

Existing Mobility Conditions Summary

Westside Mobility Strategy

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1 Introduction

The City of Vancouver's west side neighborhoods serve a mix of residential, industrial and commercial land uses, each of which are expected to grow in the next 20 years. The mix of trip types generated by these land uses presents conflicting interests for the existing transportation network. Industrial and freight vehicle trips through residential neighborhoods coupled with short local trips and north-south diversion traffic from I-5 congestion have been identified as major mobility issues. Despite these challenges, the historic grid pattern of interconnected streets provides opportunities to promote a safe and efficient multi-modal transportation network as the area continues to grow. The Westside Mobility Strategy project is aimed at developing strategies that will:

- Preserve livability of residential neighborhoods.
- Contribute to the revitalization and livability of the Downtown core.
- Address conflict areas within the transportation network.
- Manage increases in traffic as the Port of Vancouver (Port), industrial, residential and commercial areas continue to develop.
- Improve safety for pedestrians and bicyclists, especially in the Downtown and along north-south routes.
- Manage freight traffic on roadways abutting residential areas.

This report provides the context needed to better understand the existing land use and transportation factors that lead to study area mobility challenges. This comprehensive look at existing land uses and traffic patterns complements the Future Mobility Conditions Summary. The Future Conditions Mobility Summary provides a 20-year look into the future to evaluate the projected traffic demand on the west side street network.

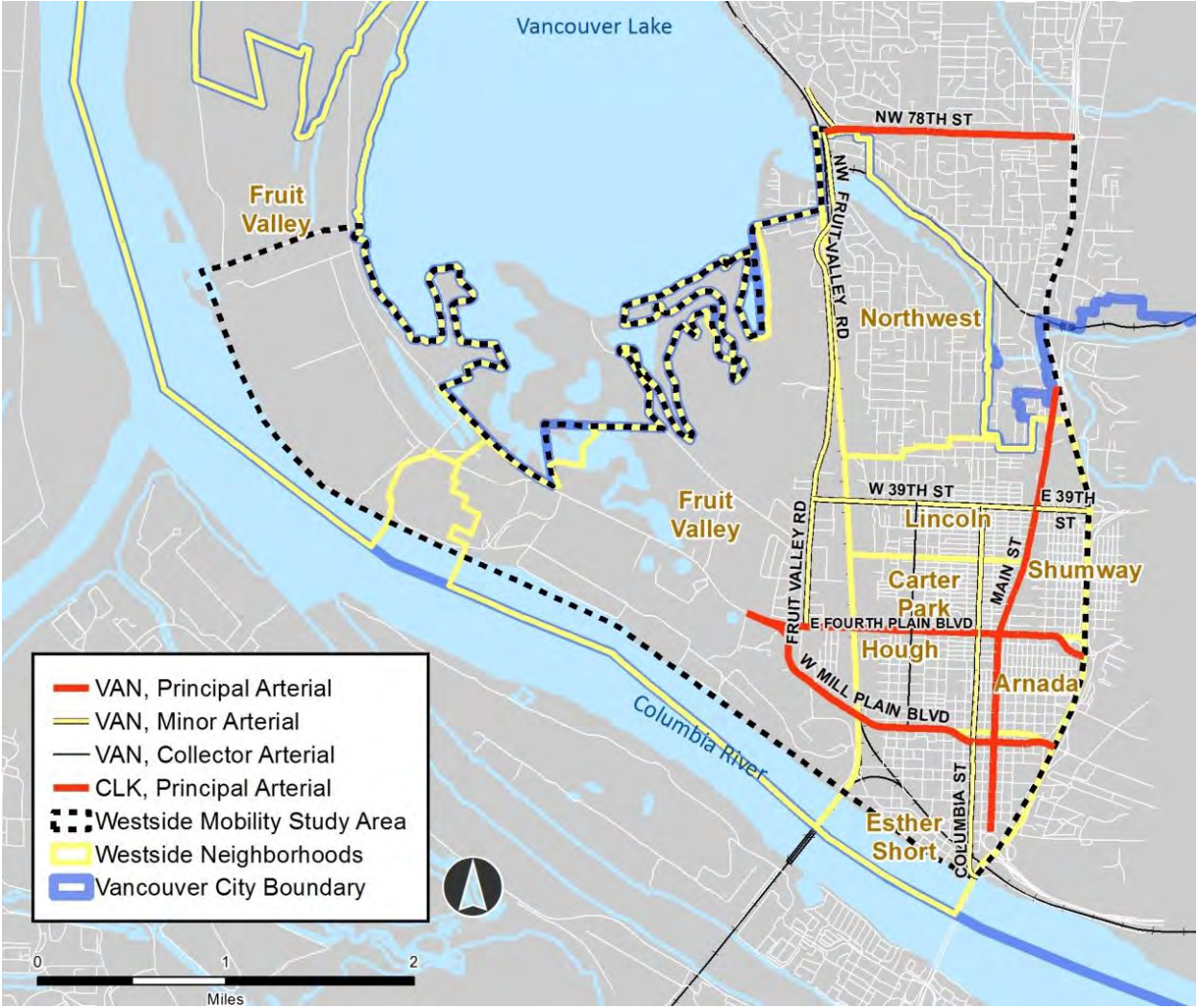
2 Project Background

The City of Vancouver is located on the northern shore of the Columbia River in Clark County, Washington. The city encompasses approximately 49 square miles with a population of 169,000¹. Vancouver serves as the southern gateway to and from the state of Washington into the Portland, Oregon metro area via the Interstate 5 (I-5) and Interstate 205 (I-205) corridors.

West of the I-5 corridor, the City of Vancouver has diverse land uses that encompass neighborhoods, businesses, government services, and industry. Figure 1 shows the project study area in reference to the surrounding region. Four primary east-to-west roadways in the project study area—78th Street (Clark County), 39th Street, Fourth Plain Boulevard, and Mill Plain Boulevard—connect I-5 to the industrial areas of the Port, but also act as primary connections into Downtown Vancouver from I-5. A part of the west side study area, north of the City of Vancouver, lies within Clark County. 78th Street is included because it is a major east/west route between I-5 and western industrial areas. The west side also serves local and regional commuter travel on several north-to-south corridors including Main Street, Washington Street, Broadway Street, Columbia Street, Lincoln and Kaufman Streets, and Fruit Valley Road. This results in conflicts between the multi-modal travel environment of the downtown area and west side residential neighborhoods with east-west freight travel to and from the industrial area and I-5.

¹2011 U.S. Census

Figure 1. Westside Vancouver Study Area



3 Study Area Land Uses

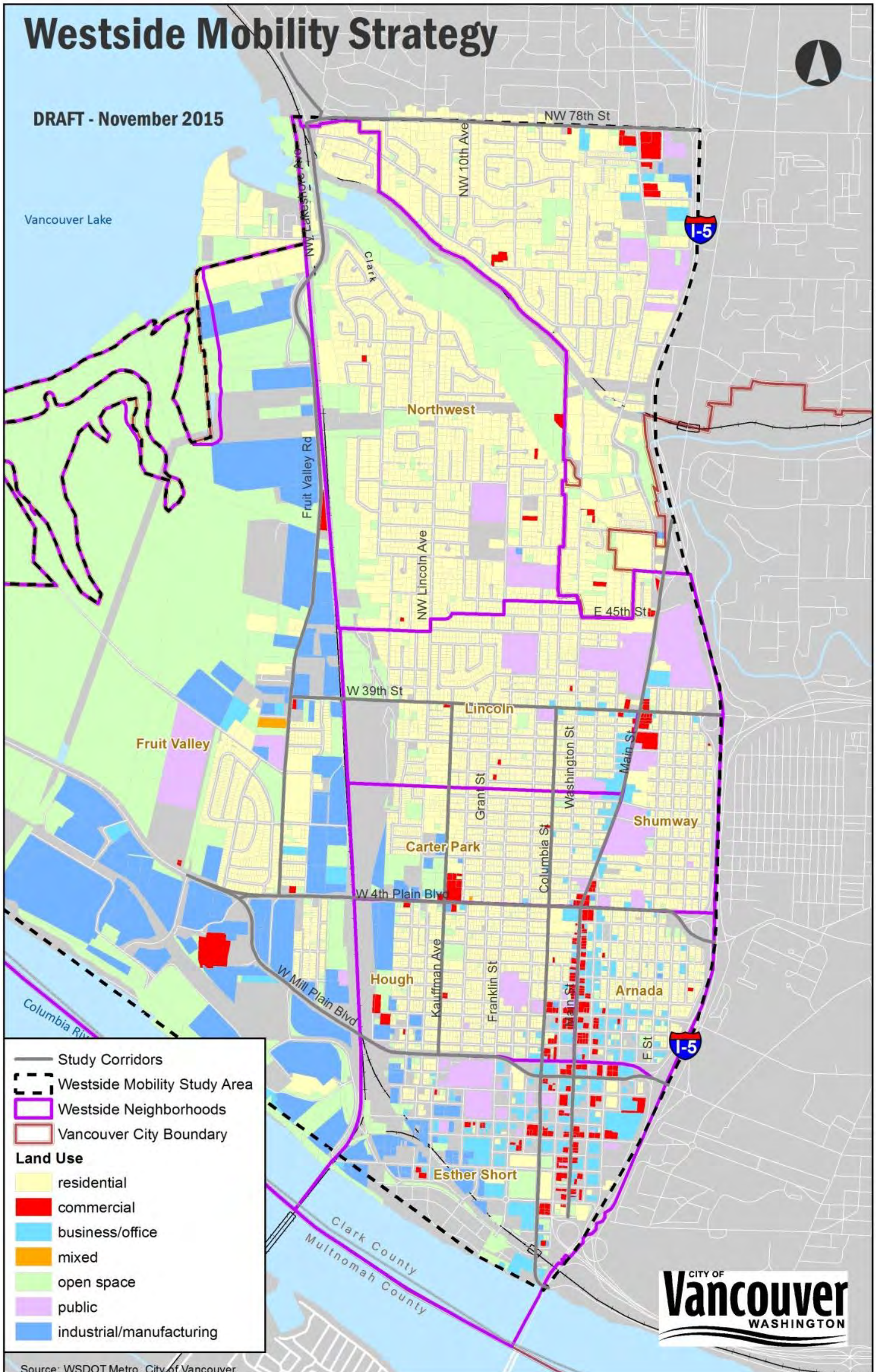
Vancouver's west side is a large geographical area with a diverse mix of land uses. This section documents the existing land use and economic development conditions for the west side of Vancouver. The patterns of land use provide the context to better understand the dynamics of a circulation system with many different trip types.

Figure 2 illustrates the current land use patterns in the study area. The three major land uses in the study area include:

- **Residential neighborhoods:** generally low density residential with a mix of commercial and higher density residential uses along the Main Street corridor
- **Downtown and Columbia Waterfront:** a mix of medium to high density commercial and residential uses
- **Western Industrial Area:** primarily low to high density industrial uses, includes the Port.

In addition to these active land use areas, there are dispersed pockets of undeveloped land which are expected to contribute to the planned growth in the study area.

Figure 2. Westside Vancouver: Existing Land Use²



² Clark County GIS, City of Vancouver, Leland Consulting Group

3.1 Citywide Strategic Goals

In 2015, the Vancouver City Council identified a series of preliminary strategic goals which provide direction on growing a more vibrant, safe, welcoming, and prosperous city. The west side of Vancouver is a location area where city leaders and citizens can actualize these goals by enhancing the livability of the area.

The city council has developed policy goals that are broken down into six categories. More details on these goals can be found on their website.³

- Street Funding
- Affordable Housing Policy
- Waterfront Park and Waterfront development
- Traffic and Community Safety
- Welcome people of all cultures and heritages
- Be the most connected community in the region

For example, the west side offers the opportunity to further “create strong, distinctive, and livable neighborhoods,” and also to “build the strongest, most durable economy in the region.” In particular, the west side contains:

1. Vancouver’s greatest concentration of jobs, and current and future locations of mixed-use urban development (Downtown and Waterfront);
2. Vancouver’s largest concentration of industrial jobs (Port and industrial area);
3. Some of Vancouver’s most desirable residential neighborhoods, whether measured by walkability or real estate metrics such as home values.

3.2 Future Development and Infill Areas

Interviews with project stakeholders and a review of development activity and real estate development trend data indicate that some areas in Vancouver’s west side are likely to change significantly over the next two decades. Others locations are more likely to retain their current character and/or change incrementally. Additional details on the impacts to study area mobility are provided in the Future Mobility Conditions Summary.

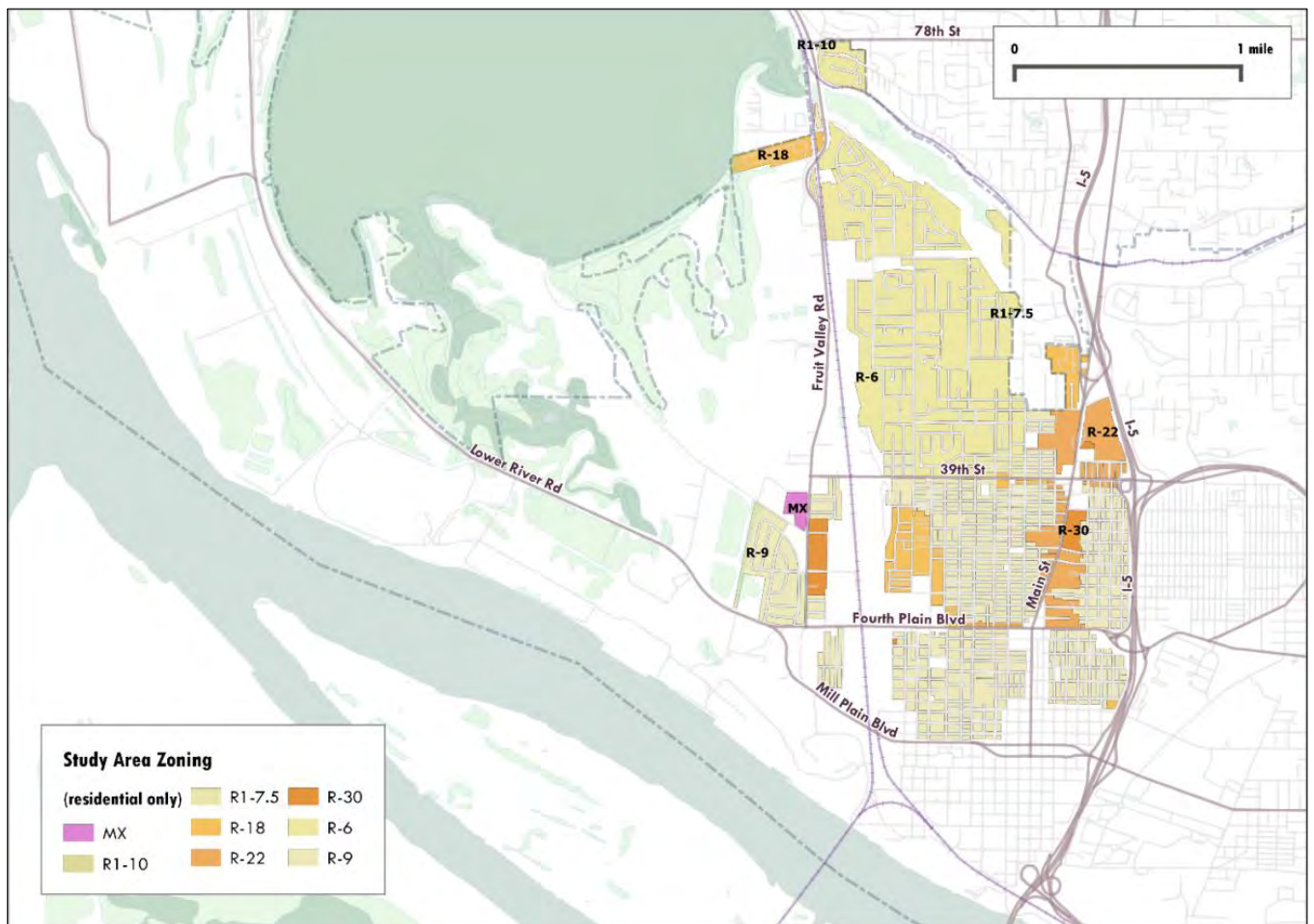
³ <http://www.cityofvancouver.us/citycouncil/page/city-council-2015-policy-goals>

3.3 Residential Neighborhoods

Vancouver's westside neighborhoods are the city's oldest residential neighborhoods. The city grew from Fort Vancouver east of I-5 and Downtown, both near the Columbia River, along historic streetcar lines. Figure 3 shows the residential land use zones. As stated previously, less change is anticipated in these areas when compared with the Downtown, Columbia Waterfront, Port, and Industrial Areas.

Amenities and attractions to the area include its walkability (particularly south of 39th Street); schools; parks; access to jobs in Downtown Vancouver, The Port, and other locations; easy access to commercial areas including Uptown Village, Main Street, and other parts of Downtown.

Figure 3. Neighborhoods/Residential Zones⁴



The majority of the study area consists of the following eight neighborhoods⁵ within Vancouver:

- Northwest
- Lincoln

⁴ Clark County GIS, City of Vancouver, Leland Consulting Group

⁵ <http://www.cityofvancouver.us/cmo/page/neighborhoods>

- Fruit Valley
- Shumway
- Carter Park
- Arnada
- Hough
- Esther Short (referred to in this report as Downtown and Columbia Waterfront)

Photo 1 shows images that are representative of the westside Vancouver residential neighborhoods, which include older homes, walkable neighborhoods, and main street commercial areas.

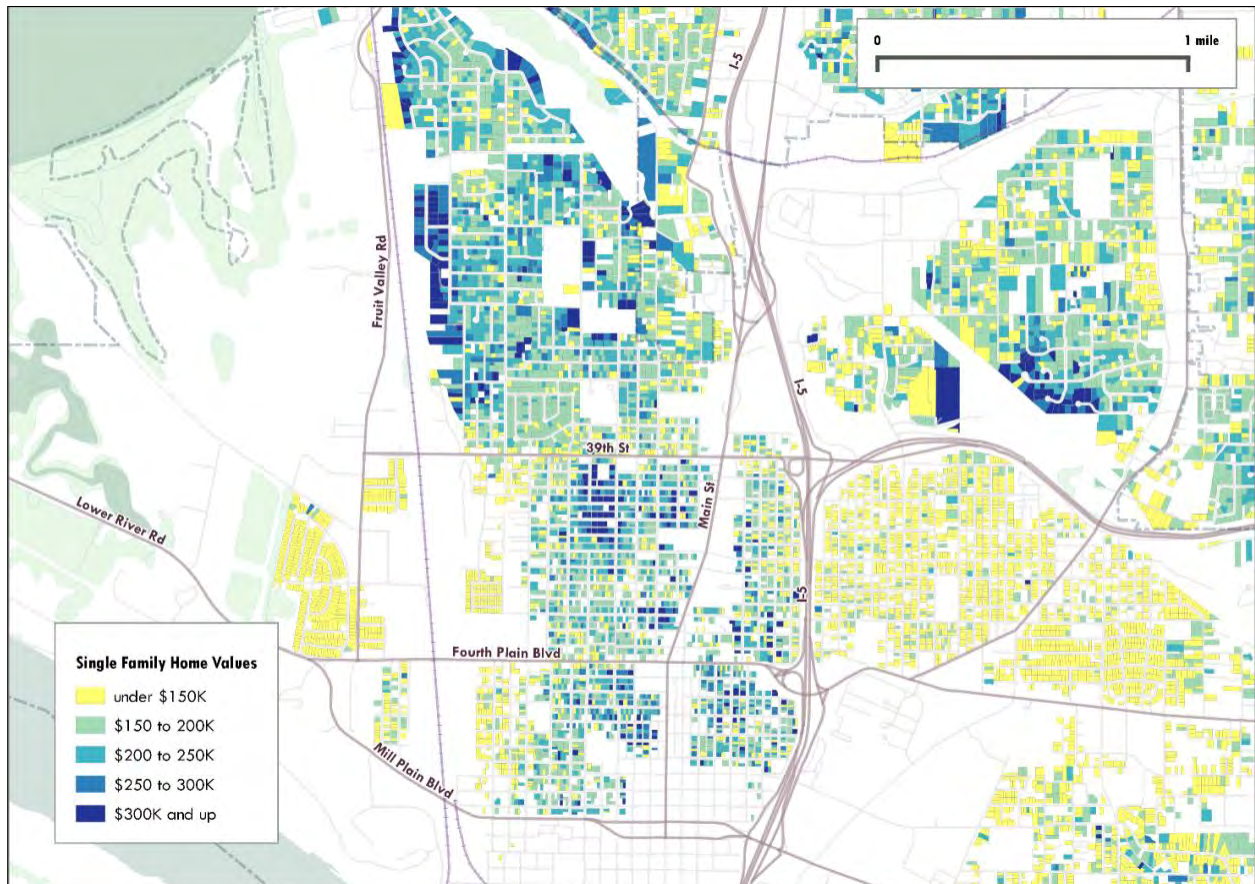
Photo 1. Study Area Neighborhoods – Representative Images



Figure 4 shows the value of homes in western Vancouver as estimated by the Clark County Assessor. Despite their age (generally older homes) and size (both lots and homes on the westside tend to be smaller than the more recently built homes in eastern Vancouver), the home values are relatively high, particularly north of 39th Street and South of 39th Street between Kauffman Avenue and I-5. Home value is generally correlated with neighborhood desirability, and thus indicates that portions of westside

areas tend to be more desirable than those in the central and southern parts of the City and east of I-5. Clusters of higher home values can be seen near specific amenities such as Hidden Park (just south of 39th Street) and areas with western views (in the Northwest neighborhood, above the bluff and rail line) of the Columbia River and beyond.

Figure 4. Single Family Home Values⁶



3.4 Downtown and Columbia Waterfront

Downtown Vancouver is the center for local and regional government (including City and County governments and the regional planning organization), culture, and social gatherings. Many large gatherings, such as the Farmers' Market and festivals, take place in Esther Short Park (Photo 2). Downtown is also a major center for employment, housing (including urban condominiums and apartments), retail, lodging, and conferences.

Figure 5 illustrates the concentration of primary jobs⁷ in the city based on 2011 U.S. Census data. Downtown has the single highest concentration of employment, followed by the Main Street corridor and the westside industrial area. According to the Southwest Washington Regional Transportation Council (RTC), approximately 18 percent of all City of Vancouver jobs are located in the westside, and 13 percent of all households are

⁶ Clark County GIS, Leland Consulting Group

⁷ Figure 5 shows primary jobs rather than all jobs. In some instances, people hold more than one job, and the primary job represents the largest source of income. It also does not show secondary jobs (typically on-site or indirect jobs).

located in the westside (see Table 1). This places pressure on the main east-west and north-south roadways discussed in this report.

Photo 2. Esther Short Park in Downtown Vancouver⁸



Table 1. Jobs and Housing in Downtown, Westside, and City of Vancouver, 2010⁹

Demographic	Downtown		Westside		City
	Count	Share of City Total (%)	Count	Share of City Total (%)	Count
Jobs	7,679	8%	16,496	18%	92,284
Households	907	1%	9,347	13%	72,342

Figure 6 shows office buildings in Vancouver based on data from CoStar commercial real estate company. Downtown and the Main Street corridor have a major concentration of employment availability. These areas will continue to grow as office space is occupied with additional employment.

Photo 3 and Photo 4 highlight two projects that illustrate current development trends in Downtown Vancouver. The first is the 101 Building, an office building now being built by Killian Pacific developers at Main and Sixth Streets. The 101 Building is the first new office building to be built in Downtown since The Columbian Building (now City Hall) was completed in 2007. The second is the South Tower, a mixed-use apartment and retail project that will be located about one block from the 101 Building; ground breaking is

⁸ <http://mmmla.org/conferences/conf13Vancouver/>

⁹ Source: Southwest Washington Regional Transportation Council (RTC).

anticipated in 2015. South Tower is one of a number of apartment projects being proposed for Downtown and Uptown Village. Others include the 15 West affordable apartments, Uptown (proposed), and The Esther (proposed). These projects share some attributes: quality design, orientation to residents and tenants seeking urban living and working environments, support of Downtown revitalization and mobility goals, and three and six stories in height.

