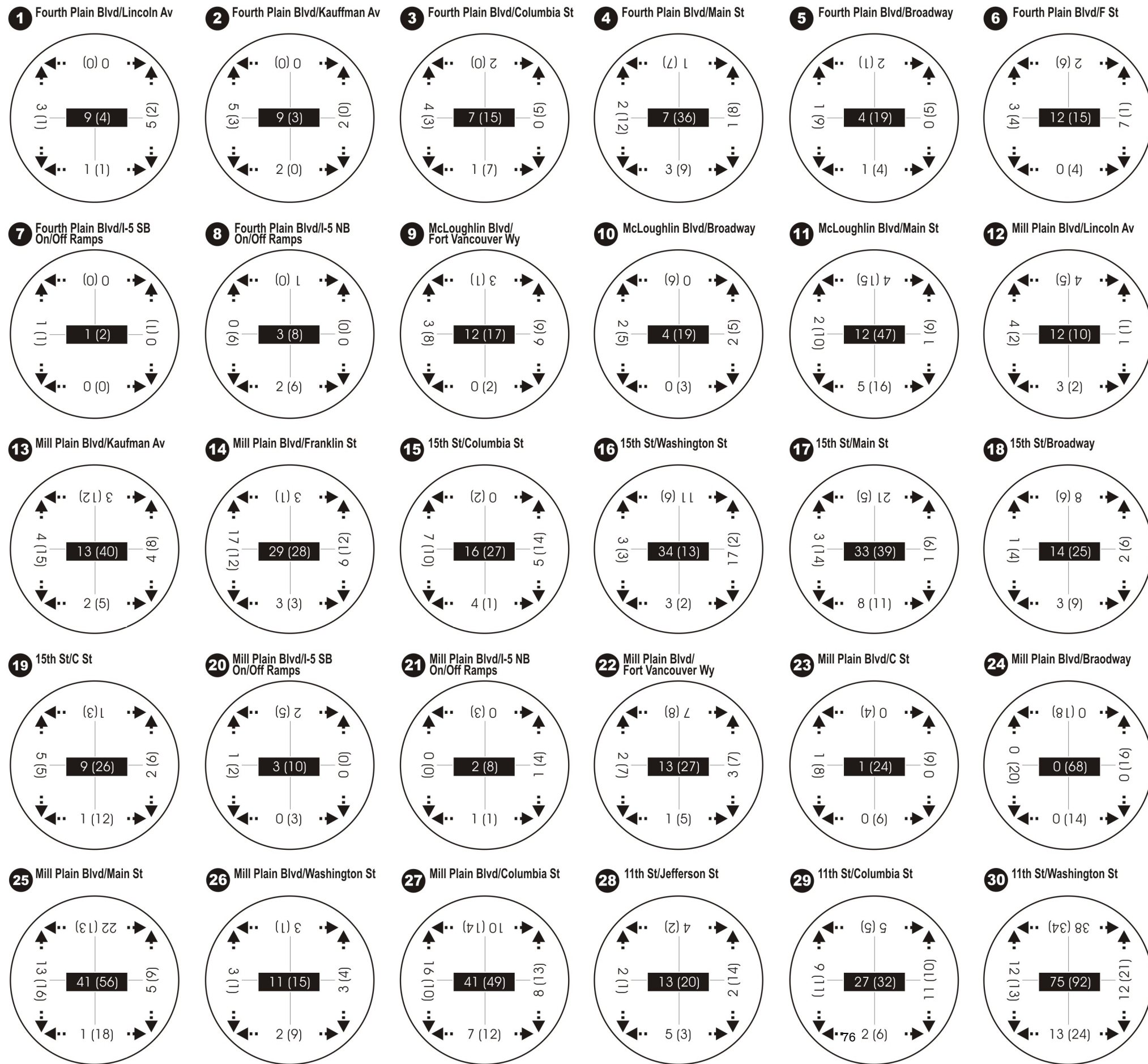


Information Sources: DKS Associates
Count data collected June-August 2005

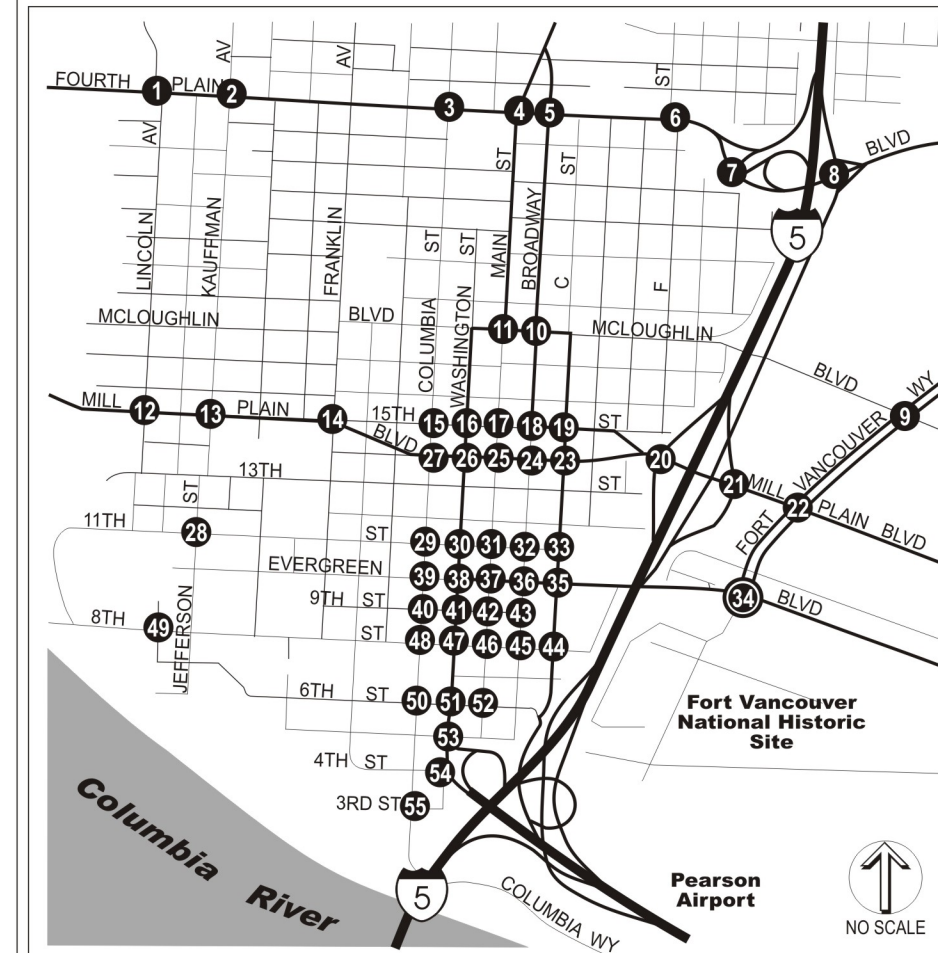
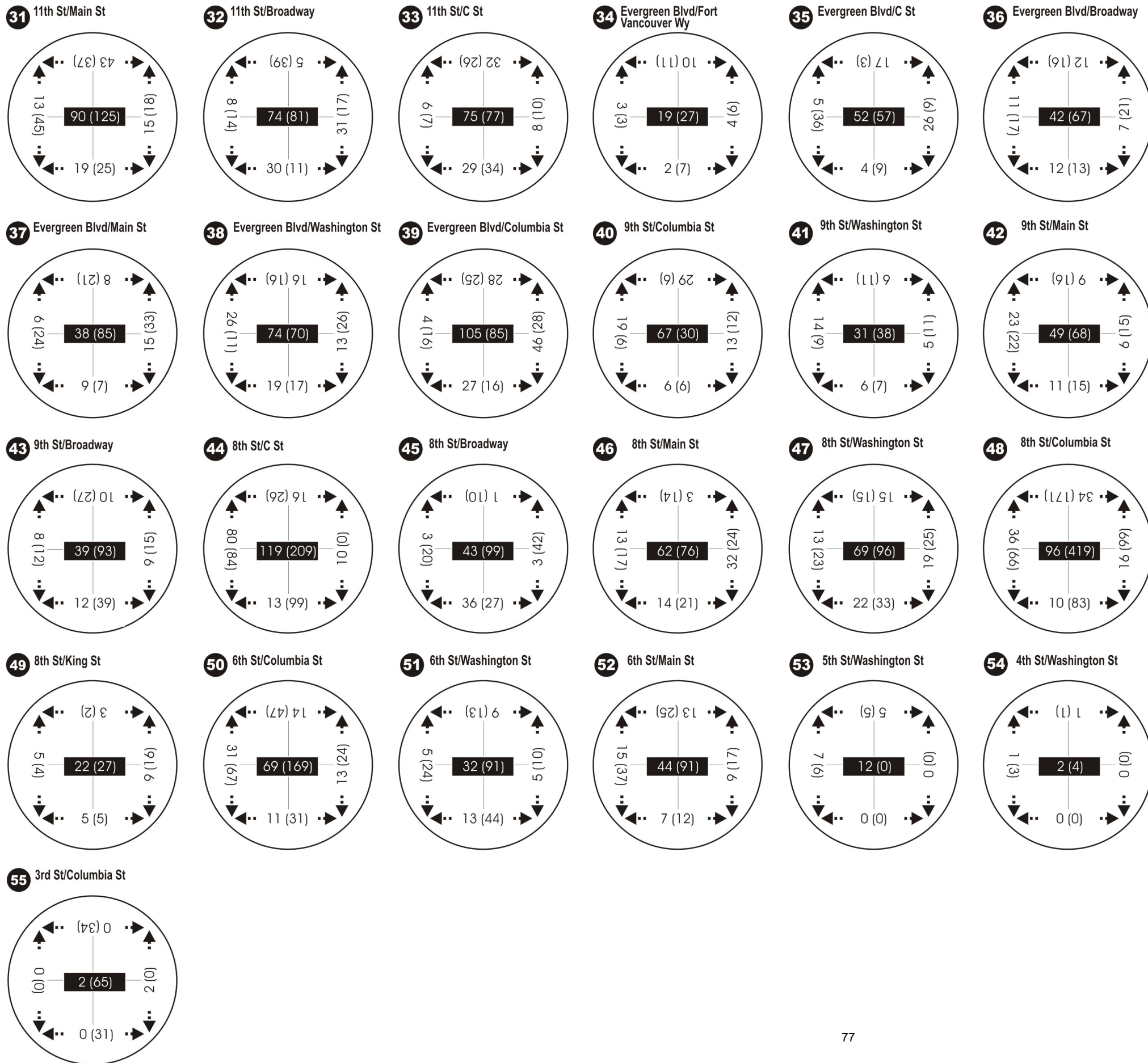
DRAFT
AUGUST 2006