Photo 3. Representative Downtown Projects: The 101 Building Offices¹⁰



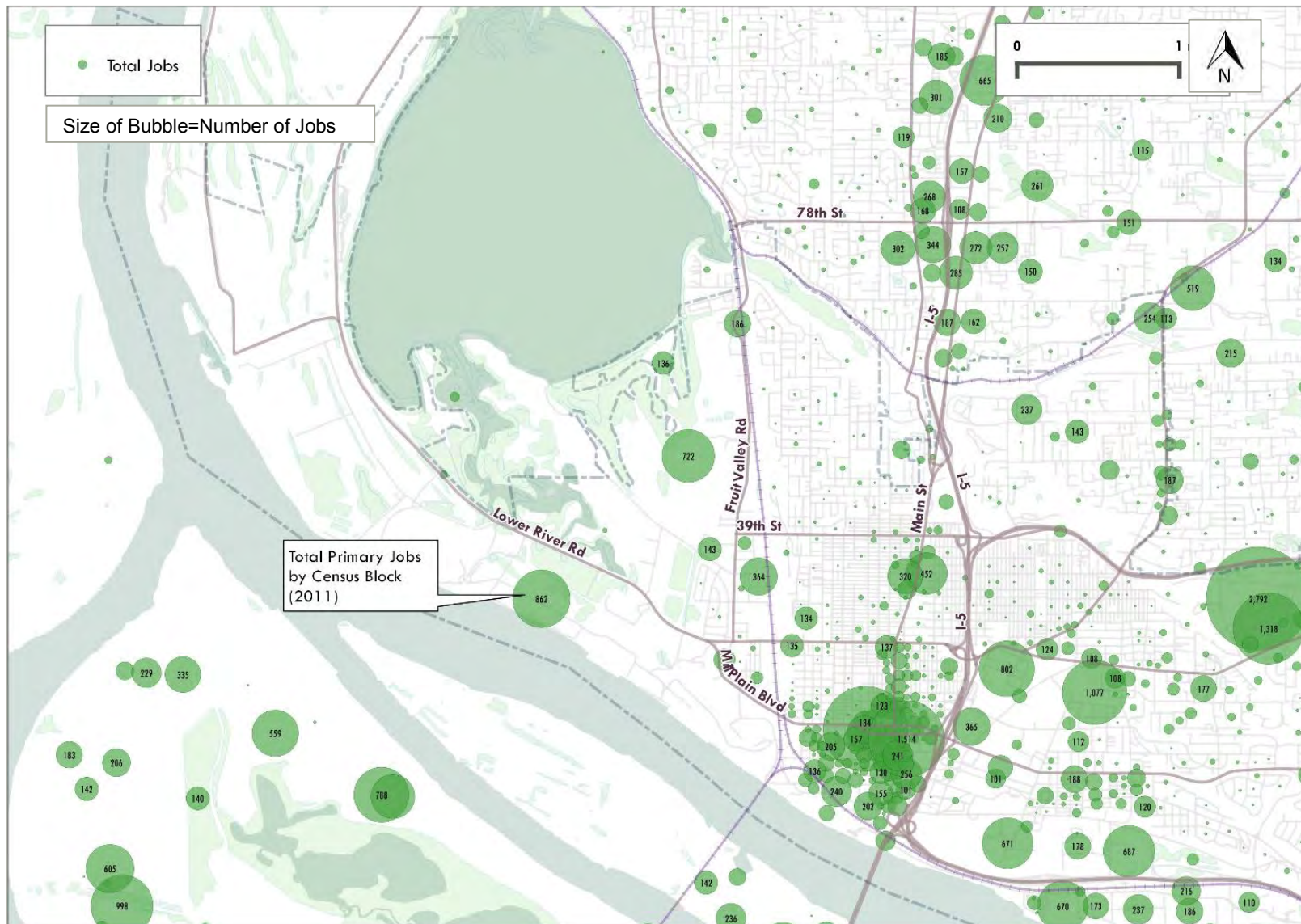
Photo 4. Representative Downtown Projects: Vancouver Center South Tower (Proposed)¹¹



¹⁰ Killian Pacific, Vandevco

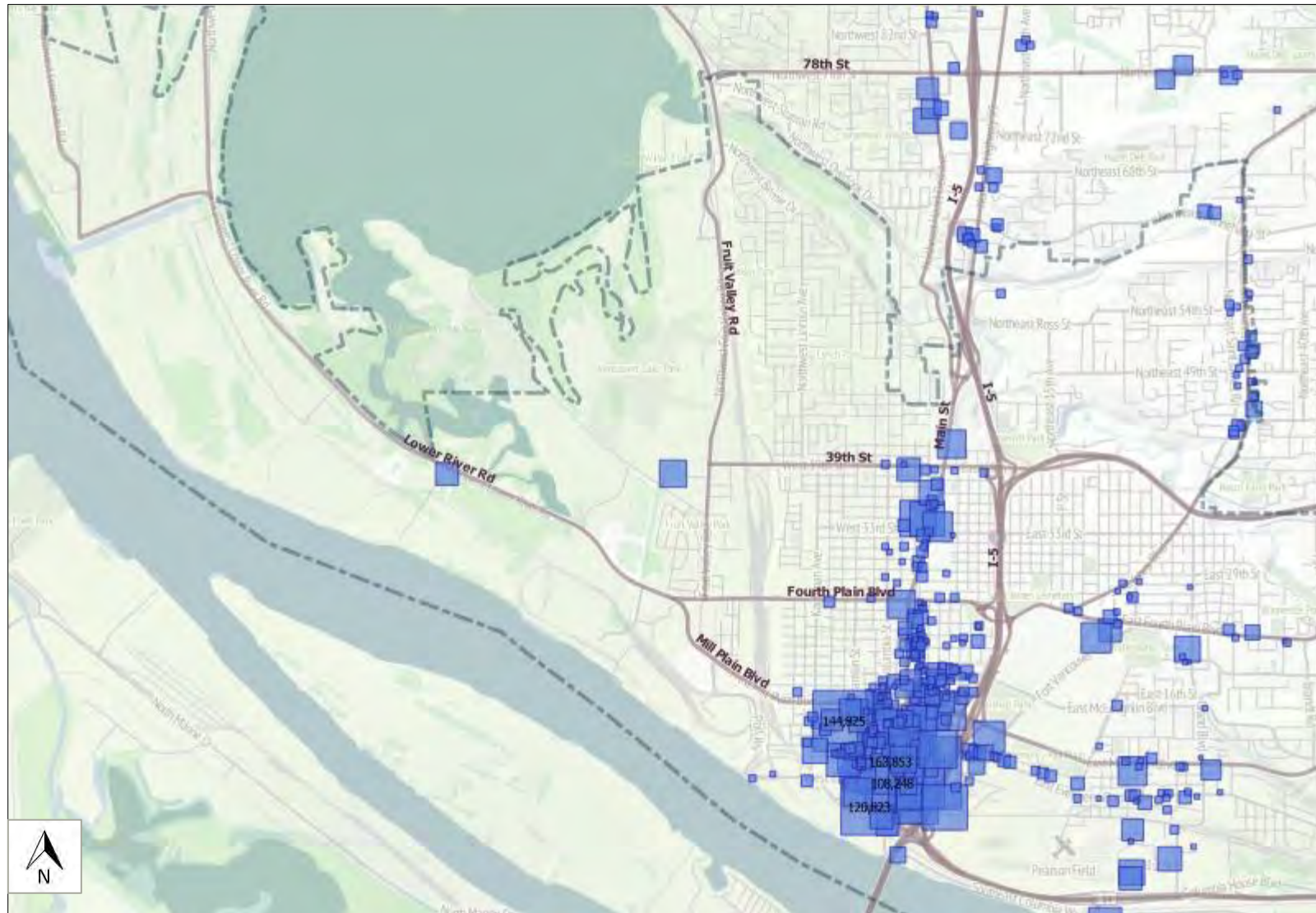
¹¹ Killian Pacific, Vandevco

Figure 5. Total Primary Jobs, by Census Block (2011)¹²



¹² Source: Census LED, 2011, Total Employment. Numbers show employment and are centered at the middle of each Census Block.

Figure 6. Office Buildings, by Square Footage¹³



¹³ CoStar, Leland Consulting Group

The Columbia Waterfront is expected to contribute significant employment and housing growth to the Westside Vancouver area. For example, Columbia Waterfront LLC's plans (shown in Figure 7) call for between 580,000 and 1,100,000 square feet of new office/commercial space, whereas there is currently 913,000 square feet of Class A office space currently in Downtown. In addition, Columbia Waterfront LLC has planned between 2,000 and 3,500 residential units. The master planned development will also include a major city park, plazas, open spaces, restaurants, lodging, and other uses. The Port owns approximately 13 acres of property (including overwater piers) just east of Columbia Waterfront LLC and expects to develop that area as a mixed use complement to the privately developed waterfront to the west. Columbia Way, a public street through the waterfront area, has just completed construction and was opened for traffic on September 24, 2015. Columbia Waterfront LLC has announced that it will break ground on the first phase of building construction in late 2015.

This development will be transformative in its effect on Vancouver residents' ability to access, live, work, and play on the Columbia River waterfront. A traffic impact analysis was completed in conjunction with the Vancouver City Center Vision Plan and the Waterfront Master Plan. The result is an allowance of just under 2,400 PM peak hour trips vested to the Waterfront with minimally acceptable impacts to the downtown transportation network.

Figure 7. Columbia Waterfront Master Plan (maximum build-out shown)¹⁴



3.5 Westside Industrial Area

The Port is one of southwest Washington's primary engines of economic growth (Photo 5). According to the Port's 2011 Economic Impact Analysis and other studies, the following are some of the Port's key impacts:

- **Direct Employment.** More than 2,300 people go to work each day directly for Port businesses, earning an average salary of over \$43,000—nearly \$99 million in total annual personal income for port jobs. These are local jobs, with 75 percent of

¹⁴ Source: Columbia Waterfront LLC

employees living in Clark County. The Port hopes to add thousands of jobs within the next 15 to 20 years as additional maritime and industrial land is developed.

- **Construction Jobs.** The Port's West Vancouver Freight Access rail project will generate over 4,000 construction jobs and more than \$71 million in personal income over the life of the project, which is scheduled to be completed by 2017.
- **Overall Economic Benefits.** Over 15,500 jobs are related to maritime and industrial activities at the Port. Some jobs are created by manufacturers sited on the Port's industrial property. Others are related to the maritime and shipping industries. It is estimated that Port activities inject \$940 million into Clark County business revenue annually, with a total economic impact of \$1.6 billion to the local and regional economy.

Photo 5. Port: Aerial View Looking East (above), Construction on the West Vancouver Freight Access Rail Project (below)¹⁵



Figure 8 shows vacant land in the westside that is zoned industrial (either Heavy [IH] or Light [IL] Industrial) and is currently vacant. Approximately 1,105 gross acres of vacant, industrially zoned land are found in the area. In addition, other industrial properties that are already developed at a low intensity could redevelop, thereby adding more jobs and buildings.

There are fewer net buildable acres of land after wetlands, roads, and other unbuildable areas are deducted from the gross area. It is estimated by the Port that there will be approximately 650 to 800 net buildable acres available for industrial development after these unbuildable areas are accounted for. This represents a major source of employment-zoned land that may be developed during the 2015 to 2035 study time

¹⁵ Images courtesy of Port USA.

frame, and during subsequent decades. The potential growth is documented further in the Future Mobility Conditions Summary.

Figure 8. Vacant Land Zoned Industrial in the Study Area¹⁶

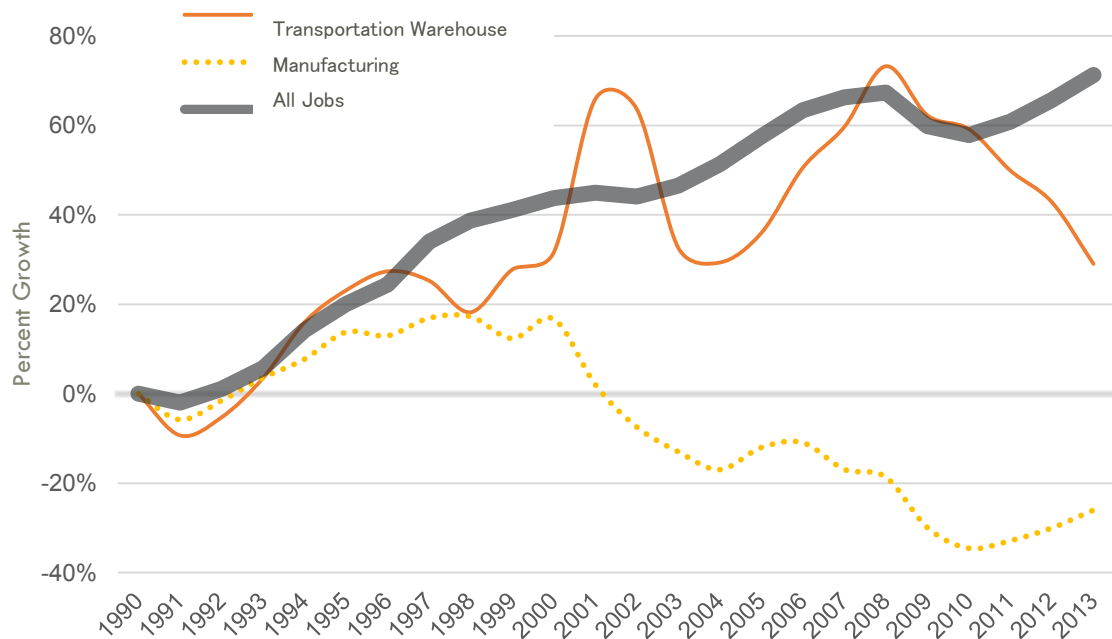


¹⁶ City of Vancouver GIS, Leland Consulting Group

4 Economic Development

Graph 1 shows employment growth in Clark County between 1990 and 2013 within three categories: transportation and warehousing, manufacturing, and all jobs. The first two industry sectors are concentrated in the Port and westside industrial areas (and likely other industrial areas citywide). Transportation and warehousing jobs decreased sharply during the great recession (2008 to 2013). However, they have historically tended to increase along with all jobs and the general economy. Therefore, as the general economy continues to improve, transportation and warehousing jobs and Westside industrial employment in general will continue to increase, particularly given the amount of industrial land available and other competitive advantages.

Graph 1. Clark County Employment Growth, 1990-2013¹⁷

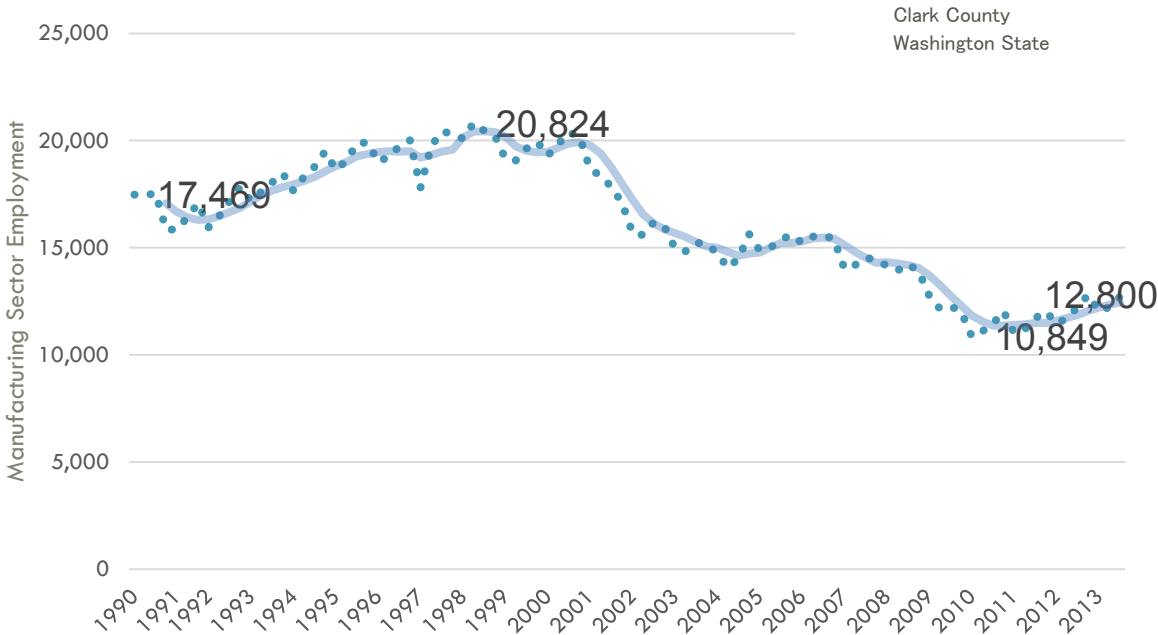


Manufacturing employment in Clark County, the state of Washington and nationwide has gone through a period of general decline in recent decades, but is showing signs of a rebound over the past two to three years (Graph 2). In Clark County, manufacturing jobs went from approximately 17,500 jobs in 1990 to 12,800 by 2013. In that period, jobs peaked around the year 2000 during the hi-tech boom and dropped to below 11,000 in the recent recession.

County manufacturing employment had a stronger and more prolonged boom period from about 1997 to 2001 than the state as a whole, but a greater overall drop, with 2011 recession job counts 37% below 1990 levels (Graph 3).

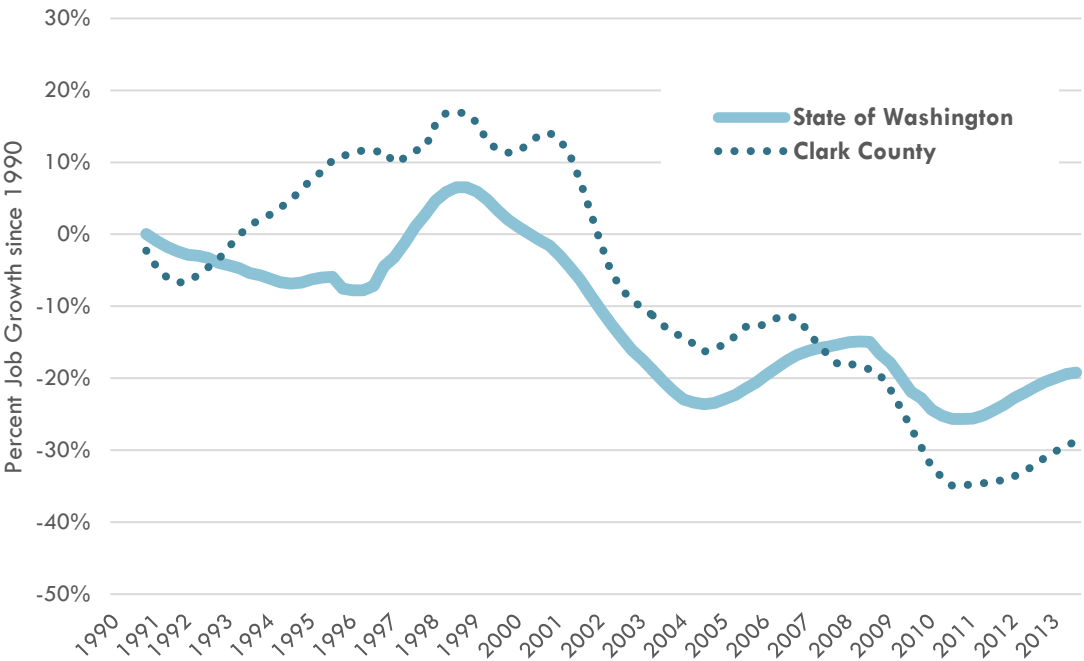
¹⁷ U.S. Census Local Employment Dynamics Data, and Leland Consulting Group. Chart shows cumulative percentage job growth since 1990.

Graph 2. Manufacturing Sector Employment, Clark County, 1990-2013



Source: Washington Employment Security Department, U.S. Bureau of Labor Statistics

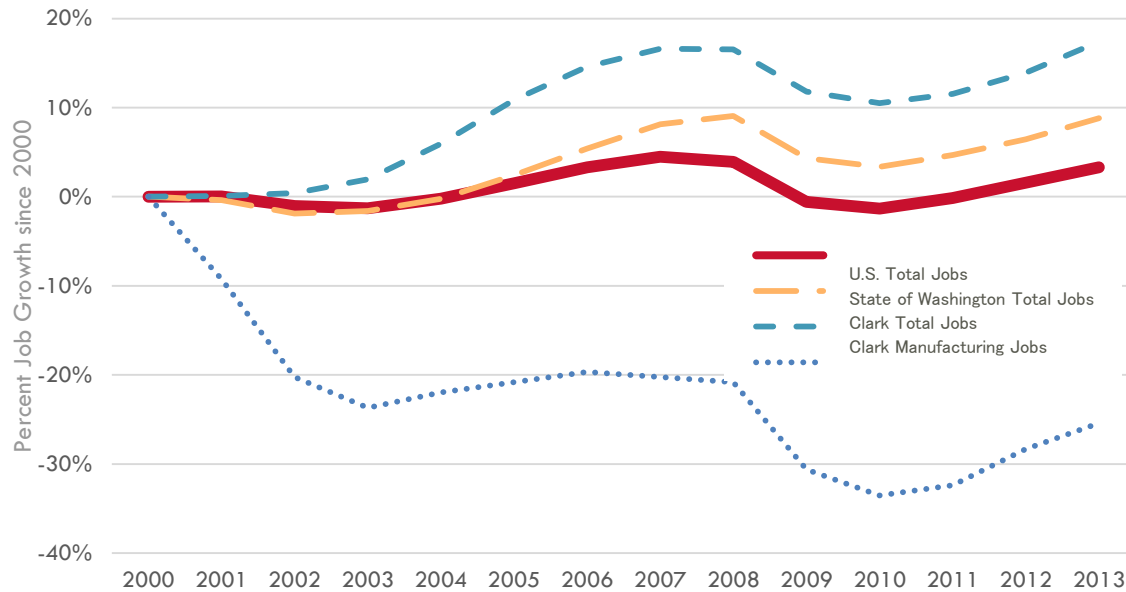
Graph 3. Manufacturing Sector Employment Change, Clark County vs. State of Washington, 1990-2013



Source: Washington Employment Security Department, U.S. Bureau of Labor Statistics

Job declines in manufacturing occurred even more starkly relative to total jobs, shown in Graph 4. While Clark County has outpaced the state and nation in total job growth since 2000, it has been on the strength of non-manufacturing sectors.

Graph 4. Total Jobs (U.S., State of Washington, Clark County) vs. Clark County Manufacturing Jobs, 2000-2013

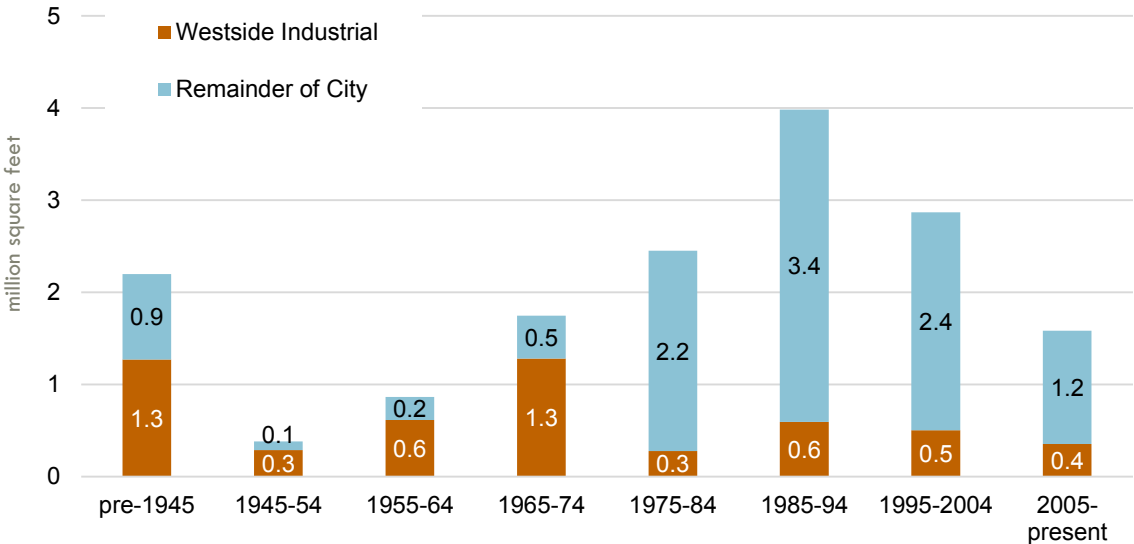


Source: Washington Employment Security Department, U.S. Bureau of Labor Statistics

Graph 5 shows the amount of industrial development (in square footage) over time in the westside and the remainder of the city (other areas). During each of the past three decades, between 400,000 to 600,000 square feet of industrial space has been built in the westside. Today, approximately 32 percent (5.1 million square feet) of all industrial space in the city is located in the westside.

Industrial development has been steady in recent decades. Growth has been at a moderate rate—just over 1 percent per year, or an average of 11 percent per decade. Based on this trend, industrial development and freight traffic may increase at a similar moderate rate in coming decades (assuming that future industrial tenants have rates of freight traffic generation that are similar to current users).

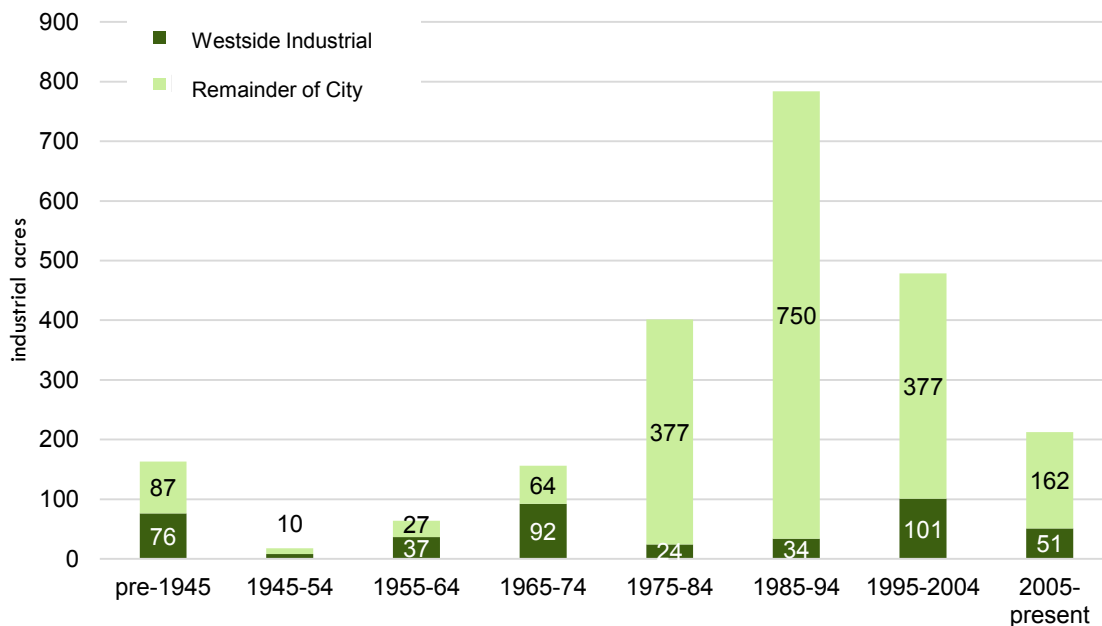
Graph 5. Industrial Construction by Decade, Westside and Remainder of Vancouver¹⁸



¹⁸ Costar, Leland Consulting Group

Graph 6 shows the acreage of industrial land that has been developed in the westside and the remainder of the city (other areas) since the mid twentieth century. The acreage of industrial development in the westside has fluctuated more dramatically over the past three decades than the building area (square footage) shown in Graph 5—the 1995 to 2004 decade saw 101 acres of development in the westside, while significantly less development occurred in the preceding and subsequent decades. Nonetheless, during the past three decades, an average of 62 acres has been developed per decade. Based on this trend, it is anticipated that this approximate pace of development will continue in future decades.

Graph 6. Industrial Acres Developed by Decade, Westside and Remainder of Vancouver¹⁹



As noted earlier, there is an estimated 650 to 800 buildable acres of vacant, industrially zoned land in westside Vancouver. If the historical average of industrial development continues to be between 60-70 acres per decade, there is likely to be enough vacant industrial zoned land for the next 10 decades of development. However, major fluctuations in development demand may affect how long it takes to absorb this land.

¹⁹ Costar, Leland Consulting Group

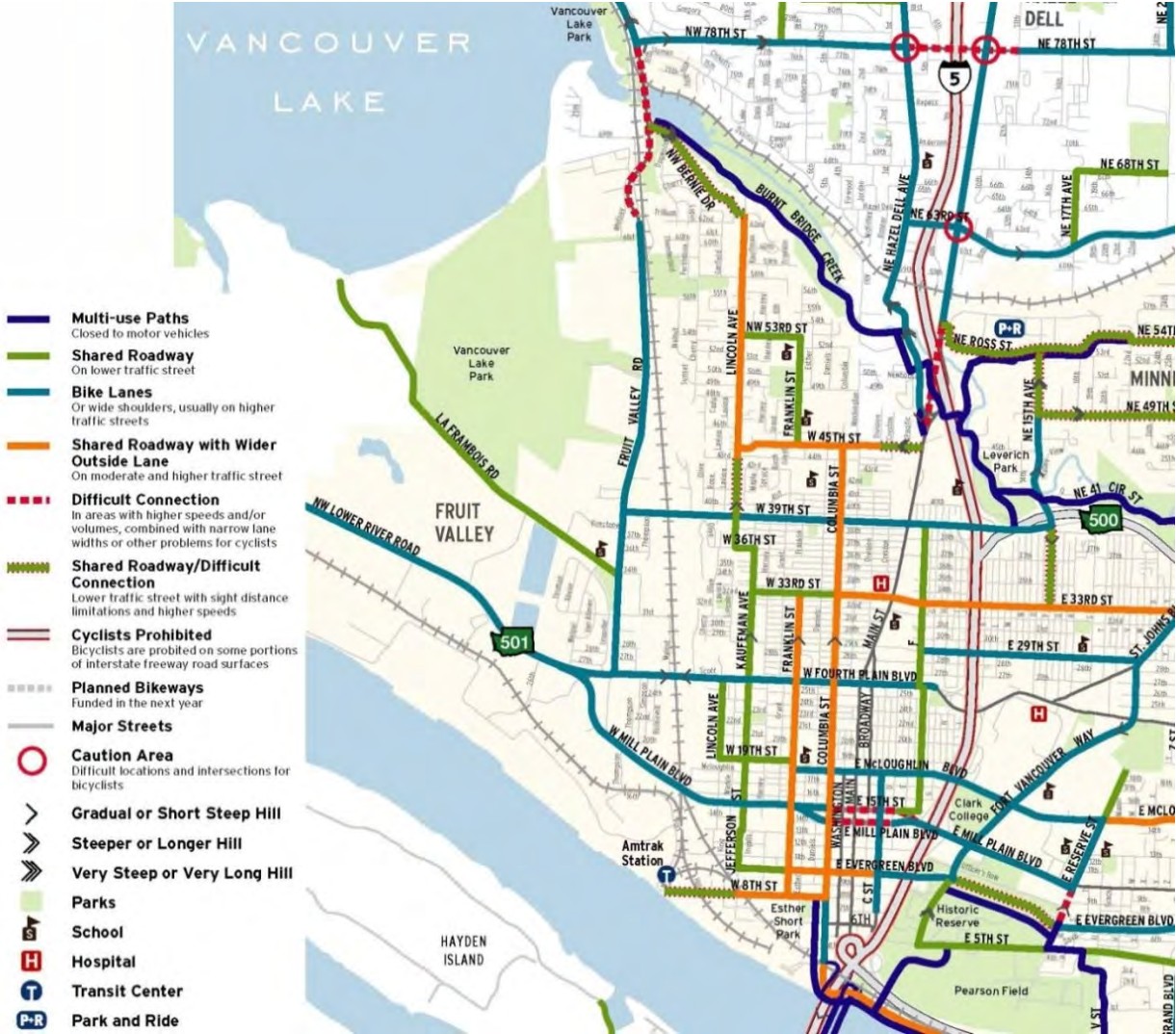
5 Active Transportation and Streetscapes

The ability to move efficiently and safely by walking or cycling—collectively termed “active transportation” for the purpose of this report—is essential to the livability and economic vitality of Vancouver’s westside. This section of the report describes the current state of the bicycle and pedestrian infrastructure, including a detailed review of the types of streetscapes that exist in the study area that can encourage or discourage active transportation.

5.1 Bicycle Network

Vancouver’s westside bicycle network consists of a mixture of shared roadways, bike lanes and off-street paved path facilities. Figure 9 shows the designated bicycle network consisting of a mixture of bicycle facilities across the study area.

Figure 9: Westside Vancouver Bicycle Network



5.2 Pedestrian Network

Vancouver's westside pedestrian network has sidewalks on most major corridors. Sidewalks are more common in the downtown core and where land use is more diverse. Residential areas north of 39th Street generally lack sidewalks (see Figure 11 and Figure 12).

5.3 WalkScore

Walk Score™ is a tool that evaluates the walkability of a location based on the amount of nearby destinations. It does not, however, take into account the sidewalk infrastructure. This tool will provide the pedestrian demand for this area and City of Vancouver's inventory of sidewalks and ramps can be used to help identify gaps in the pedestrian infrastructure.

As outlined by Walk Score™, Vancouver as a whole is rated *car dependent*. Within the study area, walkability ranges from a *very walkable* Downtown core to *somewhat walkable* (shown with a yellow shade), to *car dependent* (shown with a brown shade). Figure 10 shows that the areas within the vicinity of the Main Street corridor have the most desired walkable environment.

Figure 10. City of Vancouver Walk Score

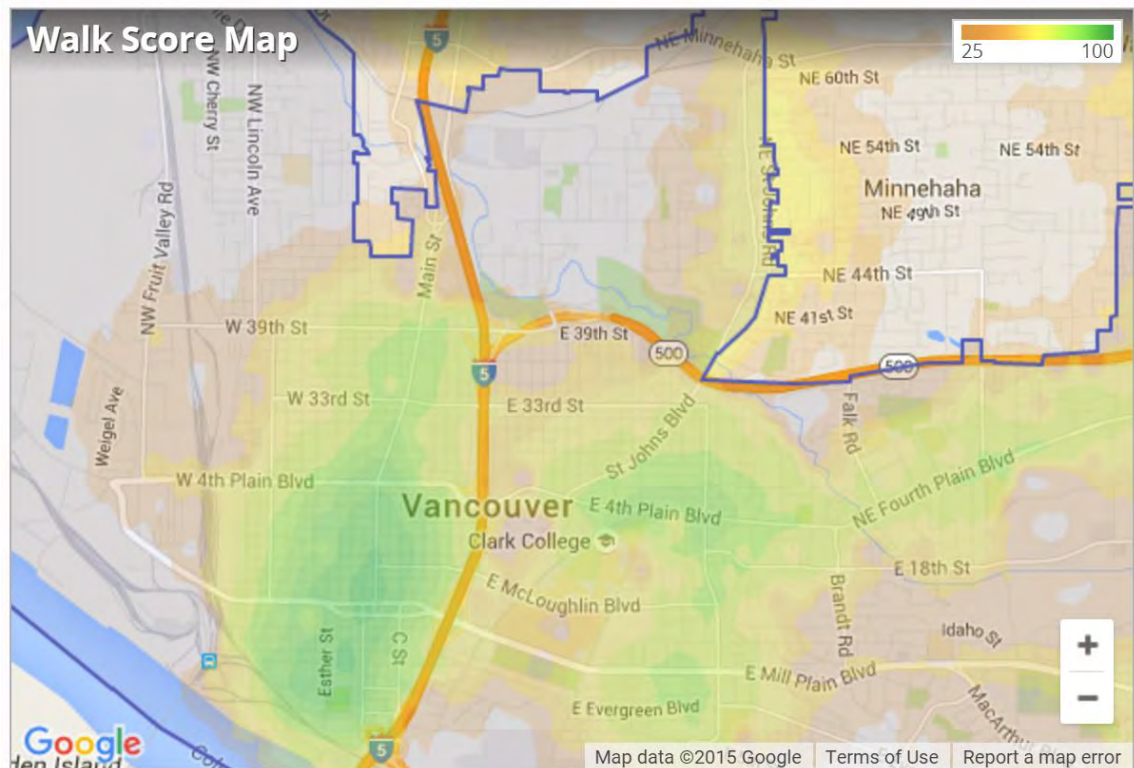


Figure 11. Westside Vancouver Sidewalk Inventory

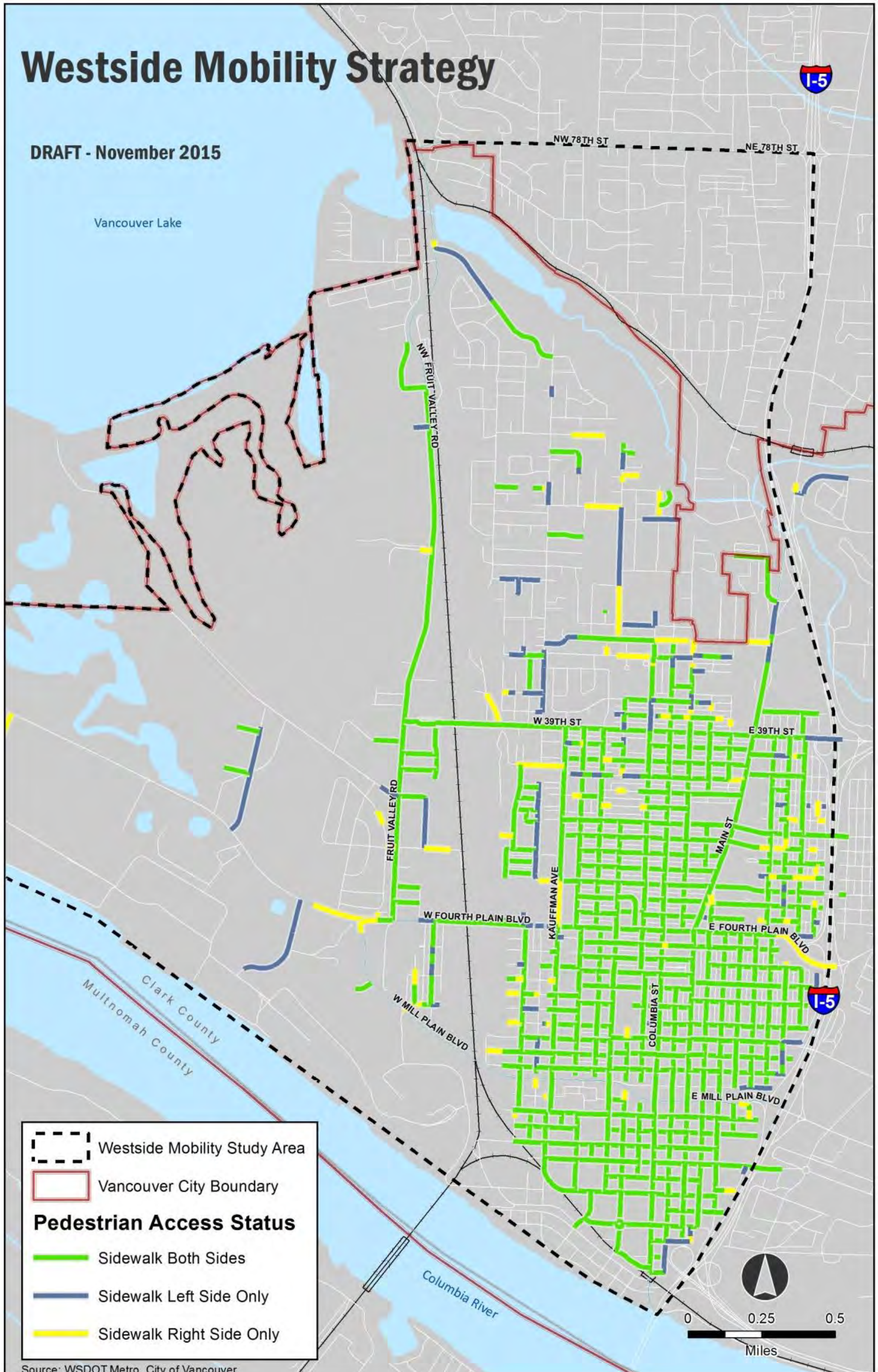
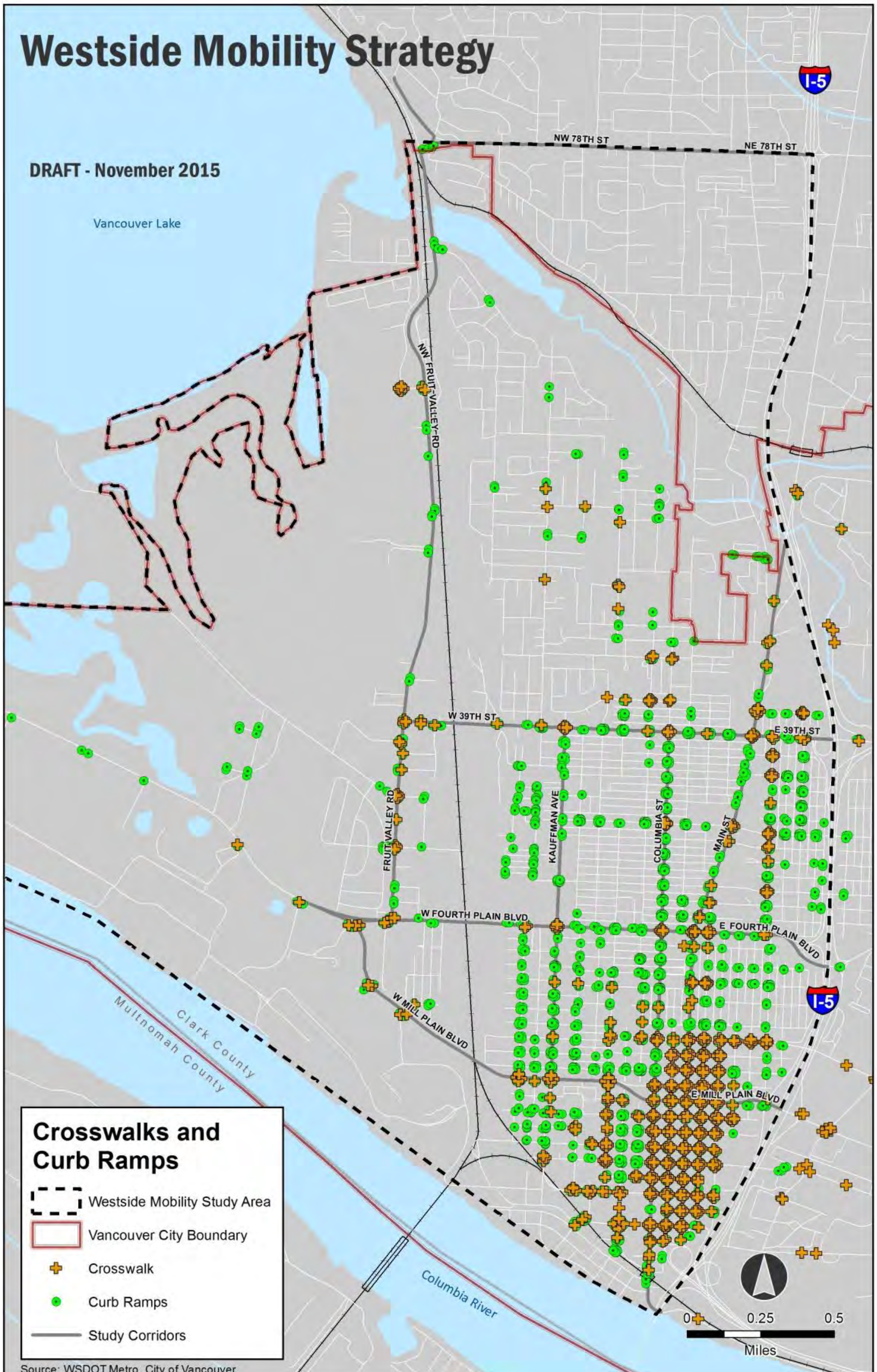


Figure 12. Westside Vancouver Crosswalk and Curb Ramp Inventory



5.4 Existing Streetscape Conditions

The streetscape refers to how the design of a street is experienced, either from the perspective of a person who walks or bikes or through the window of a vehicle. The streetscape includes the infrastructure as a travel route as well as the visual and experiential qualities of the entire built and natural environment, including landscaping. Streetscape conditions influence transportation behavior; streets that are more comfortable and pleasurable to use can lead more people to choose to walk, bike or take transit.

Urban design approaches that balance the needs of all users of the street can create streetscapes that are equally usable and inviting for all modes of travel. Yet, streetscape conditions vary substantially across Vancouver’s westside. The purpose of this section is to document streetscape conditions and assess the strengths and weaknesses of streetscapes in balancing the needs of all street users.

The different streetscapes of the project study area were organized into seven general streetscape types (Table 2). This typology is not exhaustive, and the conditions described do not apply globally to the entire typology area. Each type of streetscape is generally intended to illustrate the character of the street. The typology is intended to help illustrate how the streetscapes vary across the study area.

Table 2. Streetscape Types in Westside Mobility Strategy Study Area

Streetscape Type	Example Area
<i>Auto-Oriented Industrial</i>	Arterials West of Railroad Bridge
<i>Auto-Oriented Mixed Use</i>	Mill Plain Couplet Area
<i>Walkable City Center</i>	Near Esther Short Park and Downtown/Main Street
<i>Walkable Neighborhood Center</i>	Uptown Village
<i>Auto-Oriented Commercial</i>	Main Street North of Fourth Plain
<i>Walkable Residential</i>	Neighborhoods South of 39 th Street
<i>Auto-Oriented Residential</i>	Neighborhoods North of 39 th Street

5.4.1 Streetscape Type: Auto-Oriented Industrial

EXAMPLE AREA: ARTERIALS WEST OF BNSF RAILROAD BRIDGE

The streetscape conditions in industrial areas west of the BNSF railroad bridge, particularly Mill Plain Boulevard, are largely auto-oriented (Photo 6). Wide streets and travel lanes induce higher speeds and make pedestrian crossings less comfortable. Buildings are generally not oriented to the street and are set back behind parking lots; as a result, the street feels desolate to pedestrians. Fences or sound walls are often adjacent to the sidewalk. Sidewalks are sometimes not wide enough for walking to be comfortable next to high volume, higher speed streets, particularly when obstructions such as electrical poles bisect the sidewalk. Street trees and landscaping enhance the pedestrian experience but are used sparsely. An exception is the well-landscaped south side of Mill Plain Boulevard.

Photo 6. Auto-Oriented Industrial



5.4.2 Streetscape Type: Auto-Oriented Mixed Use

EXAMPLE AREA: MILL PLAIN COUPLET AREA

Streetscape conditions in the Mill Plain couplet area are more active and inviting than western industrial areas but still not optimal for pedestrians and cyclists. The multi-lane, one-way roadway is difficult to cross because pedestrians are less visible with cars traveling the same direction, and wider travel lanes more easily accommodate higher speeds. Bike lanes are present but vary in width and higher vehicle and truck speeds are a deterrent to cyclists. Sidewalks are usually wide enough for comfort but are frequently interrupted by driveways, which reduces safety and continuity (Photo 7). Building frontages sometimes meet the sidewalk to define the street space and add interest to the pedestrian experience, but not consistently. Street trees improve the pedestrian environment but could be planted more extensively.

Photo 7. Auto-Oriented Mixed Use



5.4.3 Streetscape Type: Walkable City Center

EXAMPLE AREA: NEAR ESTHER SHORT PARK AND DOWNTOWN/MAIN STREET

The streetscapes around the Esther Short Park and downtown/Main Street areas are generally higher quality and inviting for pedestrians (Photo 8). Most streets are two-lanes with on-street parking that help to calm traffic speeds and provide a comfortable buffer between moving vehicles in the travel lanes and people on the sidewalks. While slower posted speeds of 25 miles per hour make cycling more safe and appealing, bike lanes are inconsistent and are often located adjacent to street parking, which can cause conflicts with opening car doors into the bike lane. Sidewalks are continuous, wider than other areas of the west side, and often include furnishings like bike racks, planters, benches, pedestrian-scale lighting and trash cans. Street trees are plentiful, though some are still maturing and have minimal tree canopies. Building frontages are almost always oriented to the sidewalk and pedestrian traffic. Buildings define the street as a distinct public space—or “outdoor room”—and often include ground-floor retail or sidewalk outdoor seating that engages pedestrians and makes walking more pleasurable.

Photo 8. Auto-Oriented Mixed Use



5.4.4 Streetscape Type: Walkable Neighborhood Center

EXAMPLE AREA: UPTOWN VILLAGE

The Uptown Village business district exemplifies a high-quality streetscape in smaller-scale, urban, mixed use area. Main Street in this area is a two-lane roadway with on-street parking on both sides. Sidewalks are just wide enough to accommodate sidewalk cafes, pedestrian-scale lighting, planters and other amenities. Mature street trees provide generous canopies and shade (Photo 9). Building frontages are consistently oriented to the sidewalk and ground-floor retail uses are active. Cyclists share the roadway with vehicles; although slower speeds of 25 miles per hour make this condition manageable, it would be optimal to have a designated space for people who bike.

Photo 9. Walkable Neighborhood Center



5.4.5 Streetscape Type: Auto-Oriented Commercial

EXAMPLE AREA: MAIN STREET NORTH OF FOURTH PLAIN

North of Fourth Plain Boulevard, Main Street maintains predominantly commercial uses but transitions to an auto-oriented streetscape (Photo 10). The street expands to five lanes with no bike facilities. Cyclists share the roadway with cars that can travel at relatively high speeds. Sidewalks are narrow, have minimal street trees or landscaping, are not always available on both sides of the street, and are often interrupted by driveways for off-street parking lots. Buildings are set back from the street behind parking lots, do not define the street as a public space, and are less engaging to pedestrians. Walking and biking is not as safe or comfortable as on Main Street in Uptown Village or downtown.

Photo 10. Auto-Oriented Commercial



5.4.6 Streetscape Type: Walkable Residential

EXAMPLE AREA: NEIGHBORHOODS SOUTH OF 39TH STREET

Westside Vancouver neighborhoods south of 39th Street have streetscapes that are a remnant of streetcar-era development patterns, when walking was more necessary and widespread. As a result, these neighborhoods tend to be highly walkable and bike-friendly (Photo 11). Streets are relatively narrow and help reduce vehicle speeds. Cyclists share the road with vehicles, but the low speeds and volumes on these streets make for more comfortable riding. Sidewalks are more consistent and often include street trees or landscaping in a buffer zone between the street and the sidewalk. Houses are set back minimally from the street, and porches and front entrances of homes are oriented to the sidewalk, providing an engaging and welcoming façade for pedestrians. Many garages are located in the rear or accessed from an alley, which limits the number of driveways that bisect the sidewalk and provide a safer and more comfortable walking environment.

Photo 11. Walkable Residential



5.4.7 Streetscape Type: Auto-Oriented Residential

EXAMPLE AREA: NEIGHBORHOODS NORTH OF 39TH STREET

Streetscape conditions in the residential neighborhoods north of 39th Street are generally more auto-oriented and less conducive to walking and biking compared to the older neighborhoods south of 39th Street (Photo 12). Streets are wider, encouraging higher vehicle speeds and are not as comfortable for people who bike. Sidewalks are infrequent and discontinuous, requiring pedestrians to cross frequently and sometimes walk in the shoulder of the road and navigate around parked cars. Homes are set back further and more likely to have garages facing the street.

Photo 12. Auto-Oriented Residential



6 Transit Service

C-TRAN is the public transit provider in Clark County, WA. Local service is provided within Vancouver city limits and express service is offered to Downtown Portland and Marquam Hill. Figure 13²⁰ shows the Downtown Vancouver bus stops locations. C-TRAN service in downtown is concentrated along the Main Street corridor and acts as the primary boarding area for C-TRAN riders. Figure 14 shows the transit ridership activity levels at all bus stops within the study area. The highest levels of passenger activity occur along Main Street, from 8th Street to Fourth Plain Boulevard, where the highest levels of service currently operate. Ridership remains high along Main Street north of Fourth Plain Boulevard.

To improve transit service, C-Tran has begun construction of “The Vine”, a new Bus Rapid Transit (BRT) system along Fourth Plain Boulevard that will connect downtown Vancouver with Westfield Vancouver Mall serving Clark College and Fourth Plain Boulevard businesses along the way. Photo 13 shows a Vine BRT vehicle, which is larger than standard city buses, and what will be a typical BRT station.