**EXISTING PEDESTRIAN
AM/PM USE**

**FIGURE
5-1**



LEGEND
 XX (XX) - AM(PM) Pedestrian Count Data



LEGEND

XX (XX) - AM(PM) Pedestrian Count Data

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 TRANSPORTATION SOLUTIONS

Figure 5-3

EXISTING AM/PM PEDESTRIAN INTERSECTION COUNT DATA

retail shops, store front businesses, the transit center and a historic grid street network, which all lend to more pedestrian activity compared to other areas studied. The highest five intersections with pedestrian activity are listed in Table 5-1 for both the AM and PM peak hours (highest counts for each period are bolded). It is also important to note that this study focuses on the peak travel period, while the downtown walking environment tends to see extensive activity throughout the day.

Table 5-1: Existing AM and PM Peak Hour Highest Pedestrian Activity Intersections

Intersection	AM Peak Hour	PM Peak Hour	Combined Totals
8 th Street/Columbia Street	96	419	515
8 th Street/C Street	119	209	328
6 th Street/Columbia Street	69	169	238
11 th Street/Main Street	90	125	215
Evergreen Boulevard/Columbia Street	105	85	190
11 th Street/Washington Street	75	92	167
11 th Street/C Street	75	85	160
8 th Street/Broadway Street	43	99	142

SOURCE: All Traffic Data, data collected during June-August 2005.

Pedestrian collision data was also obtained from the City of Vancouver for the study intersections between January 1, 2002 and July 1, 2005. The data is shown in Table 5-2. Five study intersections reported a total of seven pedestrian collisions, and three of those collisions resulted in notable injury to the pedestrian.

Table 5-2: 2002 – 2005 Pedestrian Related Collisions

Intersection	Number of Pedestrian Collisions (2002-2005)	Pedestrians Injured
Fourth Plain Boulevard/Main Street	1	0
6 th Street/Main Street	2	2
6 th Street/Washington Street	1	0
Mill Plain Boulevard/C Street	2	1
Mill Plain Boulevard/Columbia Street	1	0

SOURCE: City of Vancouver, August 2005.

Performance Measures

The existing and future pedestrian network was evaluated based on established performance standards derived from local and regional policies, as well as existing standards of professional transportation planning practice. These standards represent some thresholds for determining acceptable versus unacceptable conditions in the pedestrian network. The three primary categories of evaluation include: system connectivity, pedestrian crossing spacing, and the general condition of pedestrian facilities. System connectivity standards indicate the continuity and proximity of the sidewalk/trail system should be ¼ mile from schools, parks, retail and other major pedestrian generators. This includes the need for safe, well-lit arterials and collector streets with suitable pedestrian amenities for on-street and crossing facilities to reduce the barriers for pedestrian travel.

Pedestrian crossings also play a vital role in connectivity; the distance between crossings can affect the safety of pedestrians and can influence the motor vehicle/pedestrian interaction. The minimum standard for adjacent pedestrian crossings is ¼ mile. Other performance measures can be used, though they may be more difficult to quantify. Pedestrian safety represents a key component of the pedestrian network, but is difficult to quantify due to its broad interpretation. Supplemental measures, such as street lighting and presence of sidewalks may be used for the evaluation of this component.

Forecasted Conditions and Needs

The existing pedestrian system needs are deficiencies that currently exist in the study area pedestrian network. Pedestrian facility needs in downtown Vancouver should consider the three most prevalent trip types:

- Residential based trips – home to school, home to home, home to retail, home to park, home to transit, home to entertainment;
- Service based trips – multi-stop retail trips, work to restaurant, work to services, work/shop to transit; and
- Recreational based trips – home to park, exercise trips, casual walking trips.

Residential trips need a set of interconnected sidewalks radiating out from homes to destinations within ¼ to 1 mile. Beyond these distances, walking trips of this type become substantially less common (over 20 minutes).

Service based trips require direct, conflict-free connectivity between uses (for example, a shopping mall with its central spine walkway that connects multiple destinations). Service based trips need a clear definition of connectivity. This requires service based land uses (e.g. mixed-use, retail, restaurants, etc.) to locate front doors that directly related to the public right-of-way and provide walking links between uses within ¼ mile.

Recreational walking trips have different needs. Off-street trails, well-landscaped planting strips and relationships to unique environment are important.

The most common need is to provide a safe and interconnected system that affords the opportunity to consider the walking mode of travel, especially for trips less than one mile in length.

The future pedestrian needs for downtown Vancouver is reliant on new development (or locations for redevelopment) and a proposed light rail alignment with station locations. Future access into and around downtown should focus on meeting these needs.

Downtown Vancouver will be serviced in the future by improved transit services, including the installation of a high capacity transit line segment extending from North Portland Harbor along Washington Street to cross Interstate 5 and service a relocated transit center east of Interstate 5.

As part of the South/North Corridor Project¹ light rail was proposed along the west side of Washington Street. The proposed transit stations within the study area are located at 7th Street, 12th Street, 17th Street and Arnada Street. Since this report, the location of this segment has been proposed on Washington Street for both the northbound and southbound direction. Additional coordination with multiple agencies (e.g. City of Vancouver, C-TRAN, WSDOT, etc.) will be necessary to finalize the alignment and proposed station locations, however this analysis can help focus efforts for that planning process to identify active centers that would best service (and be serviced) transit.

The proposed locations of high capacity transit stations and other transit improvements (such as the potential changed location of the existing transit center) will guide the pedestrian needs and connections throughout downtown Vancouver. It is important to provide direct connections from activity centers to these locations.

Pedestrian activity centers have been preliminarily identified at the following locations:

- ◆ South waterfront area
- ◆ Esther Short Park
- ◆ Blocks within the area of Mill Plain Boulevard/Main Street intersection
- ◆ Blocks within the area of Mill Plain Boulevard/Franklin Street intersection
- ◆ Blocks within the area of Evergreen Street/Franklin Street intersection
- ◆ Blocks within the area of Evergreen Street/Main Street intersection

It is also critical to provide adequate pedestrian circulation space. It is not enough to provide a sidewalk that is a specific width, there also needs to be a clear walking zone free of pedestrian impediments, such as trash receptacles, street trees, benches, newspaper stands, etc. All of these sidewalk amenities can impede the flow of pedestrian travel along a street.

Downtown Guidelines for Pedestrian Development

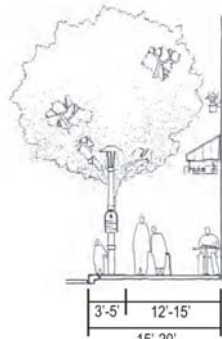
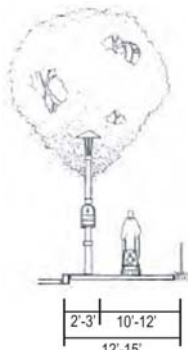
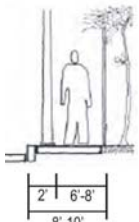
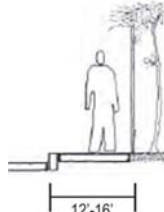
With the planned and proposed development to occur in the downtown area (and surrounding areas), it is useful to have development guidelines that apply specifically to the pedestrian mode of travel. This allows a potential mode shift for the greater opportunity to utilize sidewalks and multi-use paths for trips within and to/from downtown. In addition to the City of Vancouver Municipal Code (11.80.025 – City Streets-Design Criteria, and 11.80.070 – City Streets-Pedestrian Circulation) the following are guidelines to be used for the planning of pedestrian facilities and circulations for future development and/or redevelopment within the Vancouver downtown area.

- ◆ Update pedestrian facility standards to include Primary, Secondary, Tertiary and Off-street Multi-use path standards. Each of these facilities should have a designated “utility zone” and “passage zone”. The utility zone is for street amenities such as telephone pones, benches, cafe tables, newspaper vending, parking meters, etc. The passage zone is a clear pedestrian area that does not house street amenities and/or utilities. This area is an

¹ North/South Corridor Project *Local and Systemwide Traffic Impact Results Report*. Metro, February 1998.

effective clear width for pedestrian use. The following Table 5-4 and figures indicate the desired widths and minimum widths of these facilities.