Photo 13. The Vine BRT Bus at Station



²⁰ <http://c-tran.com/images/Maps/downtown-boarding-map-2014-01.pdf>

Figure 13. Downtown Vancouver Boarding Locations

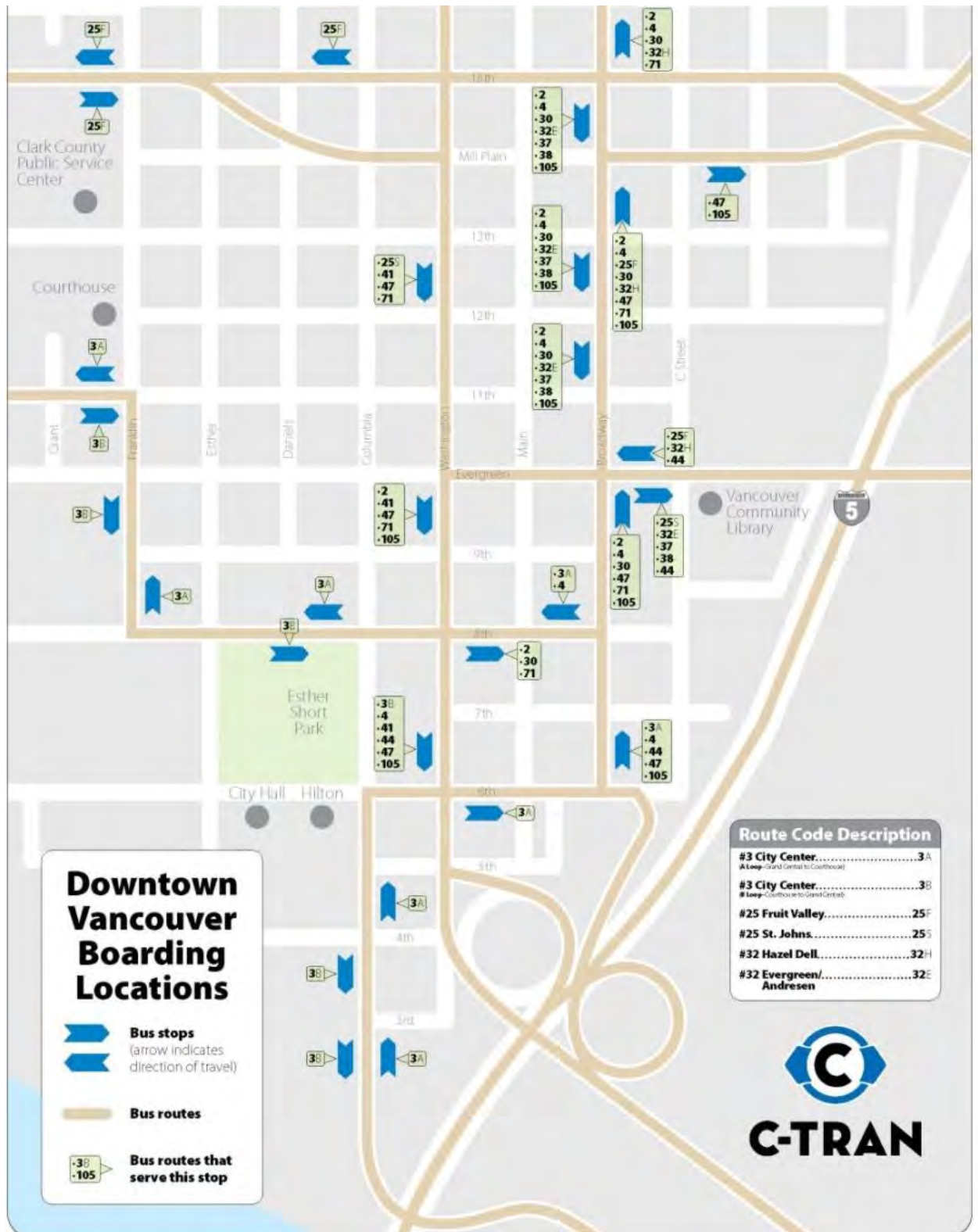
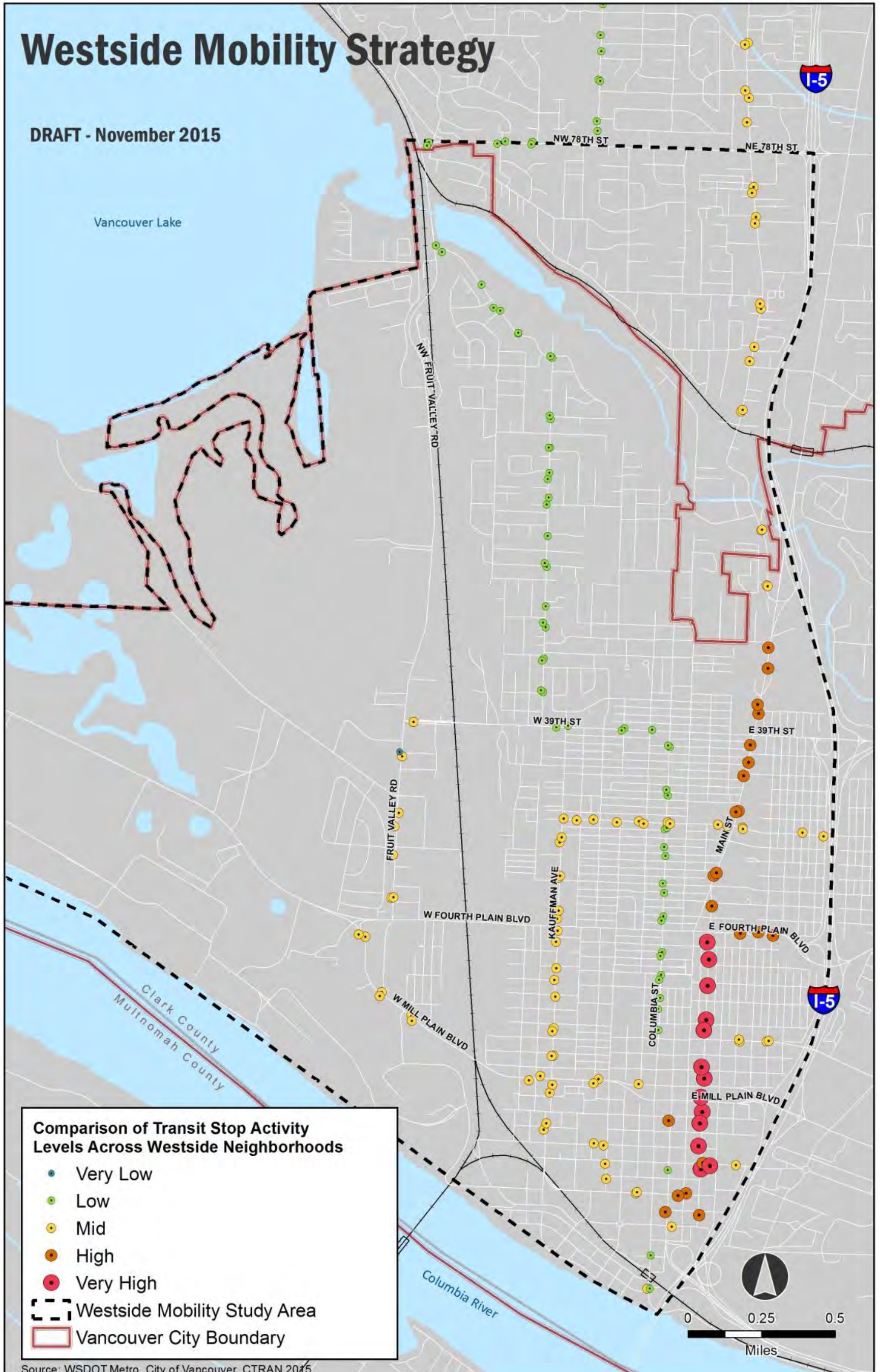


Figure 14. Westside Vancouver Transit Ridership



7 Arterial Conditions

Westside Vancouver neighborhoods and industrial areas generate a mix of local, regional and interstate vehicle, freight, pedestrian, and bicycle traffic. Downtown businesses and government employment centers produce commuter and visitor auto traffic. C-Tran operates throughout the Downtown area and generates concentrations of pedestrians accessing transit. Freight trucks traveling to and from the Port and the industrial areas constitute a portion of the traffic. This section provides detailed information on eight primary arterial corridors (see Figure 15) evaluated as part of this project. The streets evaluated in detail and their system classifications are as shown in Table 3²¹. These roadways were selected since they provide primary east/west and north/south connections within the study area.

Table 3. Main Arterials in Vancouver’s Westside Neighborhood

Roadway	Classification	Ownership	# Lanes	Posted Speed Limit	Sidewalks	Bicycle Infrastructure
Main Street (N/S)	Principal Arterials	City of Vancouver	1-2	30 MPH north of Fourth Plain; 25 MPH south of Fourth Plain	Partial	Shared
Mill Plain Boulevard (E/W)	Principal Arterials	City of Vancouver	2-3 (one direction)	35 MPH west of Lincoln; 25 MPH east of Lincoln	Majority	Bike lanes
Fourth Plain Boulevard (E/W)	Principal Arterials	City of Vancouver	1 lane each direction (with left turning lane)	35 MPH west of Lincoln; 30 MPH east of Lincoln	Minimal	Shared
39th Street (E/W)	Minor Arterials	City of Vancouver	1 lane (each direction)	25 MPH; 20MPH School Zones between Franklin & Columbia and E Street & I-5	Majority	Bike lanes
Fruit Valley Road (N/S)	Minor Arterials	City of Vancouver	1 lane each direction (with left turning lane)	25 MPH south of 39 th ; 20 MPH School Zone between La Frambois and 37 th ; 35 MPH north of 39th	Majority	Bike lanes
Columbia Street (N/S)	Minor Arterials	City of Vancouver	1 lane (each direction)	25 MPH	Majority	Shared
Kaufmann Avenue (N/S)	Collector	City of Vancouver	1 lane (each direction)	25 MPH	Partial	Shared

²¹ http://www.cityofvancouver.us/sites/default/files/fileattachments/public_works/page/1744/arterialmap2014lg.pdf

Table 3. Main Arterials in Vancouver’s Westside Neighborhood

Roadway	Classification	Ownership	# Lanes	Posted Speed Limit	Sidewalks	Bicycle Infrastructure
78th Street (E/W)	Principal Arterial	Clark County	2 lane each direction (with left turning lane)	35 MPH	Majority	Bike lanes

The eight roadways are all classified as arterials and are classified as follows²²:

Principal Arterial - This is the basic element of the City’s road system. All other functional classifications supplement the principal arterial network. It carries large volumes of traffic over long distances. Access is generally limited to intersections with other arterial and collectors. Signalized intersection spacing is regulated. Direct land access is minimal and managed. Spacing is typically 2 to 5 miles.

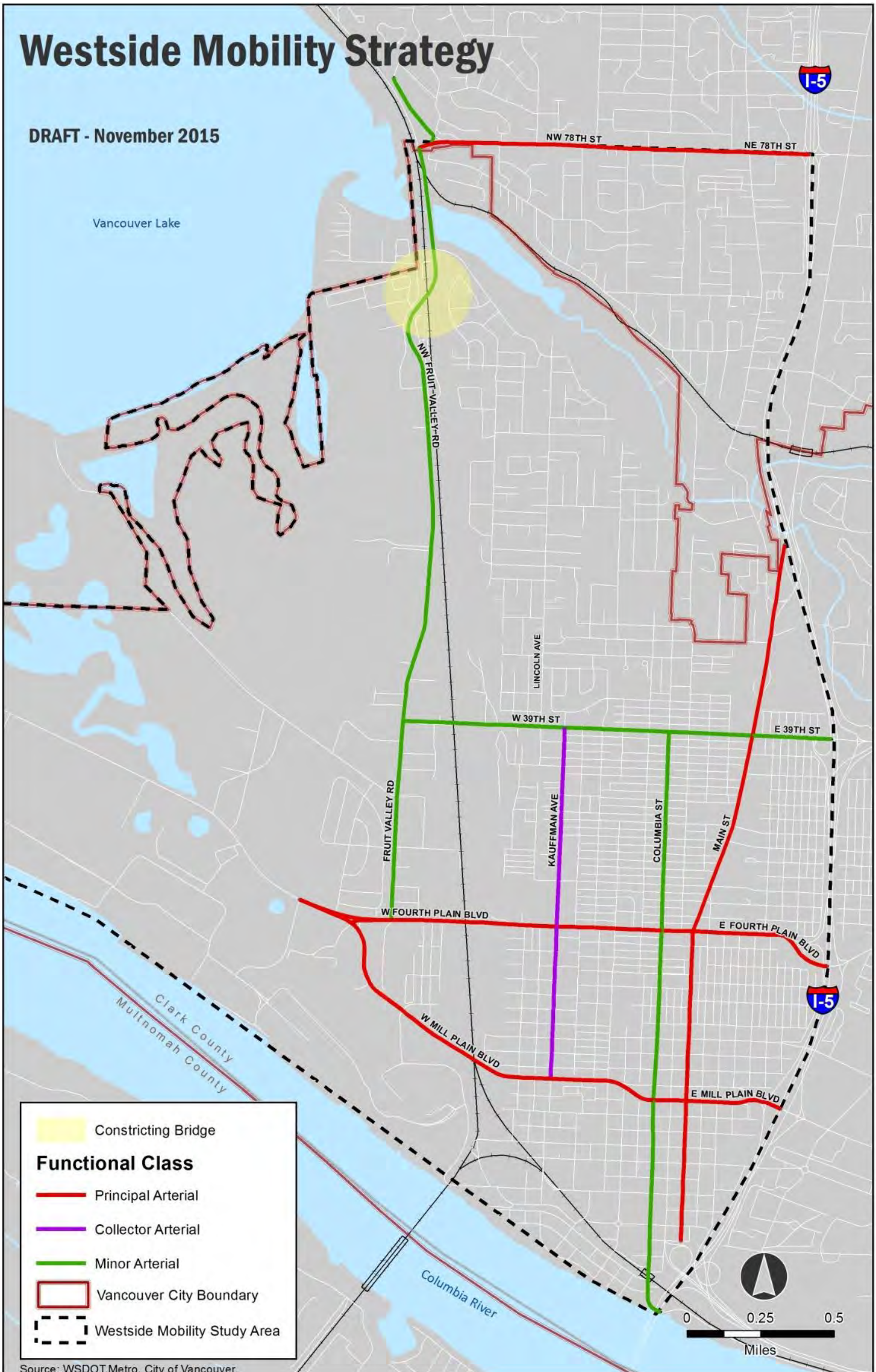
Minor Arterial - This street collects and distributes traffic from principal arterials to streets of lower classifications supplement the principal arterial network. It carries large volumes of traffic over long distances. Access is generally limited to intersections with other arterials and collectors. Signalized intersection spacing is regulated. Direct land access is minimal and managed. Spacing is typically 2 to 5 miles.

Collector - This type of street provides for land access and traffic circulation within and between residential neighborhoods and commercial and industrial areas. The collector street also collects traffic from local streets and channels it into the arterial system. Direct access to adjacent land uses, however, is still subordinate to traffic movement. Access to abutting properties is controlled through driveway spacing and pavement markings. Typically, collectors are not continuous for any great length, nor do they form a connected network by themselves. Spacing is typically less than 2 miles.

It should be noted that the arterial definitions shown above from the Vancouver Municipal Code Section 11.80 describe mobility and connectivity related to vehicle operations and do not include pedestrian and bicycle mobility and connectivity functions in the right-of-way.

²² http://www.cityofvancouver.us/sites/default/files/fileattachments/vmc/titles_chapters/011.080.pdf

Figure 15. Westside Vancouver Corridor Characteristics



7.1 Arterial Conditions Photos

The following sections, as shown in Figure 16, provide detailed information on the eight primary arterial corridors, as well as additional details on intersecting roadways and other important local streets.

Figure 16. Location of Arterial Condition Photos



7.1.1 Mill Plain Boulevard (East-West)

7.1.1.1 Mill Plain Condition 1: West of Railroad Bridge

Mill Plain Boulevard from the intersection of Mill Plain and Fourth Plain headed east is configured as a five-lane roadway with a landscaped median (see Photo 14). Striped bike lanes on both sides of the roadway accommodate bicycle traffic. A 12-foot path on the southern side of the roadway is separated from traffic by a landscape strip with street trees (there are short segments where the path is curb-adjacent). A sidewalk runs along the northern side of the street between Fourth Plain Boulevard and Thompson Avenue/20th Street. Pedestrian crossings are provided in three locations: signalized crossings are located at Fourth Plain Boulevard and Thompson Avenue/20th Street, and a marked crosswalk is located near the Westside Water Reclamation Facility and the Cal Portland industrial site.

Street-adjacent land uses are exclusively industrial and frontages are dominated by surface parking or fenced storage areas that are generally fenced. Street trees and trees on private properties provide some amount of screening of the adjacent development

Mill Plain Boulevard continues east over the railroad overcrossing as a four-lane roadway with striped bike lanes. The sidewalk on the southern side is separated by a concrete barrier, protecting pedestrians from traffic. Ornamental street lights illuminate the roadway.

7.1.1.2 Mill Plain Condition 2: Between Lincoln Avenue and Franklin Street

Just beyond the bridge, the character of Mill Plain Boulevard changes between the Lincoln Avenue and Franklin Street signalized intersection. A mix of residential and civic uses lines the corridor, with distinct differences between the northern and southern side (see Photo 15).

The northern side is dominated by single-family residential areas abutting Mill Plain Boulevard, although properties generally face the side or parallel street and are separated from Mill Plain Boulevard by a substantial landscape buffer and sound wall. A mix of multifamily buildings, civic buildings, and large parking lots line the southern side. Striped bike lanes on both sides of the five-lane roadway accommodate cyclists. The 12-foot path along the southern side continues throughout this segment and is separated by a landscape strip with street trees.

A meandering sidewalk on the northern side is located within the deep landscape buffer and is partially concealed behind sound wall features. Signalized intersections, which provide protected pedestrian crossings, exist at Lincoln Avenue, Kauffman Avenue, and Franklin Street. There is no street parking in this segment of Mill Plain Boulevard.

7.1.1.3 Mill Plain Condition 3: Couplet

East of Franklin Street, Mill Plain Boulevard transitions from a two-way roadway to a couplet of one-way streets that stretches from Columbia Street through the Downtown core to D Street, where it transitions back to two-way traffic at the I-5 interchange (see Photo 16).

The development pattern east of Columbia Street is currently dominated by a mix of street-fronting retail and office uses and auto-oriented commercial establishments set back behind surface parking lots. However, recently constructed and planned developments have added multifamily residential and mixed-use to the mix, and these new buildings are more pedestrian-oriented than many of the single-use existing commercial structures.

It appears that the character of this segment of Mill Plain Boulevard will eventually become more urban and pedestrian-oriented than its current state. Signalized crosswalks at all intersections along the couplet provide good north-to-south connectivity for pedestrians. Curb-adjacent sidewalks on both sides along both the east and westbound legs of the couplet accommodate pedestrians. Street trees exist; however, the trees are in various stages of maturity, with no obvious pattern. There are stretches without any trees. Striped bike lanes accommodate cyclists; westbound and eastbound bike traffic is split and runs alongside vehicular traffic on the right-hand side of each couplet.

Photo 14. Mill Plain Condition 1: West of Railroad Bridge



Arterial conditions summary

Number of travel lanes

5 with center turn lane/median

Posted speed limit

35 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

South: 12 foot wide path with landscape strip and street trees
North: Curb-tight sidewalk, no landscaping

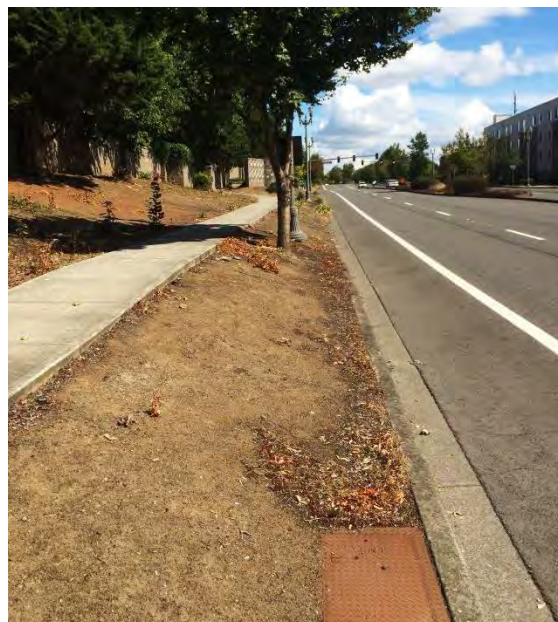
Pedestrian crossings

Fourth Plain Blvd.
Thompson Ave./20th Street

Adjacent land uses

Industrial

Photo 15. Mill Plain Condition 2: Between Lincoln Avenue and Franklin Street



Arterial conditions summary

Number of travel lanes

5 with median

Posted speed limit

35 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

South: 12 foot wide path with street trees
North: Sidewalk with landscape strip or sound wall, inconsistent street trees

Pedestrian crossings

Lincoln Avenue, Kauffman Avenue, and Franklin Street

Adjacent land uses

South: Multi-family residential and civic/office
North: Single-family residential

Photo 16. Mill Plain Condition 3: Couplet



Arterial conditions summary

Number of travel lanes

Couplet with 3 on each one-way street, 6 total

Posted speed limit

Westbound: 35 MPH
Eastbound: 25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Curb-tight sidewalks with street trees of varying maturity

Pedestrian crossings

At all intersections within couplet area

Adjacent land uses

Mix of street-fronting and auto-oriented retail and office with some new multi-family residential

7.1.2 Fourth Plain Boulevard (East-West)

7.1.2.1 Fourth Plain Condition 1: West of Railroad Bridge

From the intersection of Mill Plain Boulevard, Fourth Plain Boulevard to the bridge across the railroad tracks is a mix of industrial frontages and rear yard fences of single-family homes, interspersed with auto-oriented commercial uses abutting the roadway (see Photo 17). Some sidewalks exist; however, they are not contiguous, which requires pedestrians to alternate between the northern and southern side of Fourth Plain Boulevard or walk in a gravel shoulder. The sidewalks are interrupted by wide driveway cuts. While planting strips are present in some locations, there are no street trees or any other coherent plantings that contribute to a comfortable pedestrian experience. Protected pedestrian crossings are limited to the signalized crossings at the Fruit Valley Road intersection. Striped bike lanes exist on both sides of the five-lane roadway. Street parking is not present in this stretch of Fourth Plain Boulevard.

7.1.2.2 Fourth Plain Condition 2: Between Railroad Bridge and Columbia Street

East of the bridge, Fourth Plain Boulevard narrows to a three-lane roadway with striped bike lanes and curb-adjacent sidewalks (see Photo 18). This configuration continues east to within a couple blocks of the I-5 interchange, where the roadway widens and the bike lanes drop off. Pedestrian amenities throughout the corridor are minimal and there are no street trees or landscape strips except for about one block length west of Main Street on the southern side of the street. There is no street parking along Fourth Plain Boulevard in this segment.

Between the railroad overcrossing bridge and Kauffman Avenue, adjacent land uses include a mix of industrial and auto-oriented commercial spaces with front yard parking, single-family residential, and some undeveloped or underdeveloped parcels. Sidewalks are interrupted by frequent and wide driveway curb cuts. Signalized intersections provide protected pedestrian crossings at Lincoln Street and Kauffman Avenue. East of Harney Street, the character is predominantly single-family residential, with houses fronting onto Fourth Plain Boulevard.

7.1.2.3 Fourth Plain Condition 3: Between Columbia Street and I-5

Between Columbia Street and I-5 the character is predominantly commercial, interspersed with multifamily residential (see Photo 19). East of C Street the character is mostly single-family residential. As for pedestrian crossings, protected crossings are provided at the traffic signals at Columbia Street, Main Street, Broadway Street, and F Street. There are no marked or signalized pedestrian crosswalks for about a third of a mile between Kauffman Avenue and Columbia Street, which presents an obstacle to north-to-south pedestrian connectivity.

Photo 17. Fourth Plain Condition 1: West of Railroad Bridge



Arterial conditions summary

Number of travel lanes

5 with center turn lane/median

Posted speed limit

35 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

North: Inconsistent, small landscape strip with no street trees
South: Inconsistent, curb-tight with no street trees

Pedestrian crossings

Only at Fruit Valley Road

Adjacent land uses

Industrial and auto-oriented commercial with some single-family residential



Photo 18. Fourth Plain Condition 2: Between Railroad Bridge and Columbia Street



Arterial conditions summary

Number of travel lanes

3 with center turn lane/median

Posted speed limit

30 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Curb-tight, no landscaping or street trees

Pedestrian crossings

Kaufmann Avenue and Columbia Street

Adjacent land uses

Auto-oriented commercial and single-family residential

Photo 19. Fourth Plain Condition 3: Between Columbia Street and I-5



Arterial conditions summary

Number of travel lanes

3 with center turn lane/median

Posted speed limit

30 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

Columbia Street, Main Street, Broadway Street and F-Street

Adjacent land uses

Commercial with some multi-family residential, transitions to single-family residential

7.1.3 39th Street (East-West)

7.1.3.1 39th Street Condition 1: West of Railroad Bridge

The character of 39th Street from the intersection at Fruit Valley Road to the bridge across the railroad tracks is purely industrial with windowless structures or security fences abutting the street (see Photo 20). Pedestrian amenities are utilitarian with minimal, mostly curb-adjacent sidewalks, except for a short stretch of planting strip on the northern side of 39th Street with a few recently planted street trees. Protected pedestrian crossings exist at the signalized intersection of Fruit Valley Road and 39th Street. Bicycles are accommodated on the street via the striped bike lanes. Street parking is not present in this stretch of 39th Street.

7.1.3.2 39th Street Condition 2: East of Railroad Bridge

Sidewalks and bike lanes on both sides of 39th Street continue across the railroad overcrossing bridge. A transition area extends from just east of the bridge to Lincoln Avenue. This stretch is characterized by a significant slope rising from the west to the east (see Photo 21). The street frontages are lined with fairly dense vegetation concealing most of the residential buildings beyond, interrupted only by a few driveways and a street intersection at Lavina Street.

Curb-adjacent sidewalks and striped bike lanes extend eastward approximately 300 feet beyond the railroad bridge before the roadway narrows and the bike lanes merge with the travel lanes for approximately 300 feet before they pick up again east of Lavina Street. At that same point, sidewalks transition from curb-adjacent to separated walks buffered from moving traffic by an approximately 8-foot-wide landscape strip. Street parking is not present in this stretch of 39th Street.

7.1.3.3 39th Street Condition 3: Between Lincoln Avenue and Columbia Street

Between Lincoln Avenue and Main Street, single-family residential frontages dominate the character of 39th Street, with the exception of a larger commercial structure between Washington Street and Division Avenue and auto-oriented commercial establishments at Main Street (see Photo 22). A 2- to 3-foot landscape strip separates sidewalks from the roadway along most of this stretch of 39th Street. Segments of the landscape strip are paved, and some are devoid of plantings; there are a number of recently planted street trees along 39th Street. As trees mature, conflicts between branches and bus and truck traffic may occur where no street parking is present.

7.1.3.4 39th Street Condition 4: Between Columbia Street and I-5

Between Columbia Street and the I-5 overcrossing, 39th Street continues as a three-lane roadway with curb-adjacent sidewalks, striped bike lanes, and no on-street parking. Except for the intersection with Main Street, the adjacent land uses are predominantly single-family residential throughout this stretch (see Photo 23).

Signalized intersections provide protected pedestrian crossings at Columbia Street, Main Street, and H Street. Marked crosswalks exist at Kaufman Street, Daniels Street, Division Avenue, and F Street; the crossings at Daniels and F Street also provide

pedestrian refuge islands. Striped bike lanes are present on both sides. Street parking alternates between the northern and southern side of the street and exists on one side of the street along this entire stretch, except for the intersection approaches at Daniels Street, Columbia Street, and Main Street.

Photo 20. 39th Street Condition 1: West of Railroad Bridge



Arterial conditions summary

Number of travel lanes

3 with center turn lane/median

Posted speed limit

25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

Only at Fruit Valley Road

Adjacent land uses

Industrial

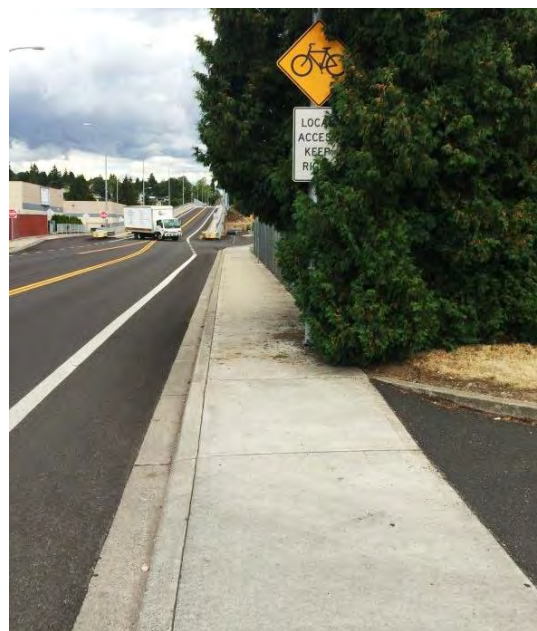


Photo 21. 39th Street Condition 2: East of Railroad Bridge



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Striped lanes but there is a wide gap just east of railroad bridge

Sidewalks and landscaping

Curb-tight west of Lavina Street, then landscape strip with some street trees

Pedestrian crossings

No signalized crossings

Adjacent land uses

Single-family residential



Photo 22. 39th Street Condition 3: Between Lincoln Avenue and Columbia Street



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

Marked crosswalk at Daniels Street, signalized crossing at Columbia

Adjacent land uses

Single-family residential



Photo 23. 39th Street Condition 4: Between Columbia Street and I-5



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

Signalized crossing at Columbia Street, Main Street and H Street; marked crosswalks at Division Street and F-Street

Adjacent land uses

Single-family residential with some commercial

7.1.4 78th Street (East-West, Clark County)

7.1.4.1 78th Street Condition 1: Between Fruit Valley Road and I-5

78th Street is a suburban five-lane roadway with striped bike lanes and curb-adjacent sidewalks located in Clark County (see Photo 24). While it is not within Vancouver, it is an important connection for traffic to and from I-5 for the industrial areas along Fruit Valley Road and the Port of Vancouver. Fruit Valley Road also provides access from 78th Street to downtown employment areas.