Table 5-4 Desired and Minimum Pedestrian Facility Standards

Type of Corridor	Minimum Width		Desired Width		Potential Cross Section
	Utility Zone	Passage Zone	Utility Zone	Passage Zone	
Primary Pedestrian Corridor	3 feet	12 feet	5 feet	15 feet	
Secondary Pedestrian Corridor	2 feet	10 feet	3 feet	12 feet	
Tertiary Pedestrian Corridor	2 feet	6 feet	2 feet	8 feet	
Multi-Use Path	-	12 feet	-	16 feet	

- ◆ Provide direct pedestrian linkages/connectivity from new developments, and/or redevelopment properties, to transit stops/stations.

- ◆ Create and maintain an annual pedestrian count inventory of the downtown area for the AM and PM peak hours to help identify where pedestrian crossings and activity is highest so that new (and/or redevelopment) developments can help maximize pedestrian connectivity and enhance the pedestrian environment.
- ◆ At intersections, consider using special treatments for materials for pedestrian crossing. This would help to enhance the visibility of pedestrian crossing locations.
- ◆ Provide covered pathways where possible through the use of arcades and/or awnings associated with building redevelopment.
- ◆ Minimize conflicts with vehicles, service and bicycles as much as possible through the use of buffers like on-street parking and landscape strips.
- ◆ All pathways should be well lit to facilitate security and safety. Pedestrian lighting should be scaled to the pedestrian environment.
- ◆ Shorten pedestrian crossing distances at intersections by implementing curb extensions (bulb outs) where appropriate.
- ◆ New buildings and developments should focus pedestrian access to intersections where pedestrian crossings are located, rather than mid-block where pedestrian facilities/crossings are limited.
- ◆ Provide wayfinding signs along Primary and Secondary corridors to help guide pedestrians to activity centers, retail areas, parks, schools, etc.
- ◆ Address driveway conflicts, especially at parking garage entrances or other areas with inadequate vision clearance.

Downtown Pedestrian Improvement Strategy Plan

There are a number of proposed pedestrian improvements called out within the study area in the City of Vancouver Transportation System Plan. Using these as a starting point, and reviewing the proposed developments in the downtown area, a list of potential projects was developed to frame a Downtown Pedestrian Improvement Strategy Plan. This includes primary pedestrian corridors, multi-use paths and direct connectivity to activity centers. Figure 5-5 graphically locates these improvements in the downtown area and Table 5-3 provides additional information on planned improvements and action.



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LEGEND

- ■ ■ - Primary Corridor (15-20 foot width)
- ■ ■ - Secondary Corridor (12-15 foot width)
- ↔ ↔ - Existing Multi-use Off-street Path
- - - ↔ - Proposed Multi-use Off-street Path
- Regional System Connector Facility
- Grade Separated Crossing with Special Design Focus
- ★ - Activity Center (based on proposed development)
- Pedestrian Zone

Information Sources: DKS Associates

Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

N

MAP NOT TO SCALE

Table 5-3: Pedestrian Action Strategy

Location	Action Strategy
Franklin Avenue	Designate as Primary Corridor from 8 th Street to Mill Plain Boulevard with 15-20 foot sidewalk facility.
Main Street	Designate as Primary Corridor from off-street multi-use path south of Columbia Way to north of Fourth Plain Boulevard, with 15-20 foot sidewalk facility.
E Street extension	Designate as Primary Corridor from 13 th Street to Evergreen Boulevard with 15-20 foot sidewalk facility.
Grant Street	Designate as Primary Corridor from 8 th Street south to South Waterfront multi-use path with 15-20 foot sidewalk facility.
Esther Street	Designate as Primary Corridor from 8 th Street south to South Waterfront multi-use path with 15-20 foot sidewalk facility.
13 th Street	Designate as Primary Corridor from Harney Street to E Street with 15-20 foot sidewalk facility.
Evergreen Boulevard	Designate as Primary Corridor from Harney Street to Fort Vancouver Way with 15-20 foot sidewalk facility.
8 th Street	Designate as Primary Corridor from Jefferson Street to C Street with 15-20 foot sidewalk facility.
6 th Street	Designate as Primary Corridor from Esther Street to C Street with 15-20 foot sidewalk facility.
Jefferson Street	Designate as Secondary Corridor from approximately 7 th Street to Mill Plain Boulevard with 12-15 foot sidewalk facility.
Harney Street	Designate as Secondary Corridor from 8 th Street to 13 th Street with 12-15 foot sidewalk facility.
Franklin Street	Designate as Secondary Corridor from Mill Plain Boulevard to McLoughlin Boulevard with 12-15 foot sidewalk facility.
Columbia Street	Designate as Secondary Corridor from 7 th Street to north of Fourth Plain Boulevard with 12-15 foot sidewalk facility.
Main Street	Designate as Secondary Corridor from 15 th Street to McLoughlin Boulevard with 12-15 foot sidewalk facility.
Broadway	Designate as Secondary Corridor from 6 th Street to north of Fourth Plain Boulevard with 12-15 foot sidewalk facility.
C Street	Designate as Secondary Corridor from 6 th Street to McLoughlin Boulevard with 12-15 foot sidewalk facility.
McLoughlin Boulevard	Designate as Secondary Corridor from west of Lincoln Street to east of Fort Vancouver Way with 12-15 foot sidewalk facility.
15 th Street	Designate as Secondary Corridor from Franklin Boulevard to E Street with 12-15 foot sidewalk facility.
Mill Plain Boulevard	Designate as Secondary Corridor from Columbia Street to east of Fort Vancouver Way with 12-15 foot sidewalk facility.
13 th Street	Designate as Secondary Corridor from Kauffman Avenue to Harney Street with 12-15 foot sidewalk facility.
11 th Street	Designate as Secondary Corridor from Jefferson Street to C Street with 12-15 foot sidewalk facility.
Evergreen Boulevard	Designate as Secondary Corridor from Franklin Street to Kauffman Avenue with 12-15 foot sidewalk facility.
6 th Street	Designate as Secondary Corridor from Jefferson Street to Esther Street with 12-15 foot sidewalk facility.
South Waterfront Multi-use Path	Implement a multi-use path along the south waterfront from Columbia Way west of Jefferson Street alignment.
Daniels Street extension	Implement a multi-use path along a Daniels Street extension from 6 th Street.
Heritage Bridge Multi-Use Path	Create a multi-use path for pedestrian and bicycle use that crosses Interstate 5 at approximately 5 th Street connection east to Fort Vancouver Way.
7 th Street	Implement a multi-use path from Washington Street to C Street.
9 th Street	Implement a multi-use path along a 9 th Street extension from C Street to Evergreen Boulevard.
Pedestrian Zone	The entire plan area should be designed with pedestrians in mind in order to promote and facilitate pedestrian trips within the study area. Consideration should be given to street furniture and other street amenities (such as covered walkways and convenient transit plazas where appropriate). Additionally, all signalized crossings should be upgraded to include countdown timers for pedestrian crossings and the most up to date ADA treatments. Un-signalized crossings should provide for enhanced safety with pavement markings, treatments, and/or raised platforms.
Design Issues	Proposed Strategy
6 th St/Grant St Grade Separation	This intersection will require special design consideration for implementation based on the need from surrounding proposed development.

CHAPTER

6

T R A N S I T



This chapter summarizes the existing and future facility needs for transit services in downtown Vancouver. The following sections outline the existing conditions of transit use, existing deficiencies and future needs for transit in the area with a recommended transit action strategy to address these deficiencies and needs.

Vehicle access, circulation, and parking are the core system components, but peak trip demand for access to downtown can never be fully satisfied with vehicle access alone—to do so would contradict the intent of the VCCV by fundamentally changing the look and feel of downtown. As a result, the transportation system that best supports the VCCV is inherently multi-modal. Fulfillment of the plan’s land use objectives require that trips coming into and out of downtown and those within downtown need to, at varying levels, use different systems. Diversity of transportation users and trip purposes which result from and support a “messy vitality” (a healthy, varied, and vibrant downtown) require that such systems be in place to create access to services and opportunities for all user groups.

Much of the foundation and many of the policies supporting the VCCV’s multi-modal transportation network already exist. Yet each of the systems must be enhanced in specific ways in order to create the required circulation and people-carrying capacity needed to support realization of the City Center Vision. Transit service is very effective at providing peak period capacity over and above what the vehicle system alone can offer. Changes to the transit network are contemplated including addition of higher carrying capacity transit (HCT) to supplement downtown access from both the northern and southern travel markets.

Existing Conditions

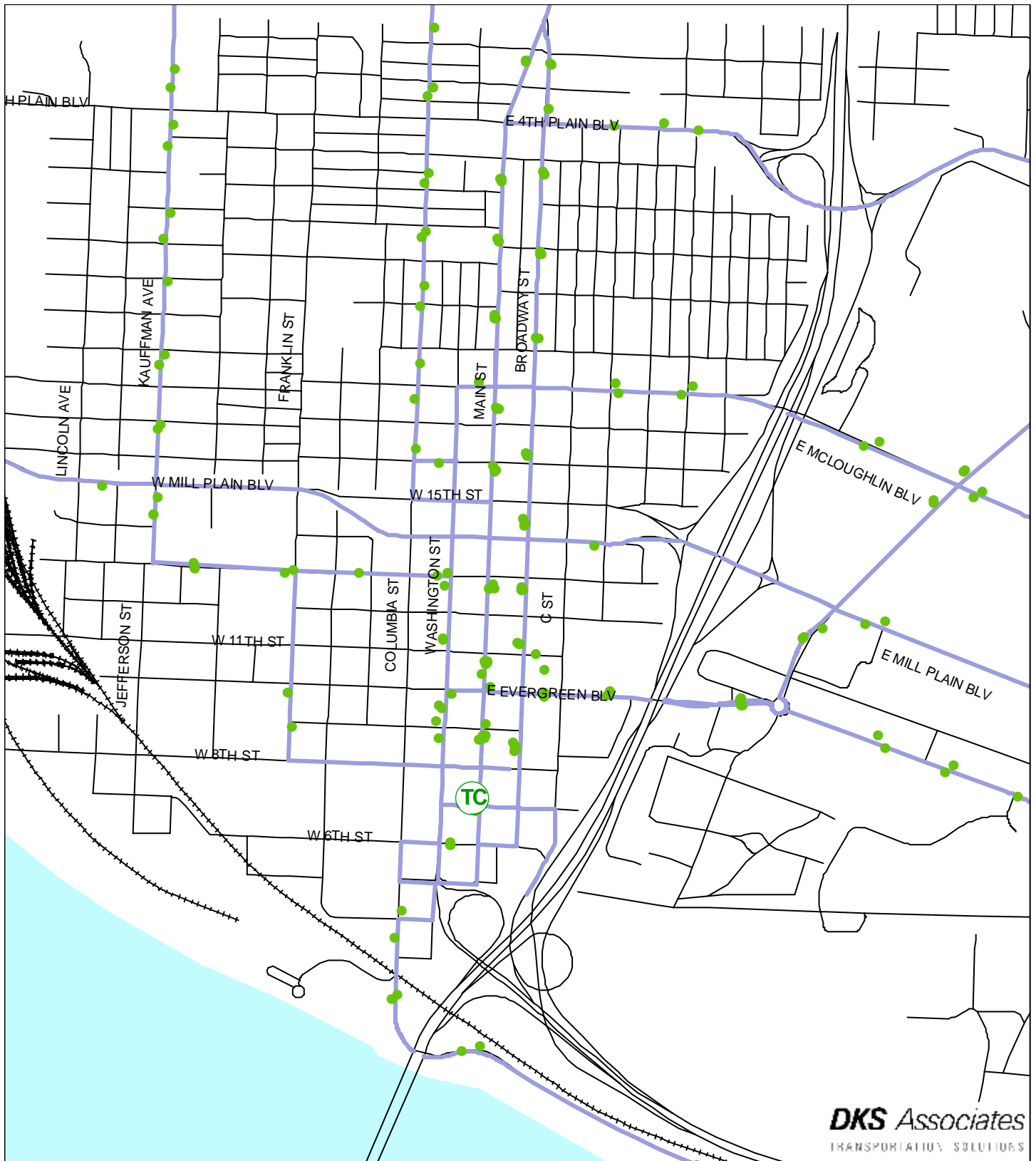
Currently transit service in the Vancouver area is provided by C-TRAN, Clark County’s public transit provider serving Vancouver, Battle Ground, Camas and Washougal. C-TRAN also provides limited stop commuter service to downtown Portland. C-Tran has twenty-six transit routes, eleven of which traverse the study area. There is a transit center located within the

central downtown area. The transit routes, transit stops and transit center are shown in Figure 6-1.

Most transit routes serving the City Center operate at level-of-service C or higher with peak hour headways (time between buses) between 15-30 minutes. The weekend/holiday schedules offer reduced service times and longer headways for all routes. The majority of these routes run on 30-minute headways 17 hours a day during the weekdays and 30-45 minute headways 12 hours a day during the weekend. Transit stops within the study area are generally located within ¼ mile of each other throughout downtown.

Table 6-1 summarizes the routes, headways and corresponding headway level-of-service as defined in the *Highway Capacity Manual*¹ within the study area for weekday peak and off-peak time periods.

¹ 2000 *Highway Capacity Manual*, Exhibit 27-1.



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LEGEND

- - Bus Stops
- TC - Transit Center

Information Sources: DKS Associates



MAP NOT TO SCALE

EXISTING TRANSIT FACILITIES

FIGURE 6-1

Table 6-1: Existing Transit Routes and Headways

Route #	Route Name	Operations	Headways (Peak Hour)	Transit (LOS)
1	Fruit Valley-Services downtown transit center from Fruit Valley Road along Mill Plain Boulevard	Mon-Fri 6:00am-9:00pm Sat/Sun/Holiday	30 min	C
2	Lincoln/Felida-Services downtown transit center from Salmon Creek Park-and-Ride along Columbia Boulevard	Mon-Fri 6:00am-9:30pm Sat/Sun/Holiday	45 min	D
3	City Center-Services Courthouse to Waterfront Loop (via 2 loops)	Mon-Fri 5:45am-9:45pm Sat/Sun/Holiday	45 min	D
4	Fourth Plain-Services Vancouver Mall and downtown transit center via Main/Broadway Couplet	Mon-Sat 5:30am-10:15pm	15 min	B
6	Hazel Dell-Services Salmon Creek Park-and-Ride and downtown transit center via Main/Broadway Couplet	Mon-Fri 6:30am-10:30pm Sat/Sun/Holiday	30 min	C
25	St. Johns-Services St Johns and downtown transit center via Evergreen Boulevard	Mon-Fri 5:45am-9:15pm Sat/Sun/Holiday	30 min	C
30	Burton-Services Fisher's Landing transit center and downtown transit downtown via Washington and Main Streets	Mon-Fri 5:30am-9:15 pm Sat/Sun/Holiday	30 min	C
32	Evergreen/Andresen-Services downtown transit center via Evergreen Boulevard	Mon-Fri 5:45am-9:15pm Sat/Sun/Holiday	30 min	C
37	Mill Plain-Services Fisher's Landing transit center and downtown transit center via Mill Plain Boulevard	Mon-Fri 5:45am-9:15pm Sat/Sun/Holiday	20 min	C
39	Clark College/Medical Center-Services Clark College and downtown transit center via Evergreen Boulevard	Mon-Fri 6:30am-8:00pm Sat/Sun/Holiday	60 min	D
71	Highway 99-Services Salmon Creek Park-and-Ride and downtown transit center via Main/Broadway couplet	Mon-Fri 5:45am-10:00pm Sat/Sun/Holiday	20 min	C

Note: Level of Service (LOS) for transit service based on headway: less than 10 minutes = LOS A; 10-14 minutes = LOS B; 14-20 minutes = LOS C; 20-30 minutes = LOS D; 30-60 minutes = LOS E; and greater than 60 minutes = LOS F.

Most of these transit routes are serviced by the existing transit center, which is located on 7th Street between Broadway and Washington Street. The transit center and the surrounding areas also accommodate high levels of bicycle and pedestrian activity throughout the day (see Chapters 4 and 5 for detailed bicycle and pedestrian data).

In addition to the regular routes, C-TRAN also runs eight commuter routes to downtown Portland. These routes run on 10-30 minute headways 12 hours a day on weekdays, and do not run during the weekends. C-Tran also provides paratransit service to individuals in urban and rural Clark County.

Performance Measures

The existing and future transit network was evaluated based on established performance standards derived from local and regional policies, as well as existing standards of professional transportation planning practice. Performance measures provide thresholds for determining acceptable versus unacceptable conditions for the transit service and facilities and are categorized into the following areas: coverage, service, ridership and facilities. Coverage refers to the area served by transit. Service refers to headways (frequency of bus service), and it also refers to the area covered by transit services. Ridership refers to the number of riders using transit. Facilities refer to the type of user-friendly transit services such as benches, shelters, parking, etc.

The frequency of bus service during the hours of operation can be determined based on methods outlined in the *Highway Capacity Manual*². Service coverage standards also exist that require transit service to be within ¼ mile walking distance for certain employment and housing densities. This methodology is also outlined in the *Highway Capacity Manual*.

Forecasted Conditions and Needs

Transit route frequency is a measure of transit quality of service and mode attractiveness. The existing transit routes servicing downtown Vancouver generally operate at an acceptable level-of-service, with 20-30 minute headways on most routes during the peak hours.

In addition to improved route frequency, transit stop amenities can be implemented to improve the convenience and attractiveness of using the transit system. Accessible transit stops are essential to a useable transit system. Potential improvements to the overall system include:\

- ◆ **Transit Tracking** – This is a system whereby transit riders can track when the next bus is schedule to arrive by phone and/or by internet. This is done by using the bus stop ID number provided at the bus stop.
- ◆ **Bus shelters** – Improve the convenience of using the transit system by providing a comfortable (and dry) place to wait for the bus.
- ◆ **Transit/Pedestrian Interface** – This can be accomplished with several strategies, for example curb extensions or bus pullouts. The extension of the sidewalk area into the parking lane provides a more convenient pedestrian connection to a stopped bus.
- ◆ **Street lighting** – Bus stops should be highly visible locations so pedestrians can easily identify the locations and good security can be provided.