78th Street is lined with single-family residential structures, many of which front onto and have a driveway access directly on 78th Street. The exception is a short stretch of auto-oriented retail between Hazel Dell Avenue and the I-5 interchange. There is no landscaping within the right-of-way, nor is street parking permitted along the corridor. Protected pedestrian crossings are far apart and are provided at the signalized intersections of Lakeshore Avenue, 9th Avenue, and Hazel Dell Avenue.

Photo 24. 78th Street Condition 1: Between Fruit Valley Road and I-5



Arterial conditions summary

Number of travel lanes

5 with center turn lane

Posted speed limit

35 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

Lakeshore Avenue, 9th Avenue, and Hazel Dell Avenue

Adjacent land uses

Single-family residential with some commercial



7.1.5 Fruit Valley Road (North-South)

7.1.5.1 Fruit Valley Road Condition 1: Fruit Valley Elementary School

Fruit Valley Road is the only north-to-south thoroughfare west of the railroad tracks. It is lined with varying land uses and development patterns (see Photo 25). Industrial uses with large footprint structures are mainly located north of 39th Street. South of 39th Street is comprised of single-family residential, multi-family housing developments, and the Fruit Valley Elementary School. This mix of uses and development pattern presents challenges both in terms of neighborhood coherence and pedestrian connectivity to other westside neighborhoods.

The southernmost segment of Fruit Valley Road between Fourth Plain Boulevard and 31st Street is lined with single-family residential, although the properties on the western side abut Fruit Valley Road with rear yard fences. Curb-adjacent sidewalks on both sides provide no landscape buffer between pedestrians and vehicular traffic. Protected pedestrian crossings exist at the signalized intersections of Fourth Plain Boulevard and 31st Street. Striped bike lanes accommodate cyclists along both sides of the three-lane roadway. Street parking is not provided.

Between 31st and 37th Streets, single and multifamily development on the eastern side faces Fruit Valley Park and Fruit Valley Elementary School on the western side. A multiuse path within Fruit Valley Park replaces the sidewalk and southbound bike lane on the west side for a short stretch. In front of Fruit Valley Elementary School, the striped bike lane and the sidewalk are separated by a landscape strip with street trees. On the eastern side, the northbound striped bike lane and curb-adjacent sidewalk continue north, except for a short segment where a landscape strip with street trees is introduced. A mid-block pedestrian signal connects the park with the residential development across the street. A signal at 34th Street provides access to the school.

7.1.5.2 Fruit Valley Road Condition 2: Between 37th Street and 61st Street

Between 37th Street and 61st Street, the adjacent land uses are exclusively industrial, with the exception of a small mobile home park located just north of 39th Street. The three-lane cross section with striped bike lanes on both sides of the roadway continues north, with a curb adjacent sidewalk on the eastern side, and a mix of curb adjacent and separated sidewalk on the western side (see Photo 26). The signal at 39th Street is the only pedestrian crossing in this segment.

Between 61st and 78th Streets, Fruit Valley Road turns into NW Lakeshore Drive and changes its character to a two-lane rural road with minimal shoulders and no pedestrian or bike amenities. This segment is lined mostly by significant critical areas that constrain the existing right-of-way, such as steep slopes.

Photo 25. Fruit Valley Road Condition 1: Fruit Valley Elementary School



Arterial conditions summary

Number of travel lanes

3 with center turn lane

Posted speed limit

25 MPH (20 MPH in school zone)

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

Fourth Plain Boulevard, Fruit Valley Park (mid-block), 31st Street, 34th Street,

Adjacent land uses

Single-family residential with some multi-family residential, park and school

Photo 26. Fruit Valley Road Condition 2: Between 37th Street and 61st Street



Arterial conditions summary

Number of travel lanes

3 with center turn lane

Posted speed limit

35 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Generally curb-tight with minimal landscape strips and street trees

Pedestrian crossings

39th Street

Adjacent land uses

Industrial with exception of mobile home park

7.1.6 Main Street (North-South)

7.1.6.1 Main Street Condition 1: South of Mill Plain Boulevard

Main Street is the major north-to-south route on the westside connecting Downtown with westside neighborhoods to the north and neighborhoods in Clark County. At the southern end of Main Street, urban retail lined with storefronts abuts curb-adjacent sidewalks with street trees planted in tree wells (see Photo 27). Sidewalks are buffered from traffic by metered street parking—angled on the western side, parallel on the eastern side. Sidewalk amenities include ornamental lighting, bike racks, trash receptacles, benches, public art, and curb extensions at some intersections. Not all amenities are provided in every block. Marked pedestrian crosswalks are provided at all intersections; signals exist at 6th Street, 8th Street, and Evergreen Boulevard.

The character of Main Street changes between 11th Street and the eastbound Mill Plain Boulevard where a mix of larger office buildings, storefront retail, and auto-oriented commercial uses lines the street. The general roadway section stays the same, however. Marked pedestrian crosswalks are provided at all intersections and a signal provides a protected crossing at Mill Plain Boulevard.

7.1.6.2 Main Street Condition 2: Between Mill Plain Boulevard and 19th Street

Between eastbound Mill Plain Boulevard and 19th Street the character changes again to include a mix of storefront retail and auto-oriented commercial, interspersed with civic buildings (see Photo 28). Sidewalks are interrupted by driveway curb cuts more frequently than in the southern segment of Main Street. Parallel street parking on both sides provides a buffer between pedestrians and traffic. Marked pedestrian crossings exist at all intersections, except at 19th Street. Signals are present at Mill Plain and McLoughlin Boulevards.

7.1.6.3 Main Street Condition 3: Between 19th and 25th

The stretch of Main Street between 19th and 25th Streets returns to the character of a tree-lined urban main street with storefronts abutting the sidewalks, interspersed with some auto-oriented uses and mixed-use/multifamily buildings (see Photo 29). Sidewalks include amenities such as ornamental lamp posts, bike racks, and trash receptacles. Curb extensions at some of the intersections improve pedestrian crossings. Parallel parking is provided on both sides of the street. Formalized pedestrian crossings exist in two locations: a signal at 22nd Street, and a marked crosswalk/speed table at 24th Street.

7.1.6.4 Main Street Condition 4: North of Fourth Plain Boulevard

North of Fourth Plain Boulevard, Main Street angles slightly to the east and changes in character to a suburban thoroughfare with three to five travel lanes (see Photo 30). Adjacent land uses are predominantly auto-oriented commercial, interspersed with some single-family residential and civic or institutional uses. Buildings generally do not address the street and are often located amidst large parking lots. Sidewalks are present but devoid of amenities. They are generally curb-adjacent with stretches of unmaintained

landscape strips and are often interrupted by driveway curb cuts. Pedestrian crossings are provided as follows: signals at Fourth Plain Boulevard, 33rd Street, 37th Street, 39th Street, 40th Street, at Kiggins Bowl, and at 45th Street; marked crosswalks at 27th Street and 29th Street.

Photo 27. Main Street Condition 1: South of Mill Plain Boulevard



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

None

Sidewalks and landscaping

Wide sidewalks and consistent street trees

Pedestrian crossings

Marked crosswalks at all intersections, signalized crossings at 6th Street, 8th Street, and Evergreen Boulevard.

Adjacent land uses

Mixed-use retail with office and residential

Photo 28. Main Street Condition 2: Between Mill Plain Boulevard and 19th Street



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

None

Sidewalks and landscaping

Curb-tight with inconsistent street trees and landscape strips.

Pedestrian crossings

Marked crossings at all intersections, signalized crossing at Mill Plain and McLoughlin Boulevard.

Adjacent land uses

Mix of storefront retail and auto-oriented commercial

Photo 29. Main Street Condition 3: Between 19th and 25th Street



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

None

Sidewalks and landscaping

Curb-tight with mature street trees

Pedestrian crossings

Marked crossing at 22nd Street, signalized crossing at 24th Street

Adjacent land uses

Storefront retail with some multi-family residential

Photo 30. Main Street Condition 4: North of Fourth Plain Boulevard



Arterial conditions summary

Number of travel lanes

3 with center turn lane

Posted speed limit

30 MPH

Bike facilities

None

Sidewalks and landscaping

Curb-tight with minimal street trees and landscape strips

Pedestrian crossings

Marked crosswalks at 27th Street and 29th Street, signalized crossings at Fourth Plain Boulevard, 33rd Street, 37th Street, 39th Street, 40th Street, at Kiggins Bowl, and at 45th Street

Adjacent land uses

Storefront retail with some multi-family residential

7.1.7 Columbia Street (North-South)

7.1.7.1 Columbia Street Condition 1: South of 5th Street

Columbia Street is another important north-to-south route in the westside neighborhoods. It is uninterrupted from the Columbia riverfront to the south to 46th Avenue and is a popular route for local traffic to and from Downtown, bypassing Main Street. Columbia Street connects the Downtown core with the emerging Waterfront development area through an undercrossing of the railroad tracks and continues east as Columbia Way where it provides access to restaurants and riverfront recreation. Columbia Street is a designated bike route with wider shared travel lanes, although the southern end provides bike lanes.

Between the southern railroad crossing and 5th Street, Columbia Street is configured as a two-lane roadway with striped bike lanes on both sides (see Photo 31). Street parking is provided on the eastern side of the street. Sidewalks are curb-adjacent and include a number of mature street trees, particularly on the east side. Other sidewalk amenities include ornamental street lights, trash receptacles, and a bench. Adjacent land uses include auto-oriented commercial and employment uses, as well as surface parking and undeveloped areas, which are likely to change in the future. All intersections include marked pedestrian crosswalks.

7.1.7.2 Columbia Street Condition 2: Between 5th and 8th Streets

Columbia Street changes to a three-lane cross section between 5th and 8th Streets, accommodating left-turn lanes along with travel lanes, striped bike lanes, and alternating metered street parking on one side, protected by curb extensions (see Photo 32). Sidewalks are curb-adjacent and include trees in wells at a somewhat consistent pattern, along with ornamental street lights and trash receptacles. Buildings in this stretch of Columbia Street abut the sidewalks and include a range of uses and scales, from single-story commercial structures to multistory multifamily buildings and the Vancouver Convention Center. Additionally, Esther Short Park fronts the western side of Columbia Street between 6th and 8th Streets. Signalized pedestrian crossings are provided at 6th Street and 8th Street, and a marked mid-block crossing with refuge exists in between, connecting the 7th Street alignment with the park.

7.1.7.3 Columbia Street Condition 3: Between 8th and 12th Streets

Between 8th Street and 12th Street, the striped bike lanes are dropped in favor of wider shared travel lanes, and parallel metered street parking is provided on both sides (see Photo 33). A range of uses line the streets, including single-story storefront retail, auto-oriented commercial, multistory mixed use, and midrise office buildings, interspersed with surface parking and undeveloped parcels. Sidewalks are mostly curb-adjacent with limited tree coverage and few other amenities. Formalized pedestrian crossings include a signal at Evergreen Boulevard and marked crosswalks at all other intersections.

The alignment of Columbia Street shifts slightly to the west at 12th Street, where it continues north for one block as a two-lane roadway with wider travel lanes, an eastbound turn lane, and no bike lanes or street parking. There are no sidewalk

amenities and the sidewalks are either curb-adjacent or separated by a poorly maintained landscape strip. A signal at 13th Street provides for pedestrian crossings. A church building on the east side is faced by surface parking on the west side.

7.1.7.4 Columbia Street Condition 4: Between 13th and 16th Streets

Between 13th Street and 16th Street, smaller scale retail and professional services are the prevalent uses along Columbia Street, interspersed with sizable surface parking lots, residential, and auto-oriented commercial (see Photo 34). The street is configured as a two-lane facility with metered parallel parking on both sides of the street. Sidewalks are curb-adjacent and include stretches of tree coverage. Other sidewalk amenities do not exist. Pedestrian crossings are provided at signalized intersections with both legs of the Mill Plain Boulevard couplet.

7.1.7.5 Columbia Street Conditions 5 and 6: McLoughlin Boulevard to 39th Street

North of 16th Street, Columbia Street transitions from a Downtown street to a neighborhood street, although auto-oriented commercial uses continue north to 19th Street, interspersed with single-family and small-scale multifamily (see Photo 35). North of 19th Street the character of Columbia Street is almost entirely single-family residential, with a few institutional uses near the intersections with Fourth Plain Boulevard and 39th Street (see Photo 36). The street in this stretch is configured as a two-lane roadway (except at the approaches to Fourth Plain Boulevard, where left turn pockets are introduced) with shared travel lanes marked with the sharrow symbol. Street parking is permitted on both sides but is no longer marked or metered.

It is important to note that north of 21st Street the block orientation changes and buildings generally front the cross streets, reducing the demand for street parking along that stretch of Columbia Street. Sidewalks are generally separated from the roadway by landscape strips, and street trees are present. Formalized pedestrian crosswalks are provided as follows: signals at McLoughlin Boulevard, Fourth Plain Boulevard, 33rd Street, and 39th Street; marked crosswalks at 20th Street, 41st Street, and 44th Street (the latter two include a refuge island). Columbia Street dead-ends just north of 46th Street.

Photo 31. Columbia Street Condition 1: South of 5th Street



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Curb-tight with street trees

Pedestrian crossings

Marked crosswalks at all intersections

Adjacent land uses

Storefront retail

Photo 32. Columbia Street Condition 2: Between 5th and 8th Streets



Arterial conditions summary

Number of travel lanes

3 with center turn lane/median

Posted speed limit

25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Curb-tight with mature street trees

Pedestrian crossings

Signalized crossings at 6th Street, 8th street;
marked mid-block crossing at 7th Street

Adjacent land uses

Storefront retail, multi-family residential, office

Photo 33. Columbia Street Condition 3: Between 8th and 12th Streets



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Bike lanes

Sidewalks and landscaping

Curb-tight with inconsistent street trees

Pedestrian crossings

Signalized crossing at Evergreen Boulevard,
marked crosswalks at all intersections

Adjacent land uses

Storefront retail and office



Photo 34. Columbia Street Condition 4: Between 13th and 16th Streets



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Sharrows

Sidewalks and landscaping

Curb-tight with inconsistent street trees

Pedestrian crossings

Signalized intersections on both sides of Mill Plain Boulevard couplet

Adjacent land uses

Storefront retail and office

Photo 35. Columbia Street Condition 5: McLoughlin Boulevard



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Sharrows

Sidewalks and landscaping

Sidewalks with narrow landscape strip and inconsistent street trees

Pedestrian crossings

Signalized crossings at McLoughlin Boulevard, Fourth Plain Boulevard, 33rd Street; marked crosswalks at 20th Street

Adjacent land uses

Single-family residential with some auto-oriented commercial and multi-family residential



Photo 36. Columbia Street Condition 6: 39th Street



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Sharrows

Sidewalks and landscaping

Sidewalks with inconsistent landscape strip and inconsistent street trees

Pedestrian crossings

Signalized intersection at 39th Street; marked crosswalks at 41st Street and 44th Street

Adjacent land uses

Single-family residential



7.1.8 Kauffman/Lincoln Avenue Corridor (North-South)

7.1.8.1 Kauffman/Lincoln Avenue Condition 1: Jefferson Street

The southern end of the Kauffman/Lincoln north-south corridor connects into the core of downtown Vancouver via Jefferson Street. Jefferson Street was reconstructed in 2014 as part of the project to improve access to the Columbia Riverfront and represents a balanced mobility approach to street design. Sidewalks are wide and include consistent street trees, pedestrian-scale lighting and decorative pavers that add interest to the streetscape. Striped bike lanes are also wide and consistent. Marked crosswalks at all intersections support pedestrian safety and mobility (see Photo 37).

7.1.8.2 Kauffman/Lincoln Avenue Condition 2: 13th Street to Fourth Plain Boulevard

Kauffman Avenue is an important north-to-south roadway on the westernmost edge of Downtown, reaching as far south as 13th Street and as far north as 41st Street. Most of that stretch is a designated bike route with shared travel lanes and sharrow markings. The typical configuration consists of two travel lanes and parallel on-street parking on both sides, except for the approaches to Mill Plain Boulevard and Fourth Plain Boulevard, where left turn lanes are introduced and street parking is dropped (see Photo 38). Sidewalks generally are separated from the roadway by landscape strips; however, there are few street trees along most of Kauffman Avenue. Protected pedestrian crossings are provided at the signalized intersections at Mill Plain Boulevard and Fourth Plain Boulevard; marked crosswalks at 14th Street, McLoughlin Boulevard, 22nd Street, and 39th Street.

Uses along Kauffman Avenue between 13th Street and Mill Plain Boulevard include government offices and multifamily residential. The character of Kauffman Avenue north of Mill Plain Boulevard is predominantly residential and includes single-family homes and small single-story garden apartment buildings.

7.1.8.3 Kauffman/Lincoln Avenue Condition 3: Fourth Plain Boulevard to 39th Street

To the north of an auto-oriented commercial node at Fourth Plain Boulevard, the character of Kauffman Avenue from Fourth Plain Boulevard to 39th Street transitions to a predominantly single-family neighborhood (see Photo 39). The roadway continues to accommodate two travel lanes shared with cyclists. Sidewalks are generally consistent but landscaping is limited to narrow planting strips and minimal street trees. There are no protected pedestrian crossings beyond the signalized intersection at Fourth Plain and a marked crosswalk at 39th Street.

7.1.8.4 Kauffman/Lincoln Avenue Condition 4: 39th Street to Bernie Road

Kauffman Avenue ends just north of 39th Street and the primary north-south route shifts one block west to Lincoln Avenue. Single-family residential development is still the predominant land use in this area, but homes are generally on larger lots and are less likely to address the street (see Photo 40). As with Kauffman Avenue, the roadway is marked for shared use by cyclists. Sidewalks do not exist throughout most of the corridor and most of the landscaping is oriented to screening and privacy rather than pedestrian

comfort. Marked crosswalks are spaced widely apart at 39th street, 48th Street and 53rd Street.

7.1.8.5 Kaufmann/Lincoln Avenue Condition 5: Bernie Road

Lincoln Avenue ends at Burnt Bridge Creek, so Bernie Road functions as the north-south connection to 78th Street, Clark County and the Burnt Bridge Greenway. Bernie Road travels northwest to southeast through a single-family residential neighborhood with similar character to neighborhoods along Lincoln Avenue: large setbacks from the street, relatively large lots, and mid-century or newer construction (see Photo 41). Cyclists share the road with vehicles and the street is marked with sharrows. Sidewalks are generally available on Bernie Road and usually have landscape strips but few street trees. There are significant gaps in sidewalks, however, and no marked pedestrian crossings.

Photo 37. Kauffman/Lincoln Avenue Condition 1: Jefferson Street



Arterial conditions summary

Number of travel lanes

3 with center turn lane

Posted speed limit

25 MPH

Bike facilities

Striped lanes

Sidewalks and landscaping

Wide sidewalks with street trees and decorative pavers

Pedestrian crossings

Marked crosswalks at Harney Street, Evergreen Boulevard

Adjacent land uses

Industrial

Photo 38. Kauffman/Lincoln Avenue Condition 2: 13th Street to Fourth Plain Boulevard



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

None

Sidewalks and landscaping

Sidewalks with landscape strips and street trees

Pedestrian crossings

Signalized crossing at Fourth Plain Boulevard;
marked crosswalks at 14th Street

Adjacent land uses

Mix of industrial, civic uses, single-family residential and storefront retail

Photo 39. Kauffman/Lincoln Avenue Condition 3: Fourth Plain Boulevard to 39th Street



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Sharrows

Sidewalks and landscaping

Sidewalks with landscape strips and inconsistent street trees

Pedestrian crossings

Fourth Plain Boulevard and 39th Street.

Adjacent land uses

Single-family residential

Photo 40. Kauffman/Lincoln Avenue Condition 4: 39th Street to Bernie Road



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Sharrows

Sidewalks and landscaping

No sidewalks

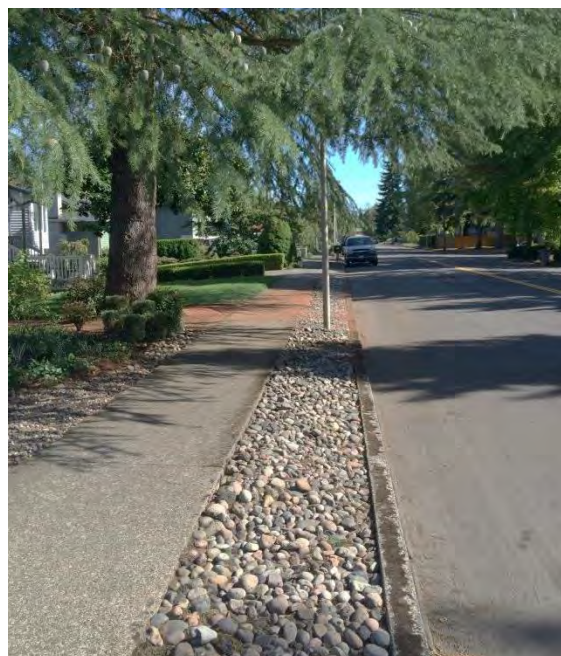
Pedestrian crossings

Marked crosswalks at 39th Street, 48th Street,
53rd Street

Adjacent land uses

Single-family residential

Photo 41. Kaufmann/Lincoln Avenue Condition 5: Bernie Road



Arterial conditions summary

Number of travel lanes

2

Posted speed limit

25 MPH

Bike facilities

Sharrows

Sidewalks and landscaping

Inconsistent sidewalks, generally narrow
landscape strips and no street trees

Pedestrian crossings

None

Adjacent land uses

Single-family residential

7.2 Freight Network

This section provides insight into the roadway network utilized by the truck traffic travelling through westside Vancouver. For the purpose of this study, the term truck refers to articulated trucks that are generally hauling freight. Information from the 2011 *Port Truck Study*²³ and data collected as part of this project were used to gain an understanding of truck traffic patterns in westside Vancouver. Four routes were assessed in the study area as the primary east-west connections that contain truck traffic, including 78th Street, 39th Street, Fourth Plain Boulevard, and Mill Plain Boulevard. Each route is reviewed in greater detail below. A map illustrating these four routes can be found in 15.

7.3 78th Street (Clark County)

This route begins at the Port entrance on Fourth Plain Boulevard and ends at the 78th Street entrance/exit ramps to I-5. It consists of a short east-to-west segment on Fourth Plain Boulevard, the north-to-south bound Fruit Valley Road, and the east-to-west bound 78th Street from the industrial areas to I-5. This route is frequently used by trucks to avoid the Downtown area. Certain sections of Fruit Valley Road have design constraints that are not accommodating to a large amount of truck traffic and are potential areas of concern. For example, the bridge on Fruit Valley Road immediately south of the intersection with 78th Street is aging and narrow. Just south of this bridge is an elevated section of roadway with a tight horizontal curve with limited sight distance. As stated in the Existing Roadway Conditions section, there is an elementary school on Fruit Valley Road, which deters some truck drivers from using this route.

7.4 39th Street

This route begins at the Port entrance on Fourth Plain Boulevard and ends at the 39th Street entrance/exit ramps to I-5. It consists of the short segment on Fourth Plain Boulevard, a short segment on Fruit Valley Road, and the east-to-west bound 39th Street from the industrial areas to I-5. In 2010²⁴, the Washington Department of Transportation (WSDOT) completed construction of a new bridge for vehicles, pedestrians and bicycles over the Burlington Northern Santa Fe (BNSF) railroad tracks, which previously had been an at-grade crossing of five side-by-side pairs of railroad tracks. Steep grades east and west of this crossing made the crossing even more challenging. The new bridge increased the safety of the roadway, eliminated the at-grade crossing, reduced grades, increased freight capacity in this area, and made 39th a more attractive option for east/west travel for vehicles of all sizes.

7.5 Fourth Plain Boulevard

This route begins at the Port entrance on Fourth Plain Boulevard and ends at the Fourth Plain Boulevard entrance/exit ramps to I-5. The route consists of the Fourth Plain

²³ Goodchild, Anne and Maura Rowell. *Port Truck Study*, University of Washington, 2011

²⁴ http://www.cityofvancouver.us/sites/default/files/fileattachments/public_works/page/14214/factsheet-briefingpaper_39thfinalsmall.pdf

Boulevard east-to-west bound segment from Mill Plain/Fourth Plain intersection to I-5. It is the most direct route between I-5 and the industrial areas and is frequently used by trucks. At the interchange from Fourth Plain to I-5 Southbound, vehicles have a short merging distance to cross over two auxiliary lanes to get onto the freeway, approximately 650 feet, which creates weaving issues for trucks when merging with commuter traffic.

7.6 Mill Plain Boulevard

This route begins at the Port entrance on Fourth Plain Boulevard and ends at the Mill Plain Boulevard entrance/exit ramps to I-5. The route consists of the east-to-west bound Mill Plain Boulevard from I-5 to the industrial areas. This road is the primary route for trucks, as it has the highest truck volume of all four east-west roadways. As such, the Mill Plain Boulevard western extension was built to help buffer freight traffic from adjacent neighborhoods. Additionally, this road splits into a one-way couplet between Columbia Street and D Street, designed to accommodate such truck traffic to/from the Port and I-5. Due to roadway constraints along Mill Plain Boulevard, some oversized freight loads, such as that carrying wind turbine equipment, cannot travel down Mill Plain Boulevard to I-5 due to vertical clearance issues. At the interchange from Mill Plain Boulevard to I-5 Southbound, vehicles have a very short merging distance, only 600 feet, which creates issues for trucks competing with general traffic to merge onto the freeway.

8 Existing Traffic Conditions

This section summarizes existing traffic conditions for the various modes of transportation in the westside Vancouver neighborhoods and industrial areas. The following sections provide a description of how pedestrians, bicycles, transit, motor vehicles, and freight use the existing street networks, including traffic volumes and a summary of collision data.

8.1 Data Inventory

To determine the existing traffic conditions in westside Vancouver, traffic data was collected on six of the major roadways and two nearby freeways. This information in coordination with land use data, economic data, and stakeholder interviews were used to determine “critical locations” in westside Vancouver. Critical locations are areas in which strategies will be developed for future improvement as a part of this project.