Changes will occur to transit service in the next 15-20 years to downtown Vancouver with the introduction of a high capacity transit (HCT) system and four HCT stations within the study area. In addition to the construction of the high capacity line, plans are underway which to potentially relocate the transit center to an area outside of lower downtown.

² Highway Capacity Manual

Currently buses start and/or end their transit route from the downtown area. This creates the need to wait (or layover) before beginning their next route. This takes up space in the downtown as well as creates air quality concerns. Relocation of the transit center to an area outside of downtown would facilitate the need to develop a new circulation pattern for buses that would not layover in the downtown area. The new circulation pattern could travel through downtown but not layover in downtown. This type of pattern is typically called “interlining”. The desired circulation pattern to accomplish that would be serving areas to the north, east, west and south. Utilizing existing roadways to help facilitate this pattern is crucial due to physical constraints such as Interstate 5 to the east, the rail lines to the west, and the Columbia River to the south.

The installation of a high capacity line segment extending from North Portland Harbor to West Fourth Plain Boulevard will serve as an important connection between downtown Vancouver and downtown Portland. As part of the South/North Corridor Project³ the high capacity was proposed along the west side of Washington Street. The proposed transit stations within the study area were preliminarily located at 7th Street, 12th Street, 17th Street and Arnada. Since this report was published, the location of this segment has been proposed on Washington Street for both the northbound and southbound directions and will share the road with one travel lane in each direction. As of now, no final alignment has been formally selected. Additional coordination with multiple jurisdictions would need to take place before a final alignment and stop locations were selected and approved.

In addition to the HCT alignment, relocation of the transit center and interlining buses, there is a need for potential shorter trips to/from the downtown area to the transit center. This could be accomplished via a small shuttle route that again interlines through the downtown area on a set circulation route (a loop) on a set schedule. This allows users to take transit to the transit center from areas further away from downtown, but because the transit center is now relocated out of downtown these users can still access the downtown via the shuttle service.

Downtown Guidelines for Transit Service and Development

With the planned and proposed development to occur in the downtown area (and surrounding areas), it is useful to have development guidelines that apply specifically to the use and promotion of transit. This allows a potential mode shift for the greater opportunity to utilize transit for trips to/from downtown. The following are guidelines to be used for planning of transit facilities and circulations for future development and/or redevelopment within the Vancouver downtown area.

- ◆ Allow for direct connections to/from transit for pedestrian and bicycle users for surrounding land uses. This includes provision for adequate bike parking and other bicycle commuting amenities such as a bike center.
- ◆ Supply adequate queuing area at transit stations/stops to provide a level-of-service D (>3-6 ft²/person) or better condition for passengers waiting for buses and/or high capacity transit.

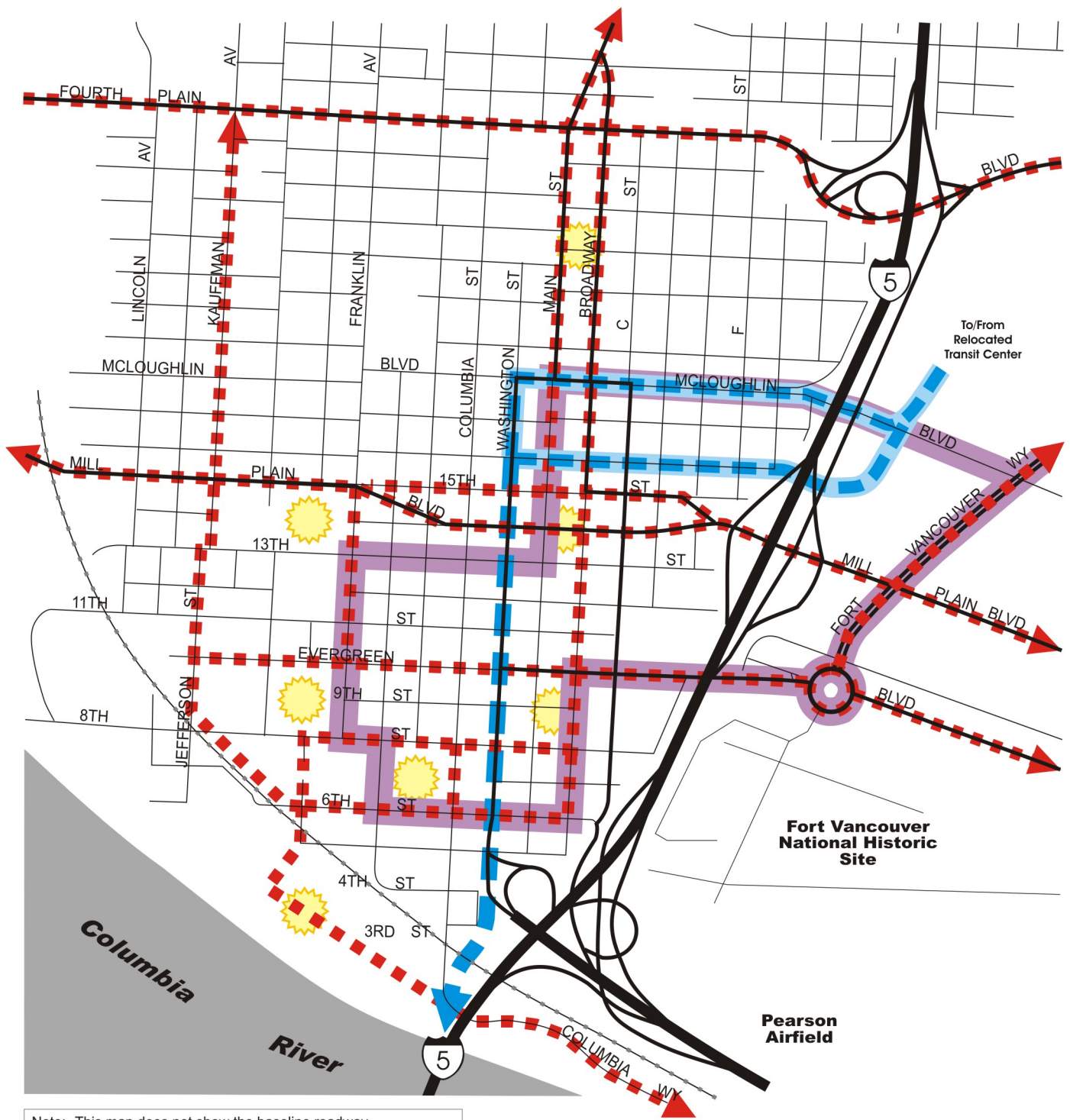
³ North/South Corridor Project *Local and Systemwide Traffic Impact Results Report*. Metro, February 1998.

- ◆ All transit stops should be equipped with transit tracking ability. This could be as simple as a stop ID clearly located that people can use to call a transit tracking number to determine when the next available bus is scheduled to arrive, or it could be as elaborate as a monitor graphically showing where buses are in the transit/roadway system.
- ◆ Transit stops/stations and all amenities associated with the stop will not conflict with through travel for pedestrians on the sidewalk system.
- ◆ All transit stops/stations should be well lit and provide for passenger safety and security. This includes proper drainage so that station areas remain clear of water, mud, snow and ice.
- ◆ All transit stops/stations will be handicapped accessible. This typically includes a minimum of 48” wide access and no more than 5% gradient for access. Special features at transit stops/stations should include handrails, platform edge strips, tactile pads, etc.
- ◆ Future transit stops (and routes) should minimize the distance between the stop location for a route and building entrances so that logical connections between building and transit exist.
- ◆ Future transit stops should be placed approximately 580 feet apart. This would allow for a transit stop approximately every two blocks.
- ◆ Future building developments on either bus service routes and/or HCT alignment that are over 25,000 square feet should consider designated lobby space for transit passenger waiting areas on blocks that contain transit stops.
- ◆ Provide transit shelters for stops that have 35 or more daily on/off trips.
- ◆ Provide for far-side transit stops when possible. Far-side transit stops allow for transit to progress through an intersection and stop on the opposite side (far-side) of the intersection to pick-up/drop-off passengers. This helps to reduce potential delay due to signals, minimize potential conflicts with right turning vehicles, and helps to enhance reliability of transit. Far-side stops also help to encourage pedestrians to cross behind transit vehicles at the intersection, which is safer than crossing in front of them (mid-block).
- ◆ Provide a minimum no parking zone where curbside transit stops occur. This allows space for the transit vehicle to stop, and then reenter the traffic flow if the stop is not in the travel lane and the bus must pullout of the travel lane.
- ◆ Coordinate Parking Policy, Transportation Demand Management Strategies (such as introduction of a Growth and Transportation Efficiency Center—GTEC), and transit levels of service.

Downtown Transit Improvement Strategy Plan

There are a number of forecasted needs for transit to service the Downtown Vancouver area in the future. Based on these needs, Figure 6-2 graphically outlines how transit could potentially service the downtown area with interlining buses, HCT and a potential shuttle service. Table 6.2 provides additional detail on the improvements identified in Figure 6-2.

Figure 6-2: Recommended Strategy here



Note: This map does not show the baseline roadway improvements as shown on the motor vehicle action strategy map (Figure 10-6). To review the baseline roadway assumptions please refer to Figure 10-6.

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LEGEND

- ■ ■ ■ ■ - Preferred Transit Streets
- ■ ■ ■ ■ - Preferred High Capacity Transit (HCT) Streets
- ■ ■ ■ ■ - Alternative HCT Alignment(s)
- ■ ■ ■ ■ - Preferred Local Circulating Route
- ★ - Activity Center (based on proposed development)

N

MAP NOT TO SCALE

Information Sources: DKS Associates

DRAFT
AUGUST 2006

2023 TRANSIT IMPROVEMENT STRATEGY PLAN

FIGURE 6-2

Table 6-2: Transit Action Strategy

Street Designations	Location
Preferred Transit Street Designation	Kauffman Avenue from Fourth Plain Boulevard to 13 th Street
Preferred Transit Street Designation	Jefferson Street from 13 th Street to 8 th Street
Preferred Transit Street Designation	6 th Street extension (from Grant Street) to 8 th Avenue
Preferred Transit Street Designation	Grant Street south to south waterfront arterial
Preferred Transit Street Designation	South waterfront arterial (from Grant Street to Columbia Street)
Preferred Transit Street Designation	Columbia Way from I-5 to the east
Preferred Transit Street Designation	Franklin Street from Mill Plain Boulevard to Evergreen Street
Preferred Transit Street Designation	Esther Street from Evergreen to south waterfront arterial
Preferred Transit Street Designation	Main Street from north of Fourth Plain Boulevard to Evergreen
Preferred Transit Street Designation	Broadway from north of Fourth Plain Boulevard to Evergreen
Preferred Transit Street Designation	Evergreen from Jefferson Street to Fort Vancouver Way (and to the east)
Preferred Transit Street Designation	Fort Vancouver Way from Evergreen to McLoughlin Boulevard (and to the north)
Preferred Transit Street Designation	Mill Plain Boulevard from Fort Vancouver Way to Lincoln Avenue (and to the west)
Preferred Transit Street Designation	15 th Street from Franklin Avenue to E Street
Preferred HCT Street Designation	Washington Street from I-5 to 16 th Street
Preferred HCT Street Designation	Option A: Along Washington Street from 16 th Street to McLoughlin Boulevard, then heading east along McLoughlin Boulevard to east of I-5
Preferred HCT Street Designation	Option B: Along 16 th Street east crossing I-5 then north to cross McLoughlin Boulevard
Preferred Local Circulating Route	From McLoughlin, Main St. south to 13 th Street, west on 13 th Street to Franklin Avenue, south on Franklin Avenue to 8 th Street, east on 8 th , south on Esther, east on 6 th , north on Broadway, east on Evergreen, north on Fort Vancouver Way, west on McLoughlin.
Action Items	Location
Preferred Local Circulating Route	Coordinate with C-TRAN to develop local transit circulator route.
Preferred HCT Street Designation	Coordinate with Columbia River Crossing (CRC) project for High Capacity Transit component; designate HCT corridor and alignment. Washington Street is currently identified as the primary HCT corridor and at this time is the most desirable alignment to serve downtown Vancouver.
High Capacity Transit	Complete a detailed corridor study for the street selected as the locally preferred alignment for High Capacity Transit. The corridor study shall address the cross section and design of the corridor, station area planning, traffic operations, transit operations, pedestrian accessibility and permeability, as well as urban design and corridor aesthetics. It will provide a complete picture of how HCT fits seamlessly into the downtown land use environment.
Emerging Issues	Location
Local High Capacity Transit Circulator	Evaluation of a local HCT system such as streetcar is in initial stages of exploration. Implementation of such a system is consistent with the VCCV traffic evaluation. It would likely take on a similar role to that of a local transit circulator and would have minimal traffic operations impacts.
Commute Trip Reduction and Transportation Demand Management	The CTR Efficiency Act (ESSB 6566), passed by the state legislature during the 2006 session carries a mandate for more energetic commute trip reduction (CTR) programs throughout the state. Vancouver will be expanding its CTR program to develop a Growth and Transportation Efficiency Center (GTEC) in the city center. Implementation of a program reduce single occupant vehicle trips will help to implement the goals of the VCCV.

CHAPTER 7

P A R K I N G



This chapter summarizes existing and future facility needs for parking that serve the downtown Vancouver study area. The following sections outline the existing inventory of parking, and proposed future supply of parking.

Existing Conditions

Parking in downtown Vancouver is supplied through on-street spaces and off-street lots. An inventory of existing parking facilities was conducted to determine the existing parking supply. Both on-street and off-street parking was surveyed throughout the study area.

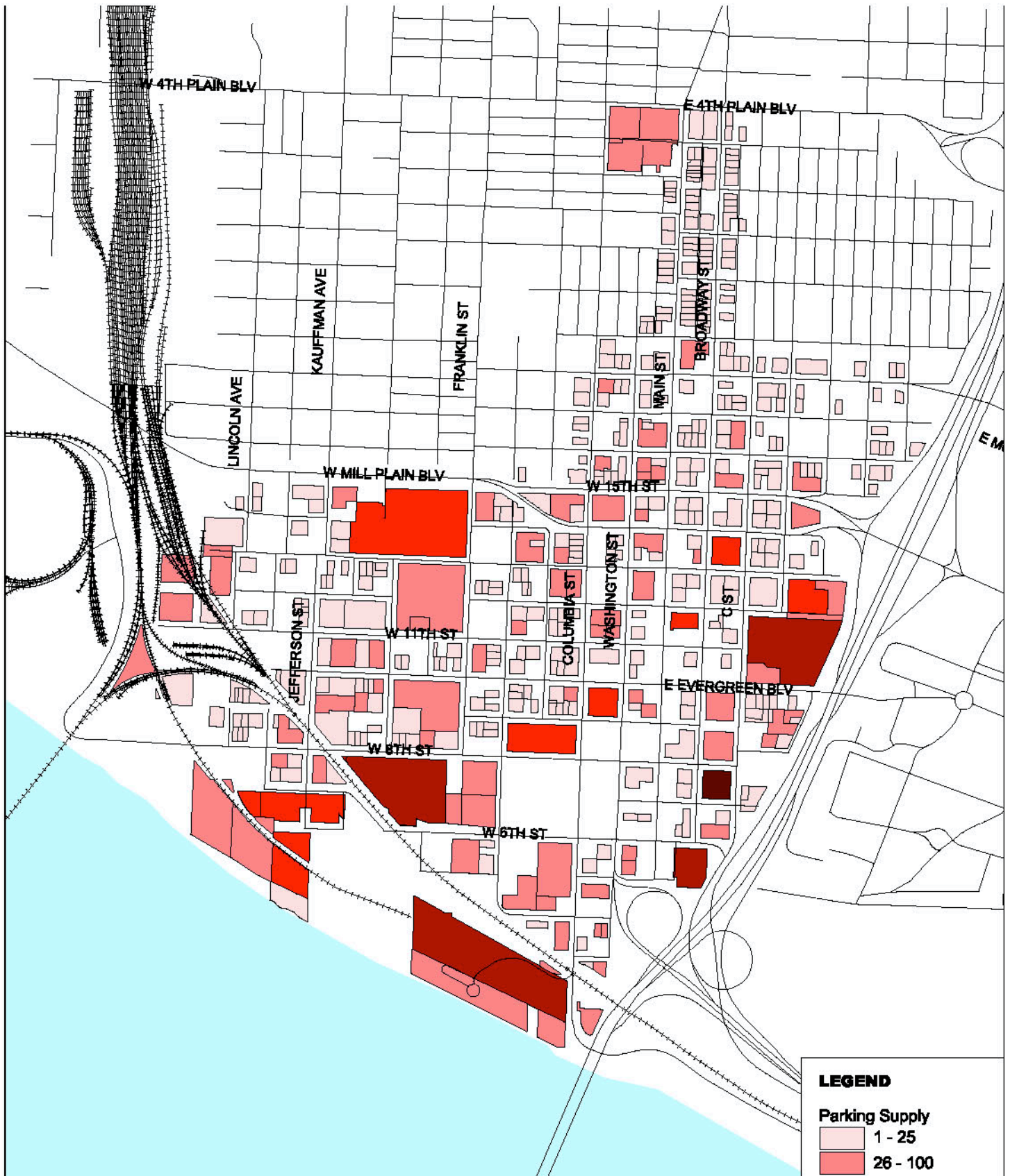
Off-Street Parking

The highest amount of parking is located in the Central Downtown area with approximately 1/3 of the total parking supply of the study area. All other areas generally have the same amount of parking. Table 7-1 summarizes the off-street parking supply by neighborhood sub-area. Figure 7-1 shows the detailed off-street parking supply for the entire study area by location and range of supply.

Table 1: Existing Off-Street Parking Supply by Neighborhood Sub-Area

Sub-Area	Supply	Percent of Total
North Main	1,515	16%
Mill Plain	1,094	11%
Central Downtown	2,996	31%
West Government	1,332	13%
Esther Short	2,593	16%
Renaissance	1,427	13%
TOTALS	10,957	100%

SOURCE: City of Vancouver



**EXISTING OFF-STREET
PARKING SUPPLY**

DKS Associates
TRANSPORTATION SOLUTIONS

- DRAFT -



**FIGURE
7-1**

LEGEND

Parking Supply

- 1 - 25
- 26 - 100
- 101 - 200
- 201 - 500
- 500+

Railroad

Roads

Columbia River

On-Street Parking

There are approximately 2,000 on-street parking stalls located within the study area. The majority of these stalls are 1 or 2 hour (short-term) and 10 hour (long-term) metered. Table 7-2 summarizes the on-street parking inventory within the downtown area based on type of parking.