Traffic data was compiled and analyzed in March 2015 to best determine existing traffic demand, identify patterns of truck and commuter traffic, capture travel time of vehicles, and identify critical intersections where all modes of transportation converge. Three methods were used to collect existing traffic data: Bluetooth readers, video cameras, and radar detection. Data recorders were placed in westside Vancouver, Clark County, and on the I-5 corridor in order to best capture the existing traffic patterns of vehicles entering and exiting the project study area. Table 4 shows the data collection types, the locations they were placed, and the time period of data collection. Figure 17 shows a map of the data collection points. Detailed traffic volume data is provided in Appendix A.

Table 4. Data Collection Locations for the Westside Mobility Strategy

Type	Date	Location
Blue Tooth	March 11-25, 2015	I-5 north of 78th Street Exit
		78th Street west of I-5
		78th Street east of Fruit Valley
		Main Street between I-5 Main St exit and 39th Street
		39th Street between Main Street and Fruit Valley Road
		39th Street at Fruit Valley Road intersection
		Fourth Plain Boulevard just west of I-5 exit
		Fourth Plain Boulevard between Main Street and Fruit Valley Road
		Intersection of Fourth Plain and Mill Plain Boulevards
Blue Tooth	March 11-25, 2015	Mill Plain Boulevard just west of I-5 Exit
		Mill Plain Boulevard just east of railroad tracks
		I-5 south of Mill Plain Boulevard Exit
		I-5 south of WA-14 split
Miovision	March 18-19,	Fruit Valley Road between 78th Street and 39th Street

Table 4. Data Collection Locations for the Westside Mobility Strategy

Type	Date	Location
Cameras	2015	39th Street east of Fruit Valley Road
		Fourth Plain Boulevard east of Fruit Valley Road
		Mill Plain Boulevard west of railroad tracks
Wavetronix Radar	March 18, 2015	78th Street between NW 9th and NW 10th Avenues

8.2 Travel Time Data

Travel time data was collected from Bluetooth devices placed at 14 locations throughout the study area as shown in Figure 17. These locations were chosen to capture the travel times of all vehicles along major north/south and east-west routes throughout westside Vancouver, as well as the travel times along I-5 during peak hours. The four key east-west connections from the Port and industrial area to I-5 were chosen to capture the travel times of vehicles travelling to and from the industrial areas (west of Fourth Plain Boulevard/Mill Plain Boulevard) to the I-5 Interstate Bridge southbound. From the two weeks of data gathered, the average trip travel time along these routes from the port to I-5:

- Via 78th Street = 25 minutes
- Via 39th Street = 15 minutes
- Via Fourth Plain Boulevard = 12 minutes
- Via Mill Plain Boulevard = 7 minutes

Variations by time of day occurred along these routes with peaks occurring during the mid-day and p.m. peak periods. A detailed travel time summary is provided in Appendix B. Additional travel time data is provided later in the report.

8.3 Traffic Volume Data

Video cameras were placed at four locations in westside Vancouver, and radar detection was placed at one location in Clark County to capture bi-directional volumes and vehicle classifications to and from the industrial areas and I-5, as shown in Figure 17. This resulted in 24-hour volume data on Mill Plain Boulevard, Fourth Plain Boulevard, 39th Street, 78th Street, and Fruit Valley Road, captured on March 18, 2015. Main Street was not included in these volume counts, as it does not provide direct access to the industrial areas. Video cameras provided vehicle classification for seven categories which are described in the Miovision information pages²⁵, and radar detection provided vehicle classification by the seven separate categories based on vehicle size.

Traffic volumes are described as all vehicles and articulated trucks. All vehicles include motorcycles, passenger cars, single-unit delivery trucks, and heavy (articulated trucks). Articulated trucks includes trucks with three or more axle trailers and multi-trailer trucks, generally WB-40 or greater.

Figure 18 provides an overview of the traffic volumes on westside Vancouver east/west corridors.

²⁵ <http://help.miovision.com/index.php/tdo/183-north-american-classification-guide-2>

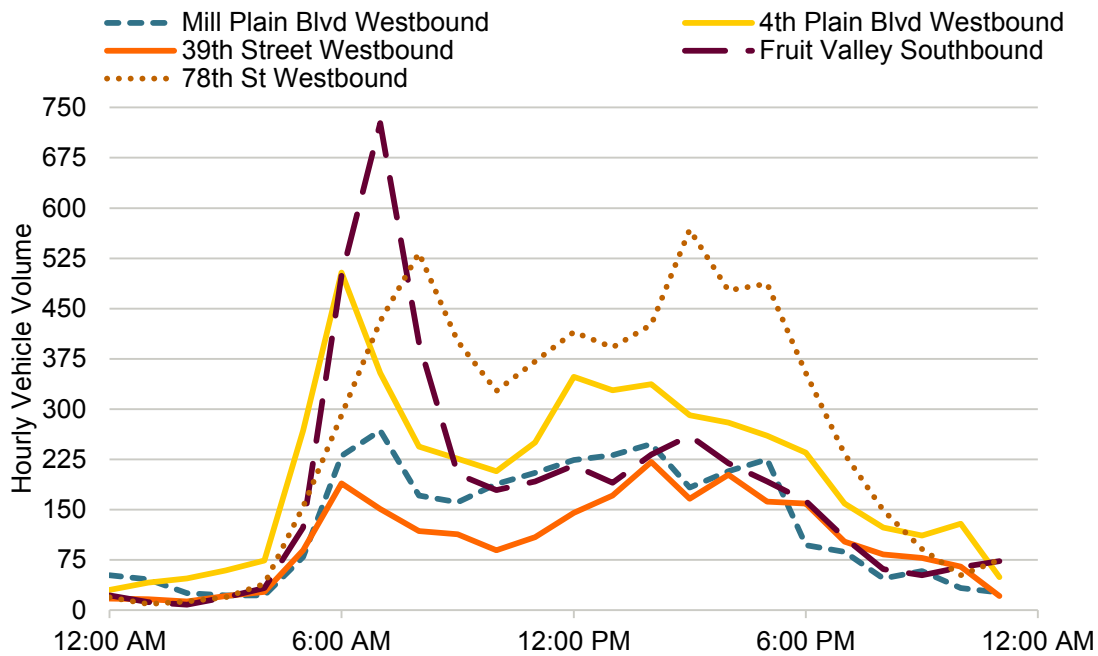
Figure 18. Average Daily Traffic (ADT) on East/West Corridors



8.3.1 Vehicle Volumes

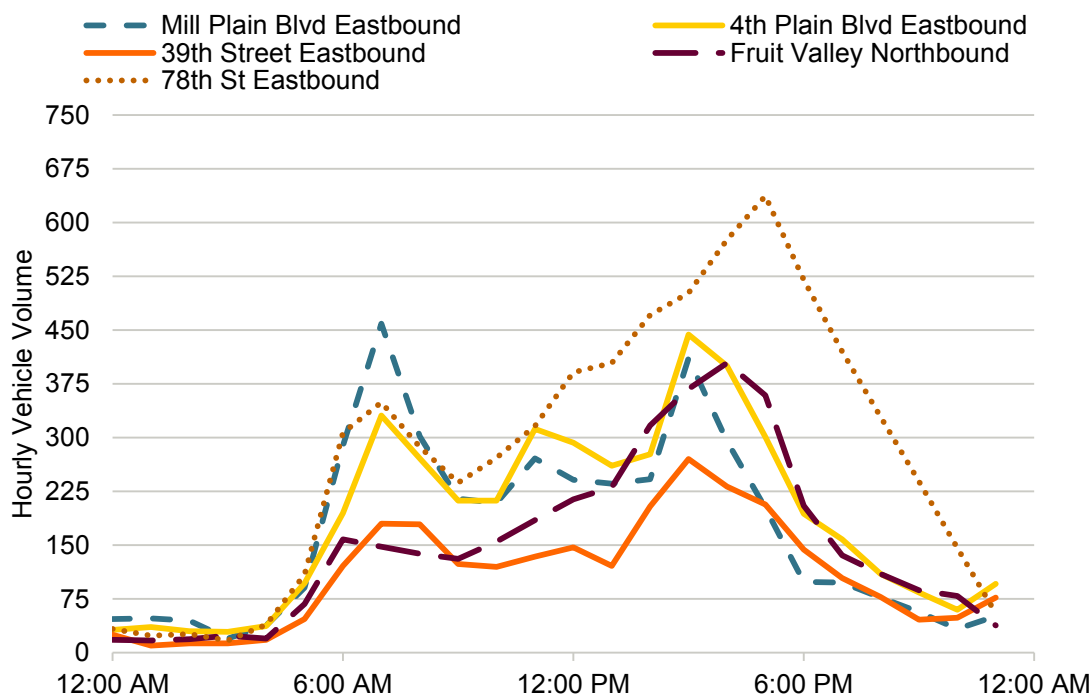
Bi-directional volumes were captured for all vehicles traveling on the five roadways using video and radar detection. East/west volumes were captured for Mill Plain Boulevard, Fourth Plain Boulevard, 39th Street, and 78th Street with north/south volumes were captured for Fruit Valley Road. Profiles of the 24-hour volumes were created to determine peak periods of traffic on each roadway leading both to the industrial area and to I-5. Graph 7 shows the profiles of vehicles traveling from I-5 to the industrial area and Graph 8 shows the profiles of vehicles traveling from the industrial area to I-5.

Graph 7. 24-hour volume profile for all vehicles, I-5 to the industrial areas



As shown in Graph 7, there is a large peak of vehicles traveling southbound on Fruit Valley Road, westbound on 78th Street, and westbound on Fourth Plain Boulevard towards the industrial area in the a.m. period between 6:00 a.m. and 9:00 a.m. Graph 8 shows a spike in northbound traffic on Fruit Valley Road, eastbound on 78th Street, and eastbound on Fourth Plain Boulevard in the p.m. peak period between 3:00 and 6:00 p.m. These spikes are likely attributed to employees at the industrial areas commuting to and from work on weekdays. Similar spikes can be seen on Mill Plain Boulevard and 39th Street in both instances, although not as prominent. This is also attributed to commuters going to downtown employment centers for jobs in the a.m. peak and returning home in the p.m. peak. Much of this traffic volume can also be attributed to diversion from I-5 congestion.

Graph 8. 24-hour volume profile for all vehicles, industrial areas



8.3.2 Articulated Truck Volumes

Truck volumes were also captured along each corridor. In order to combine the vehicle classifications for truck volumes from the two detection types, radar detection and video cameras, the detection type categories for large trucks needed to be defined. For video detection, the category articulated trucks (Figure 19) was used to define all large trucks.

Figure 19. FHWA Classification of Articulated Trucks

Articulated Trucks

All articulated vehicles.

Articulated Truck

All multi-unit goods-carrying vehicles with a tractor or straight truck power unit, including goods-carrying rigid trucks pulling trailers.



Relevant FHWA Classes – 8-13: Three or More Axle Trailer or Multi Trailer Trucks

Typical Vehicle Length: 31.19 - 77.59 feet (9.51 - 23.65 m)

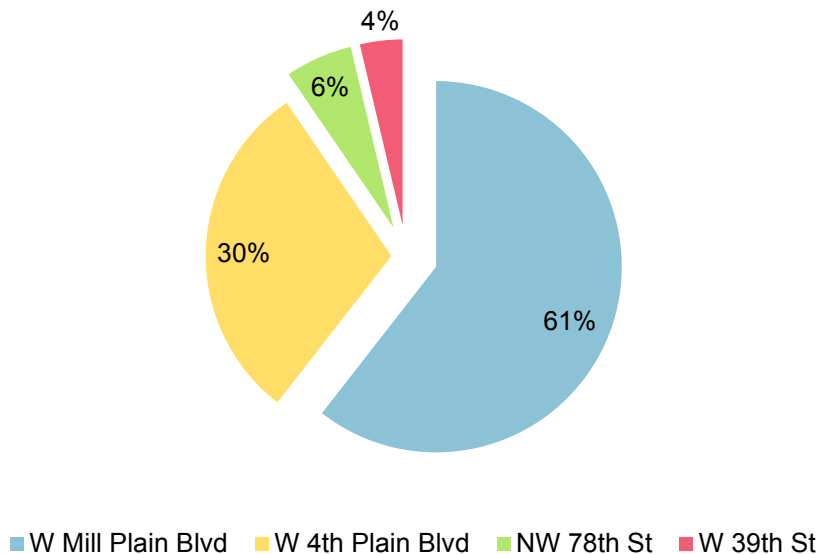
This category defines trucks that are “multi-unit goods-carrying vehicles with a tractor or straight truck power unit, including goods-carrying rigid trucks pulling a trailer” (see Appendix A). Large trucks are 50 feet or greater as the shortest expected

articulated truck would be a WB-40 which is generally greater than 50 feet.²⁶ These two chosen categories best represent WB-40 trucks (smallest category of articulated trucks) and greater. Using these categories, the percent of daily total truck use per roadway was calculated, as shown in Table 5 and Graph 9.

Table 5. Daily Percent of Articulated Truck Volume by Roadway

Roadway	Westbound/ Southbound	Eastbound/ Northbound	Total Roadway Daily
Mill Plain Boulevard	57%	64%	61%
Fourth Plain Boulevard	35%	25%	30%
78th Street	5%	7%	6%
39th Street	4%	4%	4%

Graph 9. Daily Percent of Articulated Truck Volume by Roadway

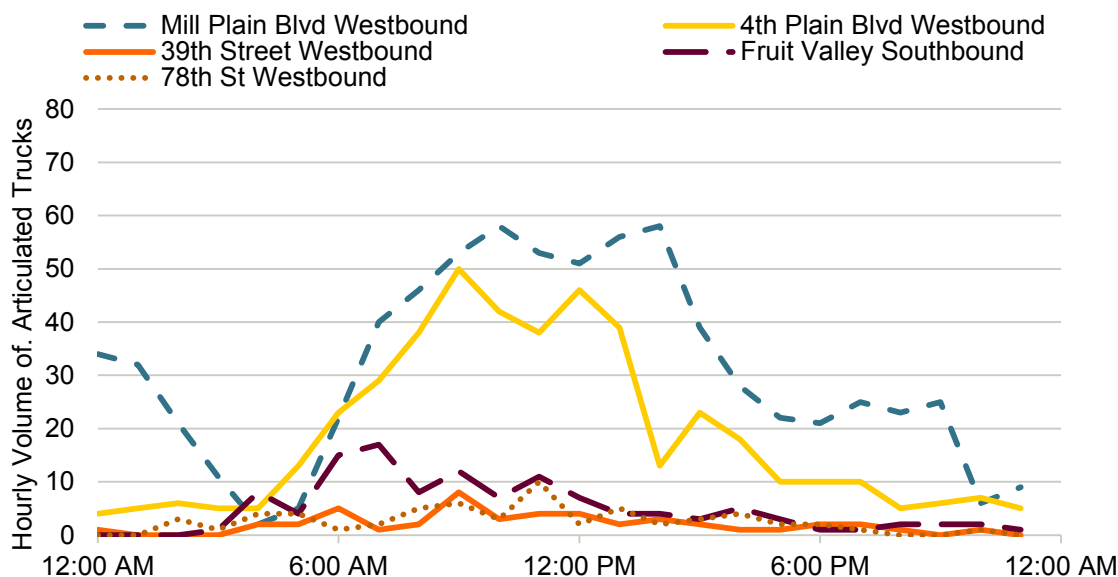


These percentages reflect the usage of trucks on the western-most legs (just east of Fruit Valley Road) on Mill Plain Boulevard, Fourth Plain Boulevard, 39th Street, and 78th Street, and on Fruit Valley Road just north of the intersection with 39th Street.

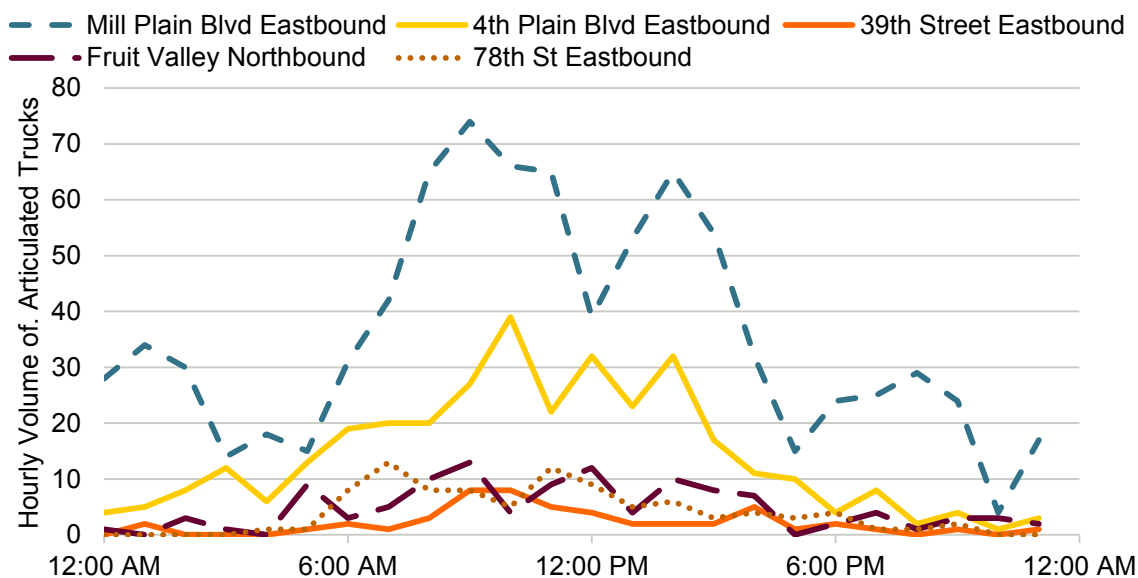
As shown, the roadway with the highest percentage of truck usage is Mill Plain Boulevard for both directions, followed by Fourth Plain Boulevard, 78th Street, and then 39th Street. This is consistent with the UW Study, which found the same order of truck preference for Port-related trucks (excluding 78th Street). Graph 10 and Graph 11 provide the 24-hour volume profiles for trucks traveling along the five roadways between I-5 and the industrial areas.

²⁶ <http://www.in.gov/dot/div/contracts/standards/dm-Archived/06%20English/Part%205%20Vol%201/ECh%2040/figures/EFig%2040-4A.pdf>

Graph 10. 24-hour volume profile for trucks, I-5 to the industrial areas



Graph 11. 24-hour volume profile for trucks, I-5 to the industrial areas



As shown, truck volumes peak between 9:00 a.m. and 3:00 p.m. for both travel directions, which is offset from typical commuter peaks (generally broken into a.m. and p.m. peaks). These peaks are the most apparent for Mill Plain Boulevard and Fourth Plain Boulevard, as these roads have the highest truck volumes. As shown, nights trips are increasing approximately 25 hourly volumes on Mill Plain Boulevard in both directions between 12:00 and 3:00 a.m.

8.4 I-5 Diversion Traffic

Origin and Destination (OD) data was collected from Bluetooth devices placed throughout the study area as shown in Figure 17. This data was used to evaluate traffic

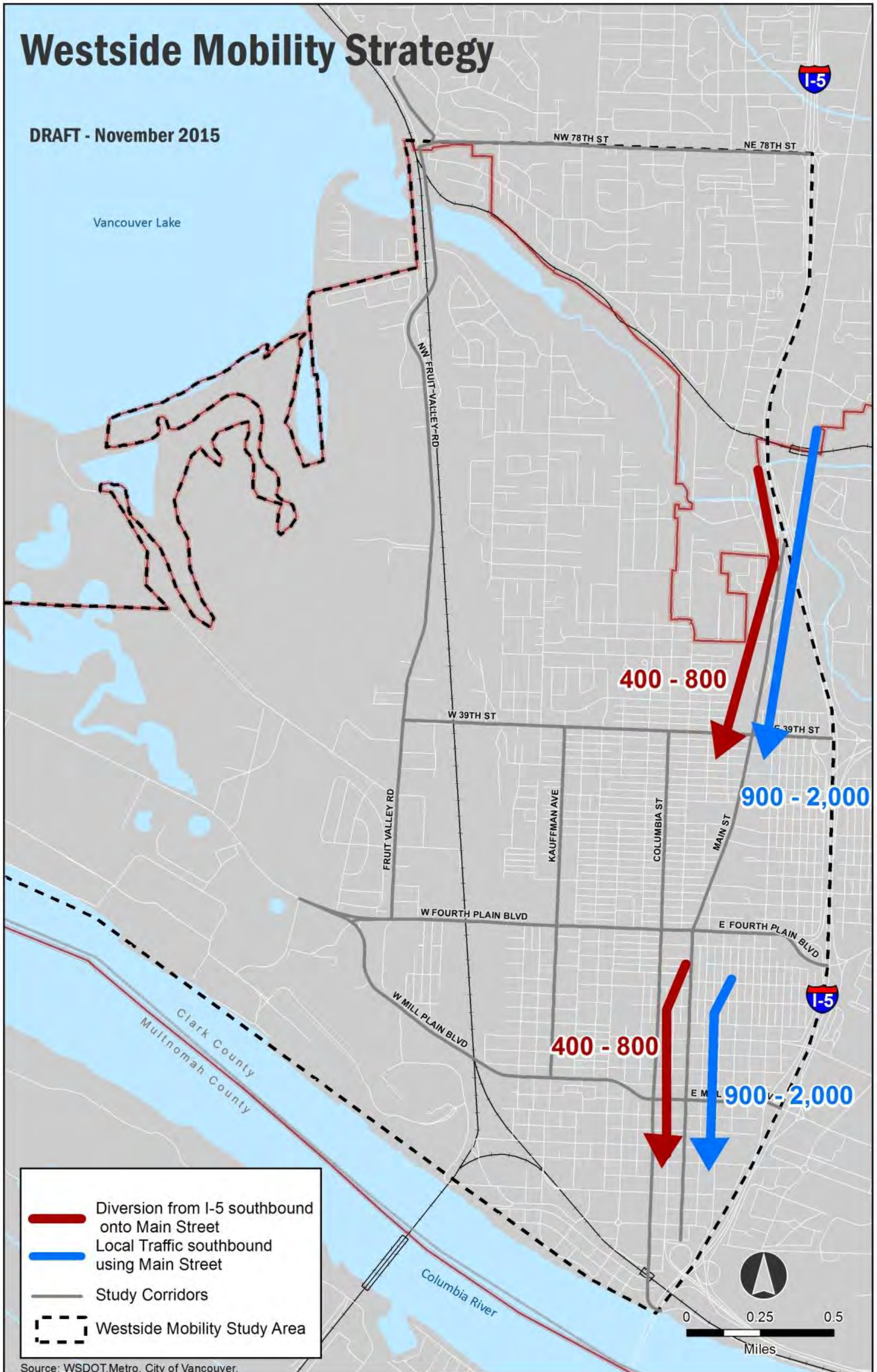
that diverted from I-5 onto Main Street in the a.m. peak and cut through the Downtown area to get back on the freeway to avoid freeway congestion. It is important to note that the Bluetooth devices generally gather about 5 to 10 percent of the total trips on a given route.

Through the evaluation of the OD data, it was determined that a large percentage of the cut-through traffic are motorists beginning their trip via Main Street near the I-5 ramps and continue on the local street network through Downtown to access I-5 rather than enter the freeway at Main Street. The following summarizes the Bluetooth-generated data:

- Approximately 900 to 2,000 motorists per week remain on the local streets near Main Street at the I-5 ramps and cut through westside Vancouver to access I-5 south of Downtown, as shown in Figure 20.
- Approximately 400 to 800 motorists per week exit I-5 at Main Street and cut through westside Vancouver to access I-5 south of Downtown²⁷, as shown in Figure 20.
- The majority of the cut-through trips occur during the a.m. and mid-day peak periods.

²⁷ Additional trips were recorded exiting I-5 using Main Street and reentering at the south end of the freeway, however, these trips were longer and it was assumed they had a destination in Westside Vancouver and were not a “cut-through” trip.

Figure 20. Diversion onto Main Street due to I-5 Southbound Congestion

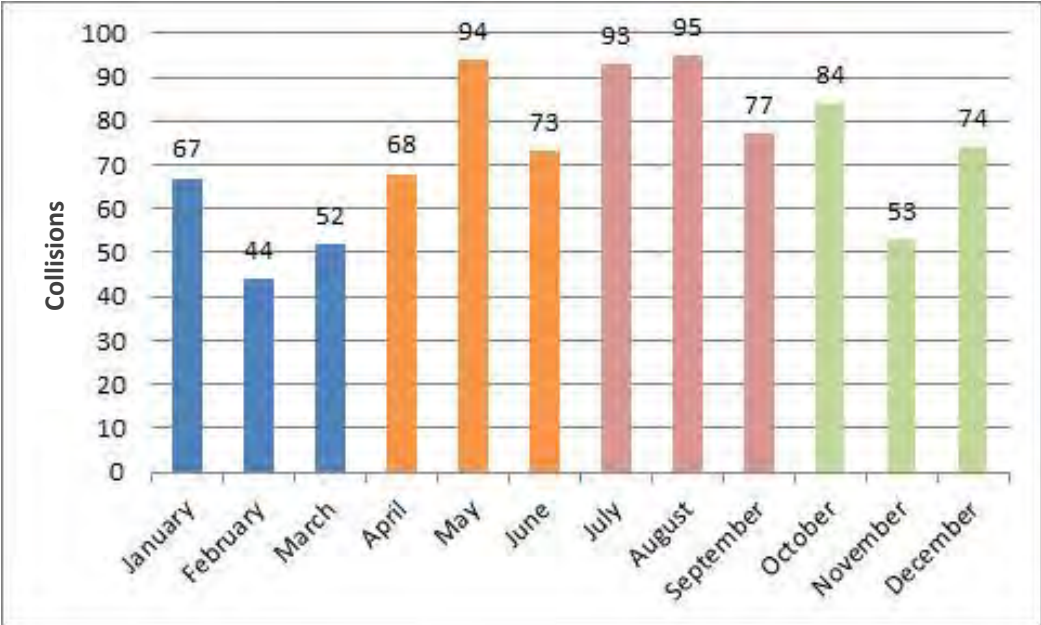


9 Collision Data Analysis

Collision data was collected from the WSDOT’s collision database from 2010 through 2014. This dataset includes all collisions within the city limits, but does not include data for 78th Street, which is within Clark County’s jurisdiction. Collisions only occurring within the westside Vancouver study area were isolated for this study. This includes collisions that occurred on I-5 exit ramps to the Downtown area, which were potentially caused or impacted by traffic on the arterials and congestion on the freeway, as well as collisions on roadways surrounding the western industrial areas. Detailed collision data is provided in Appendix C.

Graph 12 provides an overview of the seasonal characteristics of the collision data.