Table 7-2: Downtown On-street Parking Supply by Type of Parking

	15 minutes	30 minute	1 hour	90 minute	2 hour	3 hour	5 hour	10 hour	Total meters	On-street Permits	Total On-street Parking
Parking Supply	14	34	227	0	774	10	12	394	1,465	539	2,004
Percentage of supply	>1%	2%	11%	0%	39%	>1%	>1%	20%		27%	

SOURCE: City of Vancouver

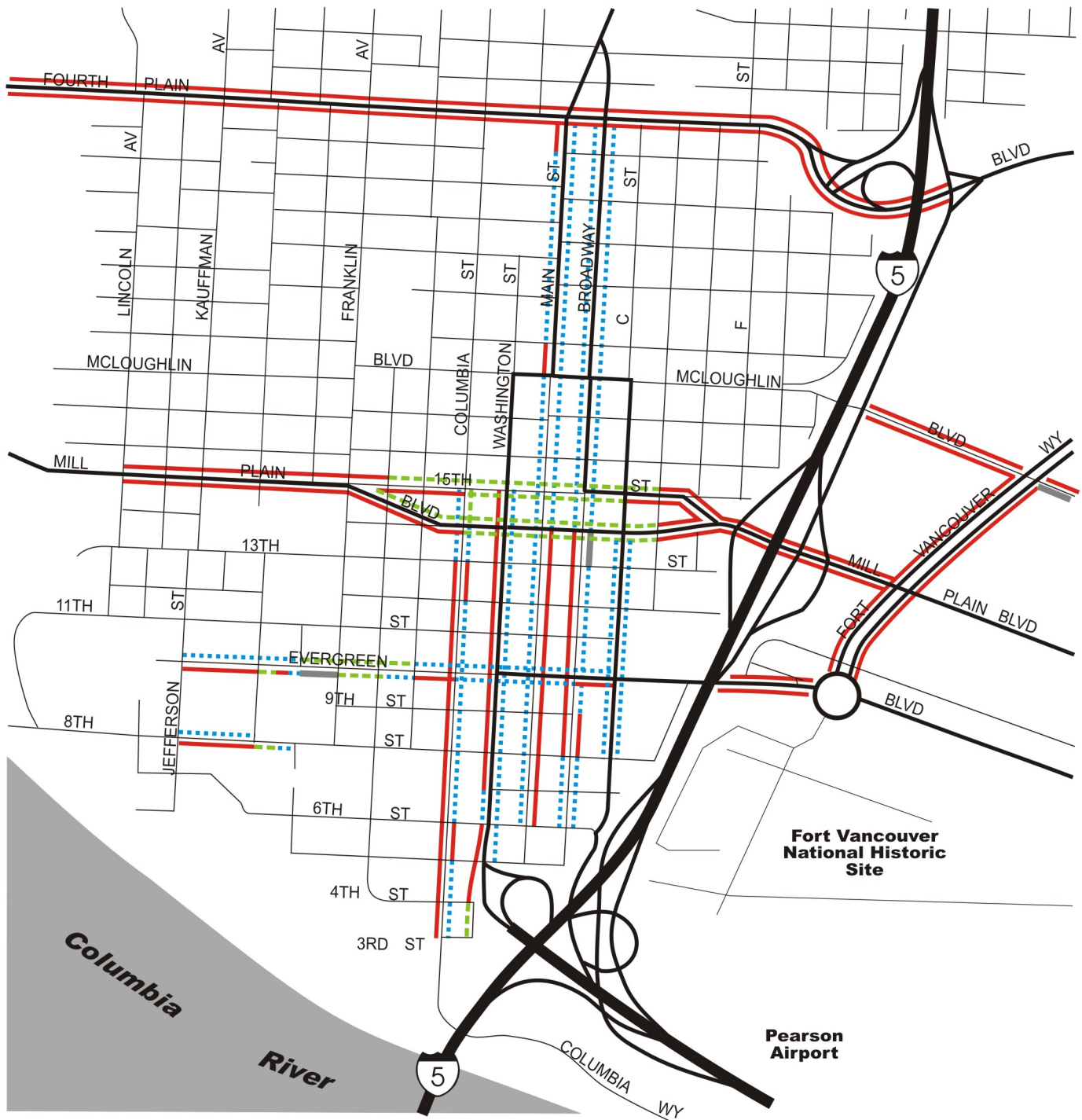
An inventory was conducted along key study area roadways (primarily north and south) to determine where on-street parking existing based on four categories: no parking, short-term metered (2 hours or less), long-term metered (more than 2 hours) and non-metered parking. Figure 7-2 shows the existing on-street parking supply on key roadways in the study area. The parking meters are operational from 8:00 AM to 6:00 PM on weekdays, excluding holidays.

Generally, short-term meters are available on Columbia Street, Washington Street, Main Street, and Broadway Street in the downtown core (south of 15th Street) on at least one side of the street, with restricted parking on the other side. Long-term parking is available along the Mill Plain Boulevard/15th Street couplet between C Street and Esther Street and a few sporadic block segments along Evergreen Boulevard west of Esther Street and 3rd Street. On-street parking is also restricted along Fourth Plain Boulevard and the study area street segments east of I-5.

The majority of on-street parking in the downtown area is approximately 50% occupied during the day. This occupancy rate was observed while conducting fieldwork for the existing on-street parking type during June 2006. This occupancy observation was only for key roadways in the study area and did not include all roadways. Other roadways in the study area may have a higher or lower parking occupancy than that which was observed on the key roadways in the study area.

Forecasted Conditions and Future Needs

The amount of development within the downtown will require additional off-street parking to be supplied. The City of Vancouver has forecasted additional parking to be supplied within the individual sub-areas. The City has also determined this future net new parking supply for the short-term time period (5 years) and the long-term time period (20 years). The supply is based on



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LEGEND

- - No On-street Parking
- ⋯ - Short-term (> 2 hours) On-street Parking
- ⋯ - Long-term (> 2 hours) On-street Parking
- - Parking Allowed (no meter)



Information Sources: DKS Associates

EXISTING ON-STREET PARKING FACILITIES

the level of forecasted development to occur within each district for each time period. Figure 7-3 shows the locations of this additional off-street parking, while Table 7-3 summarizes the supply of parking within each sub-district.

Table 7-3: Future Net New Off-street Parking Supply by District

Sub-district	Existing Parking Supply	Short-term Net New	Long-term Net New	Total Parking Supply
North Main	1,515	0	135	1,650
Mill Plain	1,094	460	851	2,405
Central Downtown	2,979	1,067	1,714	5,760
West Government	1,242	613	772	2,627
Esther Short	1,568	1,839	1,831	5,238
Renaissance	1,327	1,462	3,328	6,117
TOTALS	9,725	5,441	8,631	23,797

SOURCE: City of Vancouver

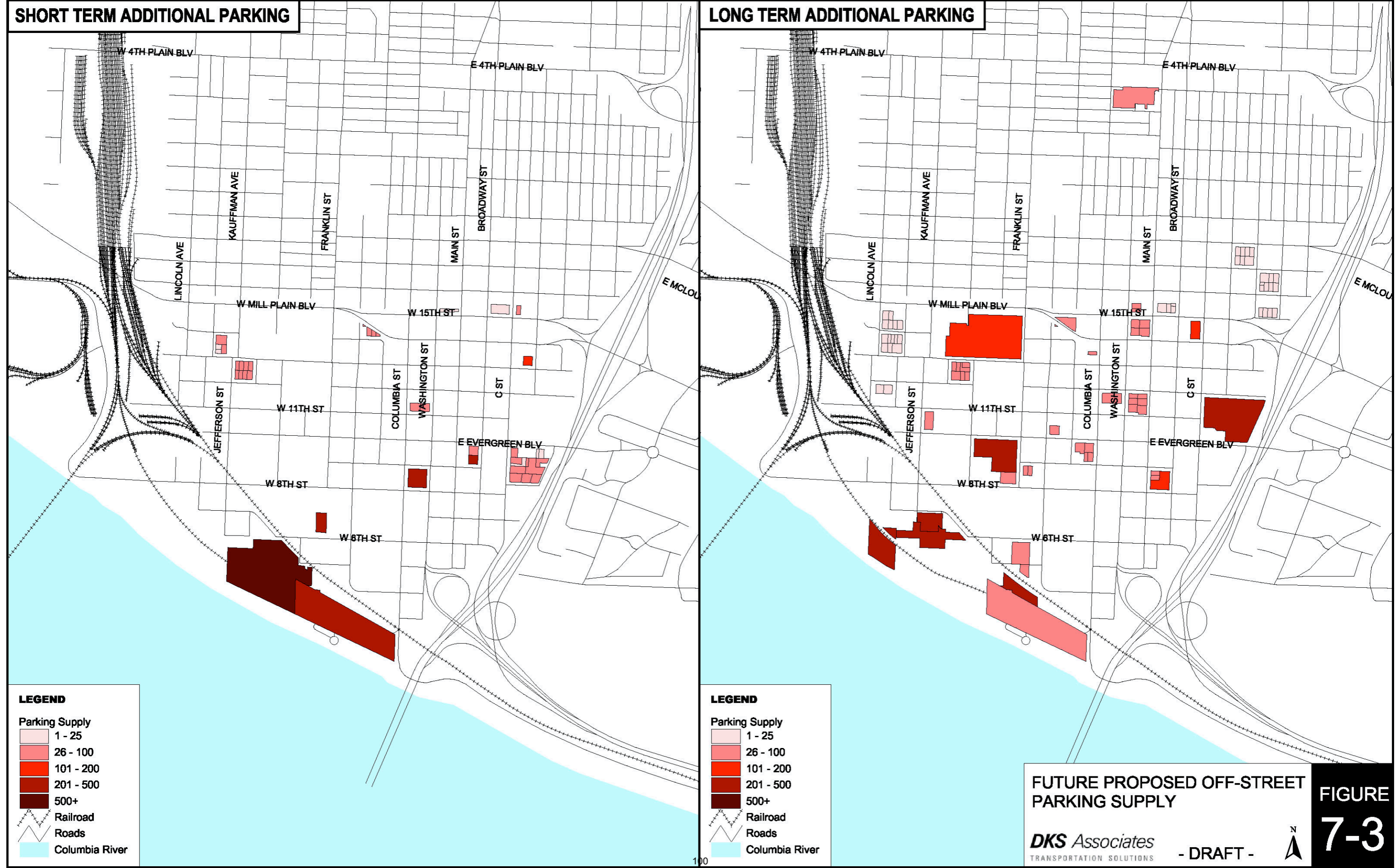
Based on the total net new parking to be added to the existing supply, the downtown area is expected to increase their parking supply over the next 20 years by approximately 14,070 parking spaces, which is an increase from existing by approximately 144%. The biggest areas for increase are Central Downtown, Esther Short and Renaissance districts.