Graph 12. Monthly Breakdown of Westside Vancouver Collision Data



9.1 Collision Severity and Causes

During this five-year period, there were a total of 874 reported collisions within westside Vancouver. Of these collisions, 408 occurred on five of the primary roadways, resulting in 244 injuries (Graph 13). Table 6 shows the total collisions and injury types on five of the main corridors. Collision rates per length of roadway for each corridor were calculated using the Federal Highway Administration’s (FHWA) Collision Rate Calculations²⁸:

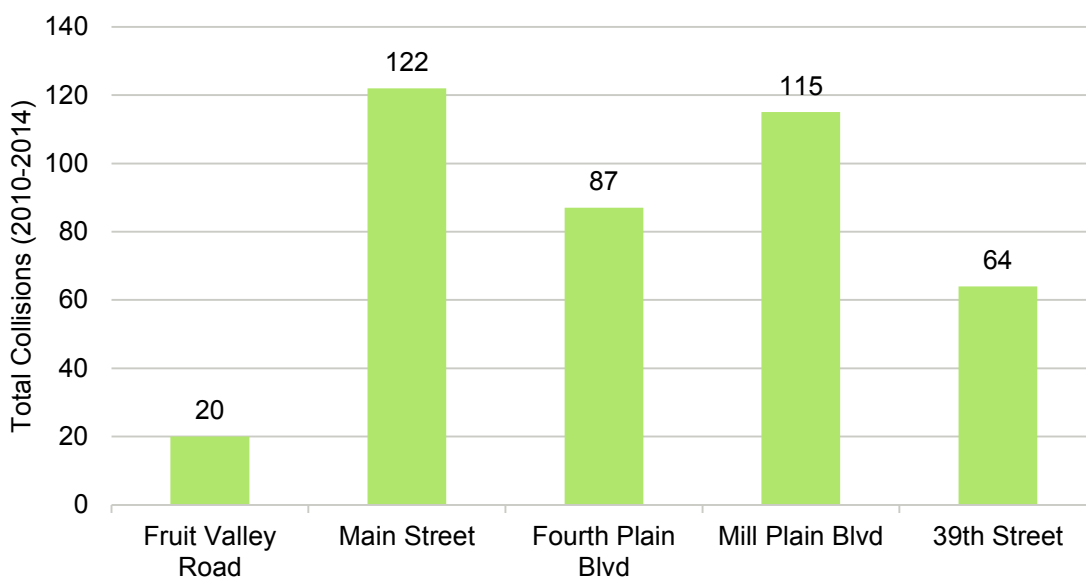
Table 6. Collision Summary for Primary Roadways

Roadway	Total Collisions	Total Injuries	Total Fatalities	Pedestrian Collisions	Bike Collisions	Collision Rate ²
Fruit Valley Road	18	11	0	0	1	1.3
Main Street	94	71	1	10	5	8.1
Fourth Plain Blvd	79	55	0	4	4	9.8
Mill Plain Blvd ¹	128	78	0	7	3	15.0
39th Street	61	29	0	0	1	8.5
Westside Vancouver	874	351	8	21	14	--

1 = Includes 15th Street Couplet

2 = Collision Rate per Mile (within study area, does not include ADT or severity)

Graph 13. Total Collisions on Primary Roadways and Westside Vancouver



A map of all collisions categorized by severity type is provided in Figure 21. Each of these collisions is categorized by the most severe level of injury that occurred as a result of the collision. The severity of each type is defined as follows:

- Fatality – Participant Fatality
- Serious Injury – Critical Injury to Participant

²⁸ http://safety.fhwa.dot.gov/local_rural/training/fhwasaxx1210/s3.cfm (Collisions per mile divided by the multiplication of number of years and length of roadway)

- Evident Injury – Moderate Injury to Participant
- Possible Injury – Minor Injury to Participant
- No Injury – Property Damage Only

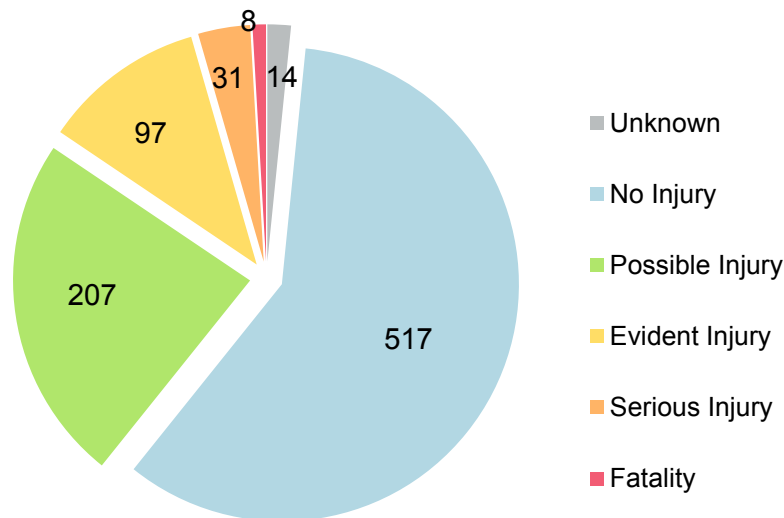
There are many ways to evaluate collisions. For a better understanding of why collisions are occurring, collision type (see Figure 22) and collision causes were evaluated. The occurrence of the most common causes for collisions in Vancouver’s westside neighborhoods include:

- Disobeyed Traffic Rules – 26%
- Under the Influence of Drugs or Alcohol – 8%
- Improper Movement - 8%
- Exceeding Safe Speeds/Speed Limit – 7%
- Distracted Driver – 5%
- Followed too Closely – 5%

Both Figure 21 and Figure 22 include all collisions that occurred in westside Vancouver in the last five years with the exception of 17 collisions that occurred west of the Downtown area within the Port and industrial areas.

As shown in Figure 21 and Figure 22, there was a high concentration of collisions on Main Street between Fourth Plain Boulevard and 8th Street. Most of these collisions produced no injury to either party involved. Just north of this location on Main Street a fatal collision occurred, making this location an area of particular concern. There was also a high concentration of serious injury accidents surrounding the intersection of Main Street and Mill Plain Boulevard. Additionally, there were two fatalities on 8th Street near intersections with Columbia Street and Washington Street, both of which are location of concern. Graph 14 shows the number of collisions for each level of injury severity.

Graph 14. Collision Severity for West Vancouver



Within the last five years, there were eight fatalities in westside Vancouver area. The map shows only seven of these collisions, as the eighth occurred further west in the Port and industrial area. These fatalities are explained in further detail in Table 7. The events leading to the collision are explained in “Cause of Collision”. Out of the eight total fatalities, six were either a pedestrian or cyclist—75 percent of the total fatalities in this area.

Table 7. Fatalities in Westside Vancouver

Intersection	Fatality Mode	Cause of Collision
E 19th St / Broadway	Cyclist	Cyclist struck parked, unoccupied vehicle
Jefferson St / W 12th St	Pedestrian	Inattentive driver failed to yield ROW to pedestrian
Main St / E 27th St	Cyclist	Bus turning left struck motorcyclist
W 8th St / Columbia St	Pedestrian	Driver exceeding safe speeds failed to yield ROW to Pedestrian
W 8th St / Washington St	Pedestrian	Failed to yield ROW to pedestrian
I-5 NB/WA-14 City Center Exit	Motorcyclist	Motorcyclist exceeding safe speed hit curb (single vehicle accident)
I-5 SB Main St Exit	Pedestrian	Driver was distracted inside vehicle
Highway 501 (Industrial Area)	Motor Vehicle	Head on collision-driver under the influence of alcohol

Figure 21. 2010-2014 Severity of Collisions

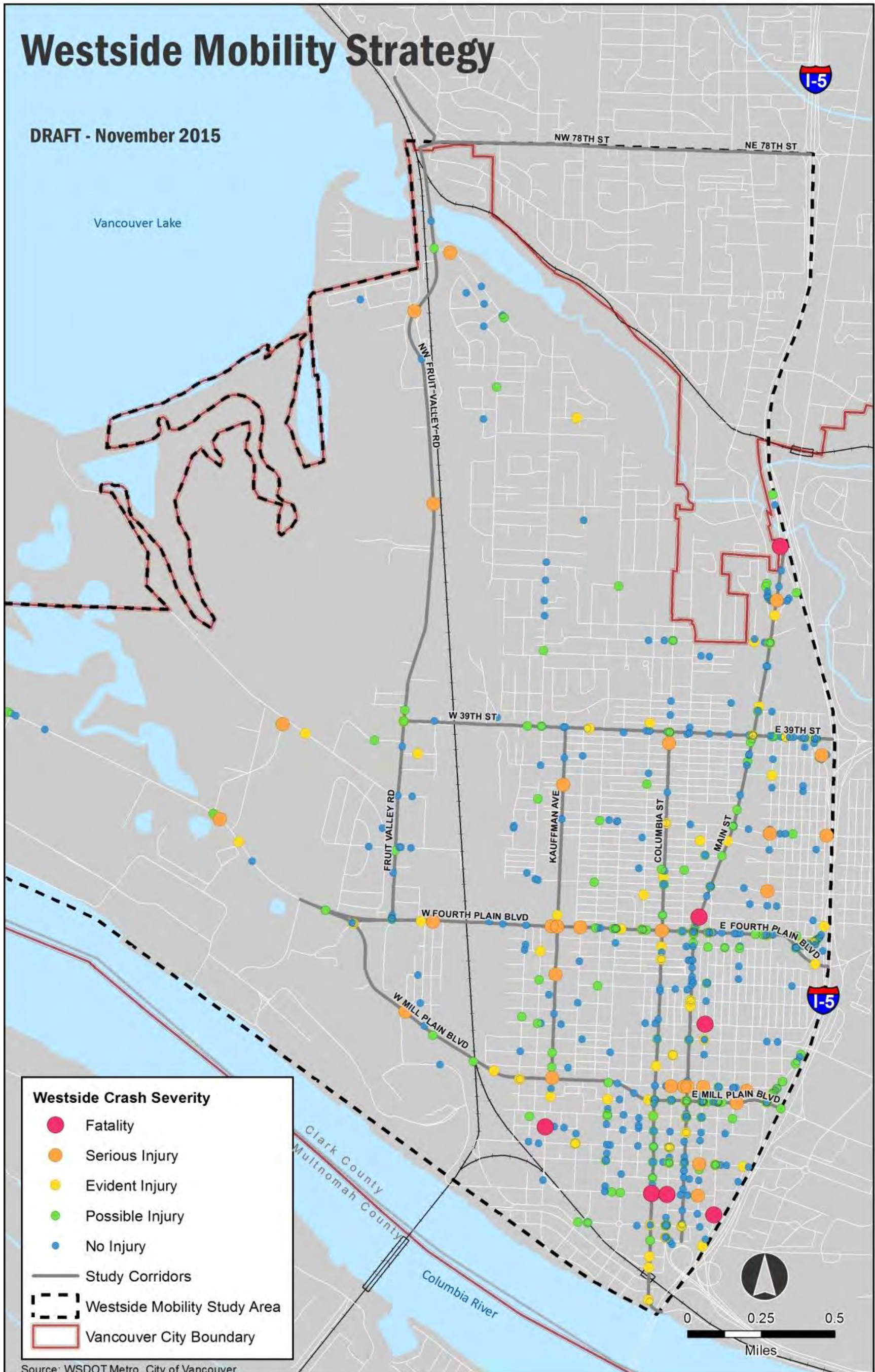
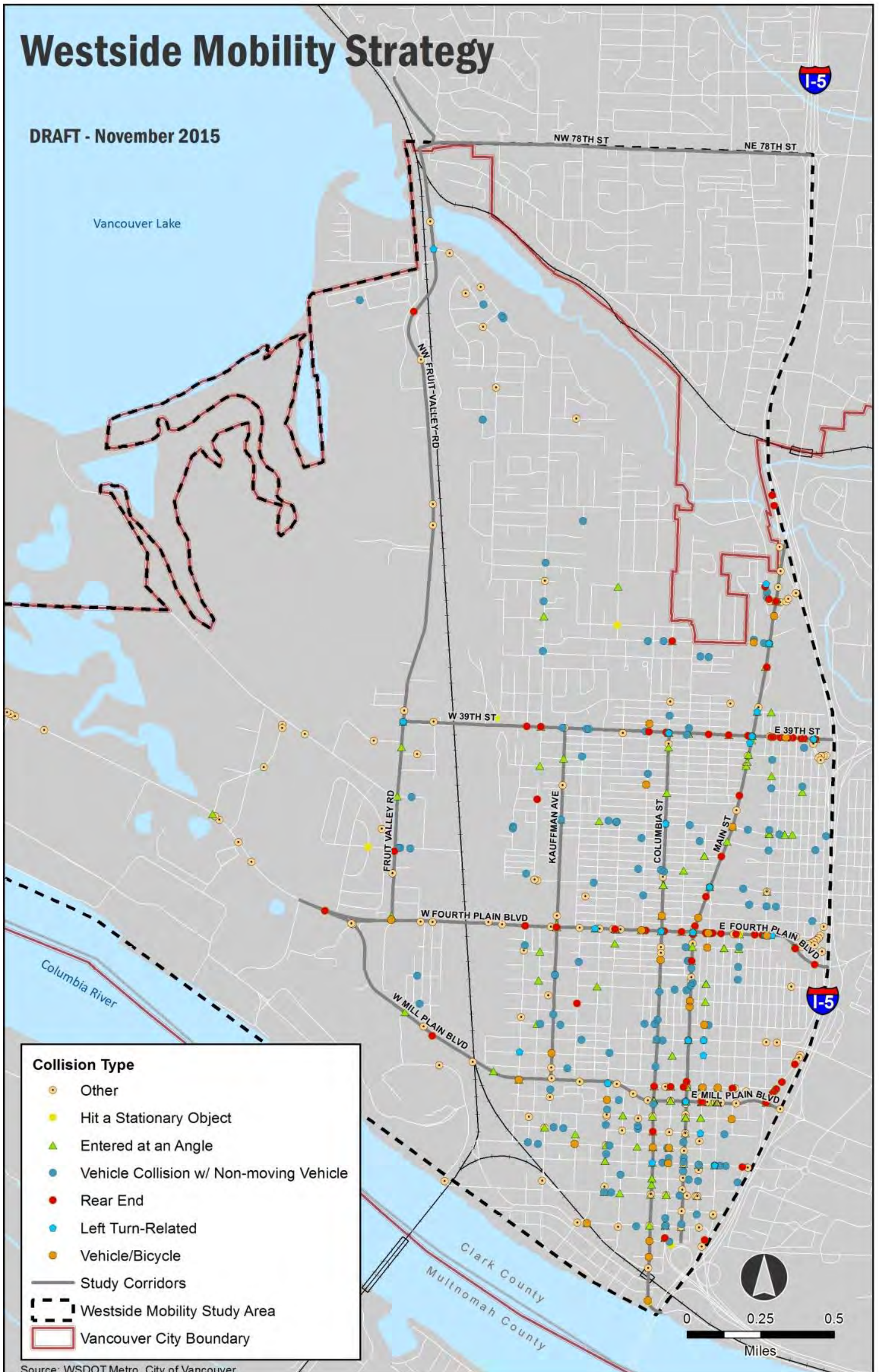


Figure 22. 2010-2014 Type of Collision



9.2 Cyclist and Pedestrian Collisions

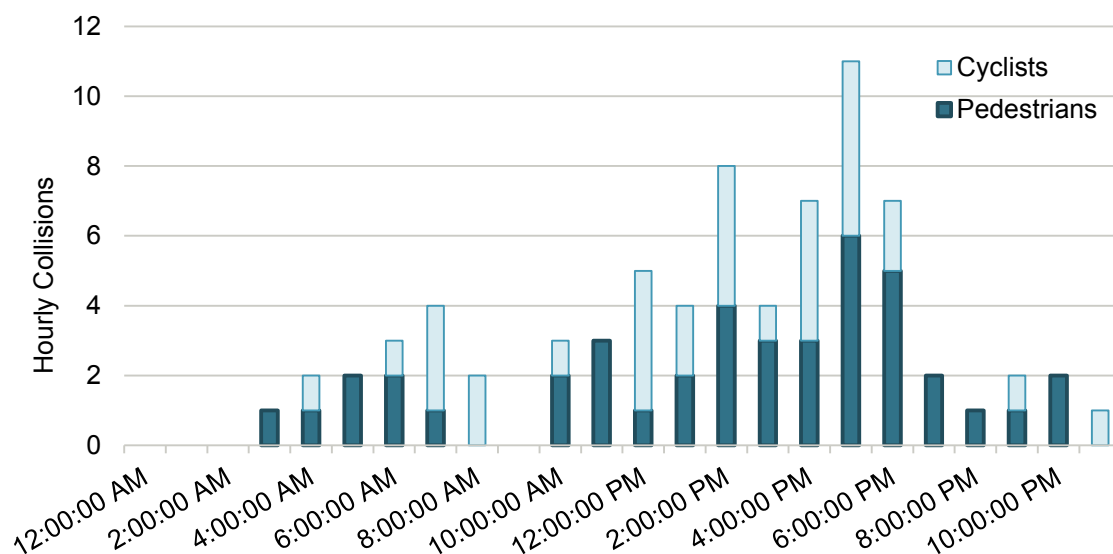
The collision database provided key insights into the bicycle and pedestrian-related collisions for the past five years within the westside of Vancouver. In this time period there were a total of 42 pedestrian-related collisions (44 pedestrians affected) and 32 cyclist-related collisions (33 cyclists affected). The number of collisions per hour varied throughout the day, with the peak collisions for both pedestrians and cyclists occurring during the hour of 5:00 p.m., which is a peak hour with high vehicle volume. Graph 15 shows the total number of collisions that occurred throughout a 24-hour period.

As shown, there was a steady increase throughout the day of collisions related to bicyclists and pedestrians. There were more than twice as many collisions in the p.m. peak period (3:00 p.m. to 6:00 p.m.) than the a.m. peak period (6:00 a.m. to 9:00 a.m.).

These collisions were further categorized into level of injury severity. Graph 16 shows the injury severities for both pedestrian and cyclist collisions throughout westside Vancouver. The majority of collisions for both cyclists and pedestrians were “evident injury”, meaning that the injury severity ranged from minor to moderate. There were a total of four pedestrian fatalities and two cyclist fatalities within the study area. Figure 23 shows the map of westside Vancouver pedestrian and cyclist collisions according to injury severity.

As Graph 16 shows, a pedestrian-related collision resulted in an injury for every collision and the majority of bicycle-related collisions resulted in an injury. This is a contrast to vehicle-only collisions, where the majority of collisions produced no injury. Compared to motor vehicle collisions, the severity and the chance of a fatality for bicyclists and pedestrians are much higher. Additionally, a large concentration of the high severity pedestrian and bicycle collisions occurred just south of Mill Plain Boulevard along Columbia Street, Main Street and the downtown area.

Graph 15. Cyclist and Pedestrian 24-hour Collision Profile²⁹



²⁹City of Vancouver, Collision Data 2010-2014

Graph 16. Injury Severity by Mode

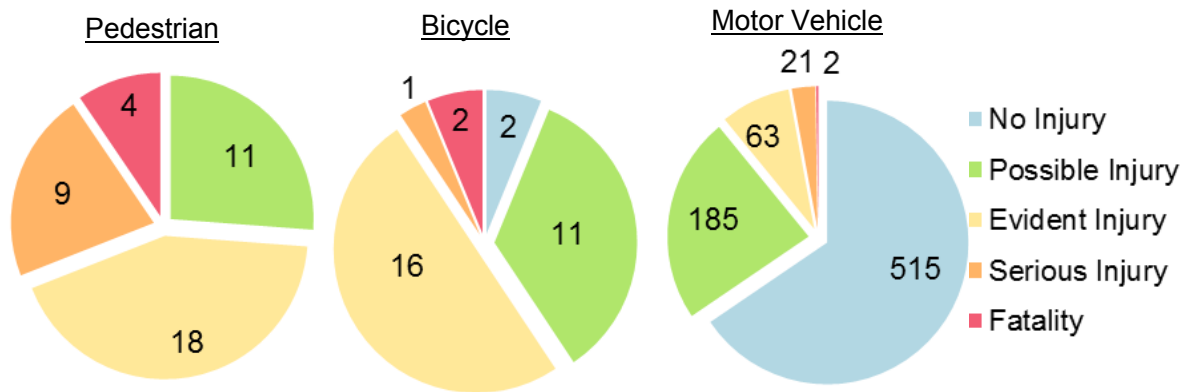
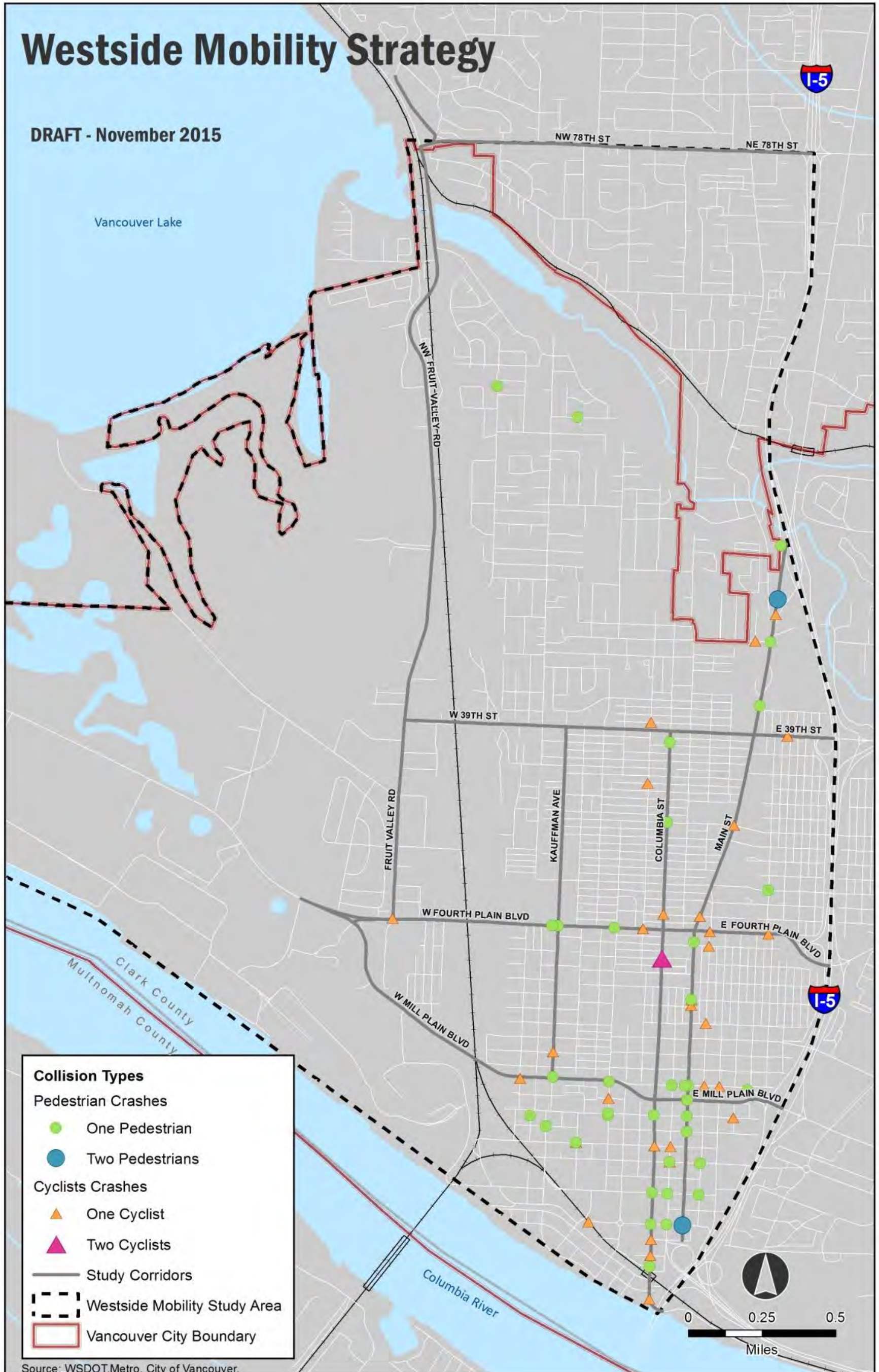


Figure 23. Bicycle and Pedestrian Collisions



9.3 Truck Collisions

One of the primary concerns heard from the neighborhoods within Downtown is the impact of truck traffic traveling near residential neighborhoods. Trucks in residential neighborhoods are unavoidable, as most of the primary paths between I-5 and the industrial areas must travel through neighborhoods with this configuration to get to and from I-5.

*Truck Related
Collisions in
Westside
Vancouver = 2.4%*

Collision data shows that few collisions (21 out of 874) involved a tractor trailers or semi-trailer in the past five years. Truck-related collisions constitute 2.4 percent of all collisions that have occurred in westside Vancouver in the past five years. One of these collisions produced a serious injury, with the majority producing either no injury or possible injuries. The majority of truck collisions occurred on Mill Plain Boulevard. Collision frequency for the main roadways is listed below:

- Mill Plain Boulevard – 9 collisions
- Fourth Plain Boulevard – 5 collisions
- Main Street – 2 collisions

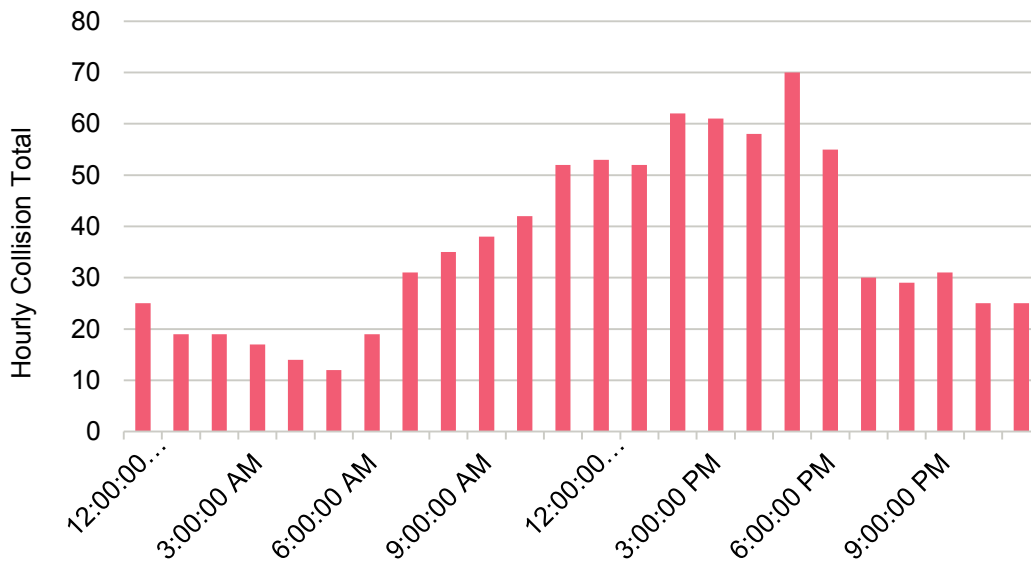
9.4 Collisions by Time of Day

The 2010 to 2014 WSDOT collision data was further broken down into time of day collisions. This highlights the hours of day during which the most frequent collisions have occurred. This data was plotted for five of the six main study area roadways (since 78th Street is not included in the collision database). The following sections and Graph 17 through Graph 22 show the 24-hour collision profiles of each main corridor and provide observable trends relating to the collision.