The added supply of parking does have some specific needs related to access to off-street parking facilities. Large off-street parking garages or surface lots can cause potential access and queuing problems. The following design criteria should help to guide the future design of each facility to minimize on-street impacts:

- Parking garages and/or surface lots greater than 400 parking spaces should have two access points for ingress/egress. Having multiple access points allows the opportunity to minimize potential queuing on-street to access the garage, or queuing within the facility itself.
- Parking facilities with two access points should plan for the access points to be on different streets to help spread/disperse the traffic to/from the facility and not overload one street with multiple access points.
- Special consideration should be given to the ingress and egress of parking facilities based on the type of parking they serve (short or long term parking) and the potential service rate that vehicles can gain entry or exit the facility. For example, vehicles that have a monthly pass that can be read by a magnetic swipe card can discharge much faster to the street network (when leaving) than vehicles that must stop and pay in person with a cashier. The faster vehicles can enter a facility the faster they are off the street network freeing up capacity on the street, however the faster they can leave a facility then the faster they can consume available capacity on the street network. Table 7-4 can be used as a guideline for the vehicle service rate based on the type of entry/exit for vehicles.

SHORT TERM ADDITIONAL PARKING

LONG TERM ADDITIONAL PARKING



LEGEND

Parking Supply

- 1 - 25
- 26 - 100
- 101 - 200
- 201 - 500
- 500+

Railroad
 Roads
 Columbia River

LEGEND

Parking Supply

- 1 - 25
- 26 - 100
- 101 - 200
- 201 - 500
- 500+

Railroad
 Roads
 Columbia River

FUTURE PROPOSED OFF-STREET PARKING SUPPLY

DKS Associates
TRANSPORTATION SOLUTIONS

- DRAFT -

FIGURE 7-3



Table 7-4: Parking Facility Vehicle Service Rates Based on Entry/Exit Controls

Type of Control	Average Headway (Sec/Veh)	Service Rates	
		Design (Veh/Hr)	Maximum (Veh/Hr)
Entering Facility			
<i>No control</i>	3.6	800	1,000
<i>Ticket dispenser, no gate</i>	5.0	575	720
<i>Time stamp and hand to driver</i>	8.5	340	425
<i>Coded card operated gate</i>	8.9	340	425
<i>Cashier, flat fee no gate – no communication</i>	9.2	310	390
<i>Cashier, flat fee no gate – with communication</i>	14.8	195	250
<i>Ticket dispenser with gate</i>	9.5	305	380
<i>Coin operated gate</i>	20.4	140	175
Exiting Facility			
<i>No control – light street congestion</i>	7.2	400	500
<i>No control – moderate street congestion</i>	9.0	320	400
<i>Coded card/token operated gate</i>	9.0	320	400
<i>Cashier, flat fee with gate</i>	13.4	215	270
<i>Cashier, variable fee with gate</i>	19.5	150	185
<i>Coin operated gate</i>	20.4	140	175

SOURCE: *Municipal Parking Planning and Management*, Barton-Aschman Associates Inc., April 1982

The rates in this table should be considered when new parking facilities are being planned, so that the rate at which vehicles access the facility, or discharge from the facility, does not adversely impact the roadway network or surrounding intersections.

- If slower vehicle service rates are being implemented for entry into a parking facility, special consideration should be made to move the “interaction point” (area where vehicles are making a transaction) further into the facility to allow additional vehicles to enter and store within the facility while waiting to be serviced, rather than storing on public right-of-way which creates queues and is a potentially unsafe situation.
- Parking facilities should designate approximately 15% of their total supply of parking to carpool/HOV parking to encourage ridesharing and try to reduce the potential for single occupancy vehicle trips.
- Where possible, parking facilities should support shared parking uses to help minimize impacts to surrounding on-street parking uses.
- New shared (or common) parking facilities should be located within reasonable parking distances for the land uses they are supporting. For short-term parking (typically servicing retail environments) the facility should be within 500 feet, and for long-term parking (typically supporting office/commercial land uses) the facility should be located within 1,000 feet. The new parking facility should also not be located where it would compete with underutilized existing parking supply.

APPENDIX D: Port of Vancouver

Project Descriptions

COLUMBIA GATEWAY

RAIL ACCESS PROJECT

Port of Vancouver Columbia Gateway and Rail Access Project Descriptions

The Port of Vancouver (Port) provided comments on the City of Vancouver (City) Vancouver City Center Vision Environmental Impact Statement (EIS). The Port's comments indicated that old descriptions of the Port's Columbia Gateway site and rail projects were referred to in the EIS. The following information provides up-to-date information on the current project descriptions and National and State Environmental Policy Act (NEPA and SEPA) compliance. For additional information about the projects, please refer to the Port's website at: <http://www.portvanusa.com/property/columbiagateway.html>

The Port owns approximately 1,059 acres comprising Parcels 3, 4, and 5, known as Columbia Gateway, which are located south of SR 501 (Lower River Road) in the City. The Port originally proposed the development of Parcel 3 of Columbia Gateway to include a rail and road component. In April 2006, the Port and lead federal agencies made a collective decision to change from a Habitat Conservation Plan approach to an ESA Section 7 consultation through the Clean Water Act 404 permitting process. As a result, an agreement was reached that the US Army Corps of Engineers (Corps) is the lead federal agency for the project.

At the same time, the draft traffic analysis for the build-out of the Columbia Gateway site had been completed and its results showed that, although the Columbia Gateway build-out would create traffic impacts, they could be mitigated by improvements to existing roadways. The extension of NW 26th Avenue would not be necessary to offset the traffic impacts from build-out of Parcel 3. The Port held discussions with the Federal Highway Administration (FHWA) and City on funding and other issues related to the road. As a result of the traffic analysis and those discussions, the road improvement is now moving forward as a separate project under a different NEPA process with FHWA as the lead federal agency and the City as the applicant.

As the Port continued to examine the rail component and the needs of its existing tenants, it became apparent that rail improvements would be needed to serve the tenants within the existing Port facilities, regardless of the development of Parcel 3. The rail improvements within the existing Port facilities are also moving forward as a separate project under a separate NEPA process with FHWA performing as the funding and lead federal agency and the Port as the applicant.

Current descriptions of these Port projects are provided below.

Columbia Gateway Site Project

The Port is proposing to develop its Columbia Gateway (Parcel 3) for marine and light industrial uses. Mitigation and habitat creation for impacts on Parcel 3 would be developed on Parcels 4 and 5. The proposed project would also include constructing a turning basin adjacent to the Columbia River navigation channel and constructing two to three marine terminals in the river. The Port is currently preparing a NEPA EIS for Columbia Gateway. The Corps is the lead agency for the NEPA EIS. A scoping meeting has been held, and the EIS is being prepared. The NEPA EIS is also intended for use during SEPA compliance for state and local permitting.

POV Rail Access Project

Presently, the existing Port rail facilities extend from the Burlington Northern Santa Fe Railway (BNSF) mainline to the Hill Track on Port property and terminate at Gateway Avenue at the Port's Terminal 4. The Port is proposing to construct a rail access project to allow for industrial and economic development. Rail access improvements to the Port have several project elements.

Schedule 1 begins in the vicinity of the BNSF Mainline near Esther Street to the west of the Boise property. This project will require SEPA compliance.

The remaining Schedules 2 through 4 include a rail access line between the Port's existing facilities and the BNSF mainline, and extend the tracks to Old Lower River Road to create better rail access for the Port's existing clients and redevelopment within the existing Port facilities.

The rail improvements within the existing Port facilities are a separate project under a separate NEPA process, with FHWA performing as the funding and lead federal agency with the Port as the applicant. NEPA compliance is beginning for this project. Separate SEPA compliance will also be completed as required.