9.4.1 Westside Vancouver Total Collisions

A total of 874 collisions occurred in westside Vancouver during the observed five-year period (2010-2014). The profile for the total collisions that occurred is shown in Graph 17. The collisions that occurred during the five-year period peaked in the afternoon during rush hour. The peak hour of collisions, 5:00 p.m., coincides with the peak in collisions for both pedestrians and cyclists. This time has also some of the highest commuter volumes throughout the day.

Graph 17. Westside Vancouver 24-hour Collision Profile, All Corridors³⁰

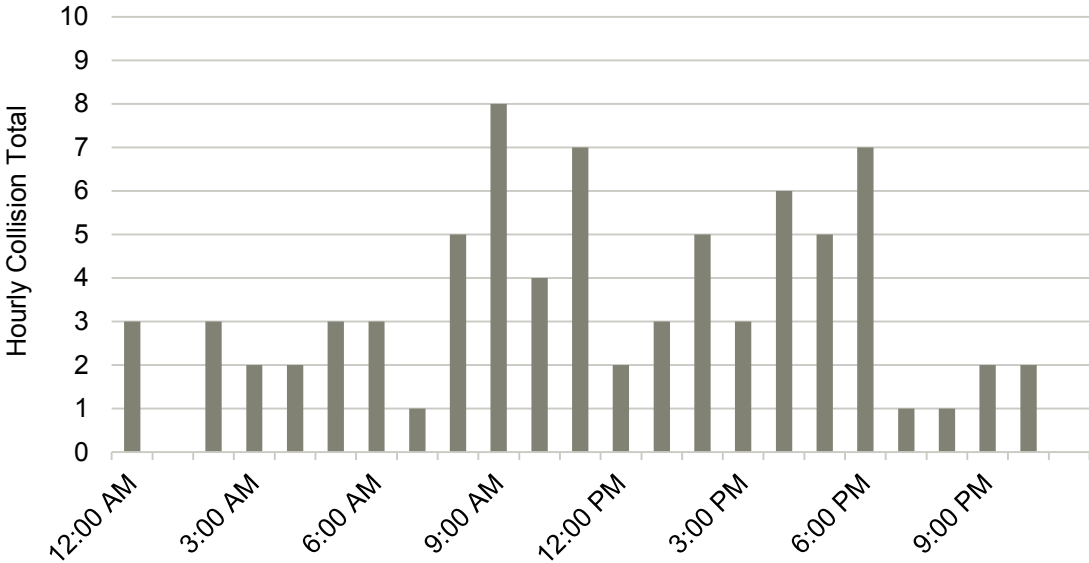


³⁰ City of Vancouver, Collision Data 2010-2014

9.4.2 Mill Plain Boulevard Collisions

A total of 115 collisions occurred on Mill Plain Boulevard during the observed five-year period. This produced a collision rate of 9.1 collisions per mile of roadway, which is the highest of the roadways evaluated and larger than the collision rate of the entire westside. Throughout the day, the collisions on Mill Plain Boulevard spiked during the morning and afternoon peak hours, due to higher level of traffic volumes during the peak hours. The collision profile is shown in Graph 18.

Graph 18. Mill Plain Boulevard 24-hour Collision Profile³¹

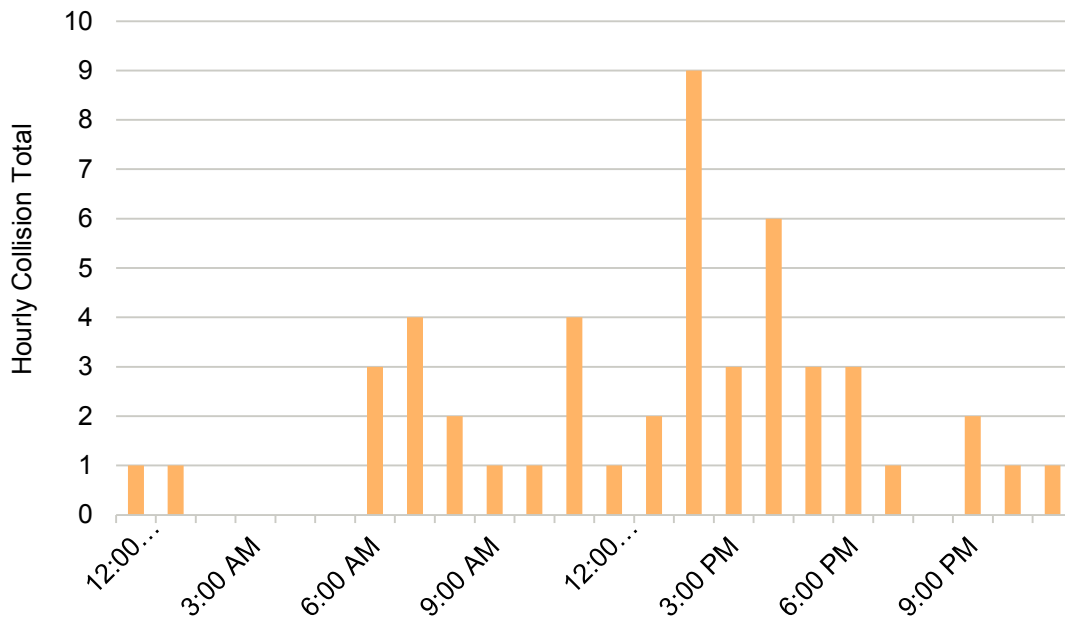


³¹ WSDOT, Mill Plain Boulevard Collision Data 2010-2014

9.4.3 Fourth Plain Collisions

A total of 49 collisions occurred on Fourth Plain Boulevard during the observed five-year period, with a collision rate of 6.1 collisions per mile, the third-highest collision rate for the study roadways. During this time, the hour with the highest number of collisions was found to be 2:00 p.m., as shown in Graph 19. There was no particular trend among the collisions during this time period, but based on the data collection, this is an hour of high volume and higher volumes generally equate to a higher number of collisions.

Graph 19. Fourth Plain Boulevard 24-hour Collision Profile³²

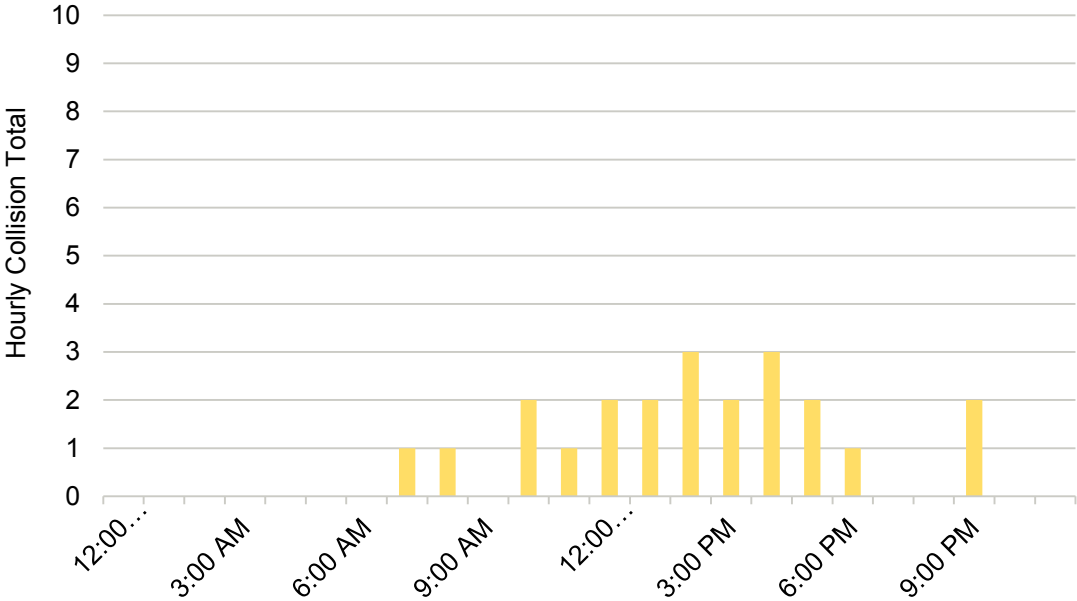


9.4.4 39th Street Collisions

A total of 22 collisions occurred on 39th Street during the observed five-year period, with a collision rate of 3.1 collisions per mile of road, the second-lowest of the five roadways. During this time, 2:00 p.m. and 4:00 p.m. had the highest number of collisions, as shown in Graph 20.

³² WSDOT, Fourth Plain Boulevard Collision Data 2010-2014

Graph 20. 39th Street 24-hour Collision Profile³³

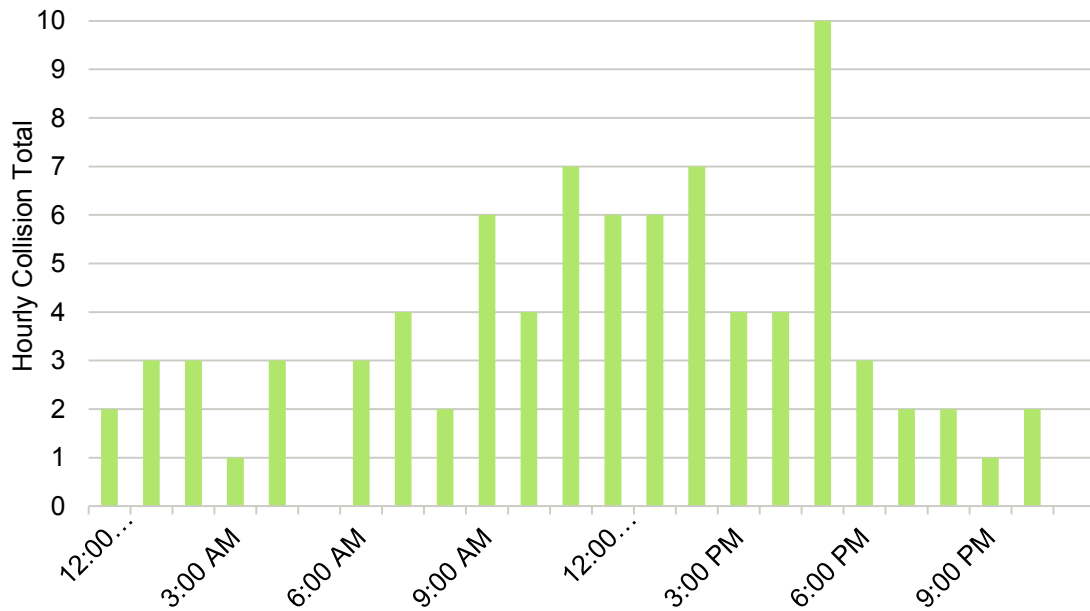


³³ City of Vancouver, 39th Street Collision Data 2010-2014

9.4.5 Main Street Collisions

A total of 85 collisions occurred on Main Street during the observed five-year period, producing a collision rate of 7.3 collisions per mile of roadway, the second-highest of the five roadways evaluated. The hour with the highest number of collisions was 5:00 p.m. (Graph 21), which is consistent with the peak hour collisions for westside Vancouver. As shown in Figure 22, there is a concentration of collisions that occur on Main Street just south of Fourth Plain Boulevard.

Graph 21. Main Street 24-hour Collision Profile³⁴

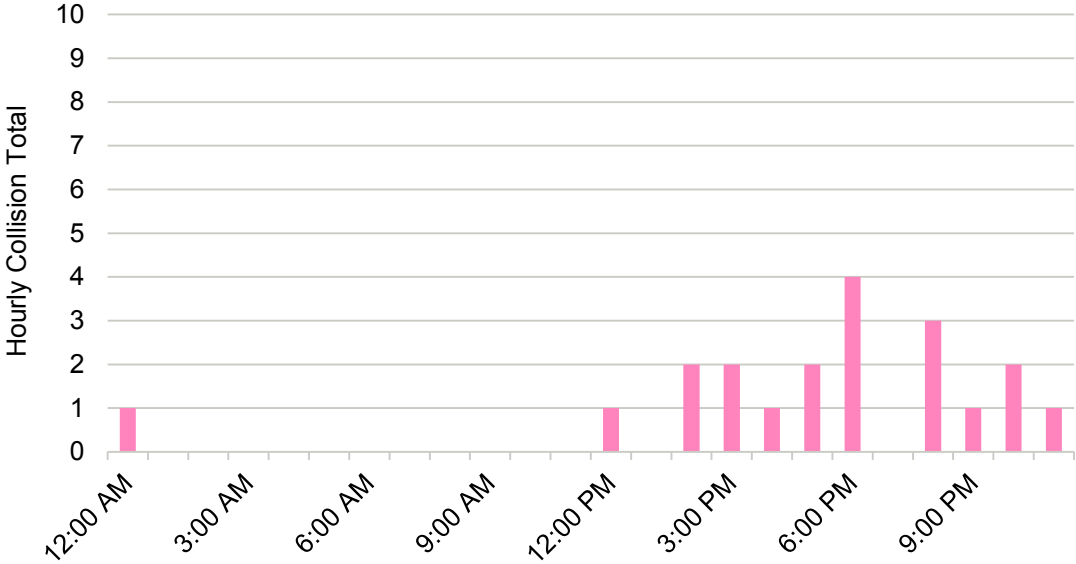


³⁴ City of Vancouver, Main Street Collision Data 2010-2014

9.4.6 Fruit Valley Road Collisions

A total of 20 collisions occurred on Fruit Valley Road during the observed five-year period, producing a collision rate of 1.5 collisions per mile of roadway, the lowest of the five roadways evaluated. Times of day collisions are shown in Graph 22. As shown, the hour with the highest number of collisions was 6:00 p.m. No collisions happened during the morning commute times even though there were higher volumes.

Graph 22. Fruit Valley Road 24-hour Collision Profile³⁵

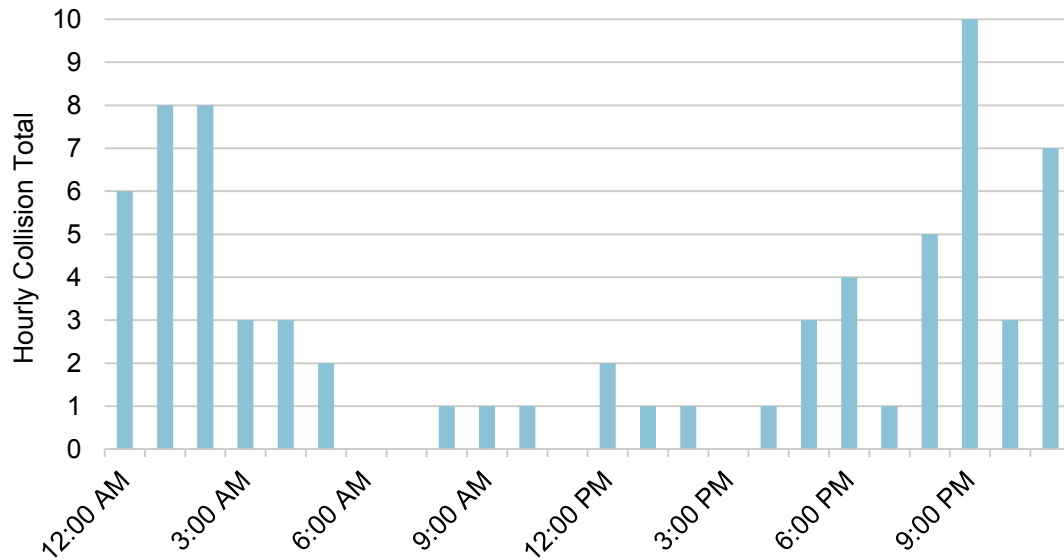


³⁵ City of Vancouver, Fruit Valley Collision Data 2010-2014

9.4.7 Alcohol-Related Collisions

Of the 874 collisions in westside Vancouver, 71 were alcohol-related (8 percent). The time of day collision profile is shown in Graph 23. The majority of these collisions occurred between 8:00 p.m. and 2:00 a.m. (47 of the 71). Five of these collisions resulted in serious injuries to one of the parties involved. Two of these collisions involved a pedestrian, and they occurred during the p.m. peak hours between 4:00 and 6:00 p.m.

Graph 23. Alcohol-related Collisions 24-hour Profile³⁶



³⁶ City of Vancouver, Collision Data 2010-2014

9.5 Collision Analysis Conclusions

Through the collision analysis for the 2010 to 2014 time period, there are some key takeaways that should be noted:

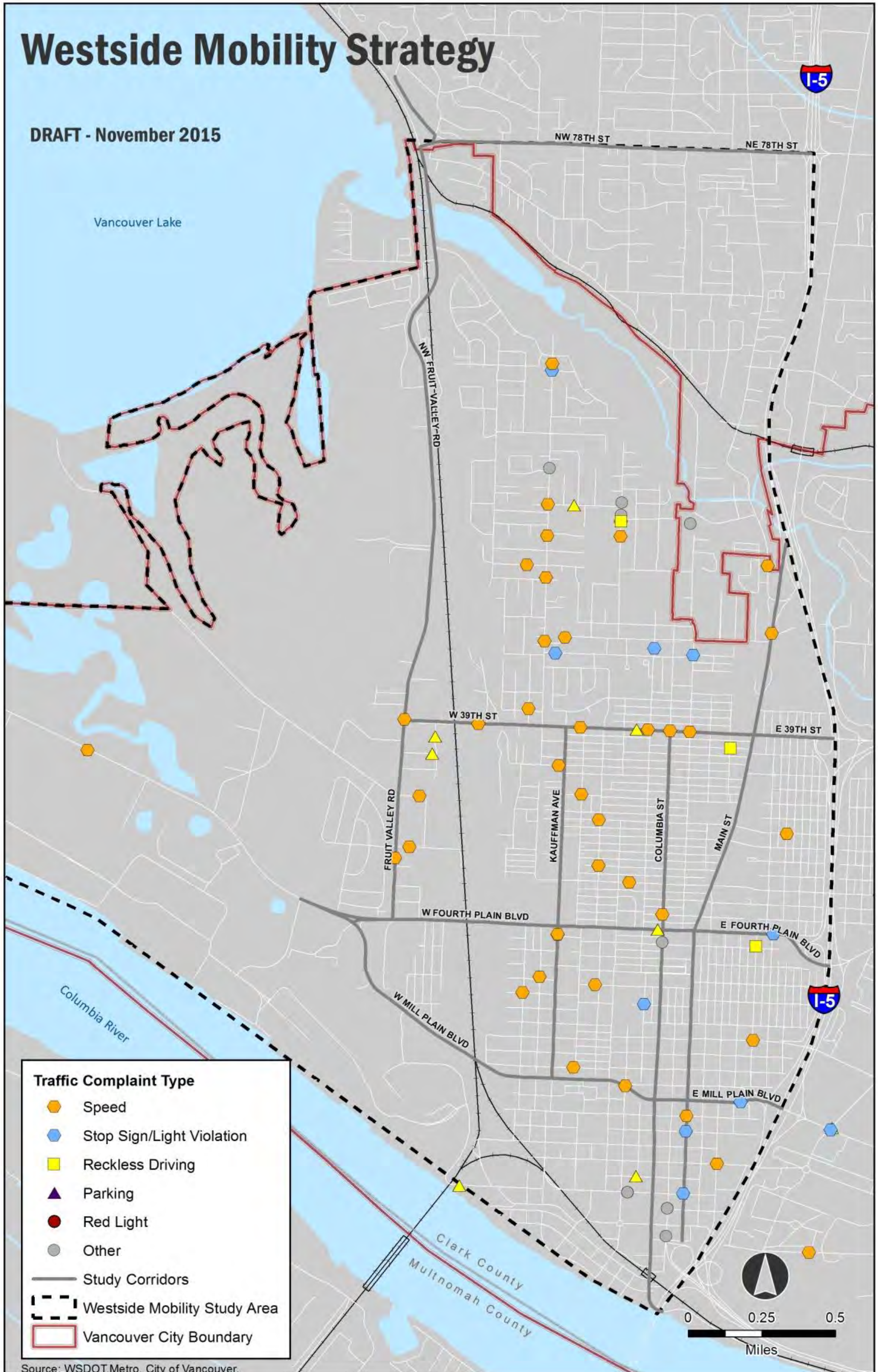
- 75% of fatalities in westside Vancouver were cyclists or pedestrians
- Collisions—especially those involving bicyclists and pedestrians—were most heavily concentrated south of Mill Plain Boulevard along Columbia Street, Main Street and the downtown.
- Pedestrians/cyclists collisions generally occurred during the p.m. peak period and typically resulted in an injury.
- 8% of collisions were alcohol-related and generally occurred at non-commuter hours
- 2.4% of collisions were a result of truck traffic
- Main Street had the highest number of collisions in westside Vancouver
- Mill Plain Boulevard had the highest collision rate in westside Vancouver
- Collisions occur most frequently in the months of May, July and August, likely as a result of more activities and more driving during warm, summer months

9.6 Traffic Complaints

Traffic complaints from 2008 – 2015 to the City's traffic hotline were mapped to determine if complaints were coming from similar locations where collisions were occurring. Figure 24 illustrates the complaint locations and types, which shows that areas with residential land uses typically generate more traffic complaints. Complaints appear to be more consistent with land uses compared to collision locations. Of the complaints collected, the frequencies of the five common categories include:

- Speeding – 346
- Stop Sign/Light Violations – 62
- Reckless Driving – 33
- Parking – 18
- Red Light – 17

Figure 24. Summary of Traffic Complaints to the Police Department



Appendix A

Traffic Data

Vancouver West Side Volume Data
 ATR Counts - Video Camera & Radar Detection
 March 18, 2015

ADT			
Roadway	EB/NB	WB/SB	Total
78th Street	6326	6706	6706
Fruit Valley Rd	4221	3609	3609
39th Street	2510	2654	2654
Fourth Plain Blvd	4940	4472	4472
Mill Plain Blvd	4044	3100	3100

Daily Truck Traffic						
Road	EB/NB	%	WB/SB	%	Total	Daily Trucks
78th Street	94	7%	61	5%	6%	155
Fruit Valley Rd	114		118			232
39th Street	51	4%	47	4%	4%	98
Fourth Plain Blvd	342	25%	450	35%	30%	792
Mill Plain Blvd	863	64%	740	57%	61%	1603

Hourly Volumes Westbound/Southbound						Hourly Truck Volumes Westbound/Southbound						
Hour	Mill Plain Blvd Westbound	4th Plain Blvd Westbound	39th Street Westbound	78th St Westbound	Fruit Valley Southbound	Hour	Mill Plain Blvd Westbound	4th Plain Blvd Westbound	39th Street Westbound	78th St Westbound	Fruit Valley Southbound	NW 78th St Westbound (L>25 ft)
12:00 AM	51	30	17	19	22	12:00 AM	34	4	1	0	0	0
1:00 AM	46	41	16	9	12	1:00 AM	32	5	0	0	0	1
2:00 AM	25	47	13	13	8	2:00 AM	21	6	0	3	0	3
3:00 AM	22	59	21	19	19	3:00 AM	11	5	0	1	1	1
4:00 AM	22	74	27	39	33	4:00 AM	2	5	2	4	8	4
5:00 AM	79	268	89	154	122	5:00 AM	5	13	2	4	4	5
6:00 AM	230	504	189	291	499	6:00 AM	22	23	5	1	15	13
7:00 AM	267	353	151	431	725	7:00 AM	40	29	1	2	17	22
8:00 AM	171	244	118	533	398	8:00 AM	46	38	2	5	8	39
9:00 AM	160	225	113	401	202	9:00 AM	53	50	8	6	12	26
10:00 AM	187	207	89	327	176	10:00 AM	58	42	3	3	7	25
11:00 AM	205	249	108	371	192	11:00 AM	53	38	4	10	11	35
12:00 PM	221	347	143	415	216	12:00 PM	51	46	4	2	7	31
1:00 PM	231	328	170	392	189	1:00 PM	56	39	2	5	4	29
2:00 PM	241	337	220	426	230	2:00 PM	58	13	3	2	4	34
3:00 PM	180	290	163	568	258	3:00 PM	39	23	2	3	3	43
4:00 PM	207	280	200	477	216	4:00 PM	28	18	1	4	5	36
5:00 PM	219	255	158	487	186	5:00 PM	22	10	1	2	3	27
6:00 PM	85	232	159	354	162	6:00 PM	21	10	2	2	1	13
7:00 PM	87	159	101	233	107	7:00 PM	25	10	2	1	1	8
8:00 PM	47	123	83	149	61	8:00 PM	23	5	1	0	2	5
9:00 PM	58	110	77	91	52	9:00 PM	25	6	0	0	2	4
10:00 PM	33	129	65	52	64	10:00 PM	6	7	1	1	2	1
11:00 PM	26	49	20	75	72	11:00 PM	9	5	0	0	1	1
						Total	740	450	47	61	118	406
						% of Total	57%	35%	4%	5%		

Hourly Volumes Eastbound/Northbound						Hourly Truck Volumes Eastbound/Northbound						
Hour	Mill Plain Blvd Eastbound	4th Plain Blvd Eastbound	39th Street Eastbound	78th St Eastbound	Fruit Valley Northbound	Hour	Mill Plain Blvd Eastbound	4th Plain Blvd Eastbound	39th Street Eastbound	78th St Eastbound	Fruit Valley Northbound	NW 78th St Eastbound (L>25 ft)
12:00 AM	47	32	25	33	18	12:00 AM	28	4	0	0	1	0
1:00 AM	48	36	10	24	17	1:00 AM	34	5	2	0	0	0
2:00 AM	45	30	13	26	19	2:00 AM	30	8	0	0	3	0
3:00 AM	20	28	13	17	24	3:00 AM	14	12	0	0	1	2
4:00 AM	37	37	18	39	20	4:00 AM	18	6	0	1	0	1
5:00 AM	91	96	47	109	68	5:00 AM	15	13	1	1	9	2
6:00 AM	289	194	120	307	157	6:00 AM	31	19	2	8	3	19
7:00 AM	459	330	180	349	148	7:00 AM	42	20	1	13	5	43
8:00 AM	302	270	179	287	138	8:00 AM	65	20	3	8	10	40
9:00 AM	215	211	124	237	130	9:00 AM	74	27	8	8	13	29
10:00 AM	209	212	120	272	155	10:00 AM	66	39	8	5	4	22
11:00 AM	271	312	134	316	185	11:00 AM	65	22	5	12	9	35
12:00 PM	237	293	147	391	214	12:00 PM	39	32	4	9	12	31
1:00 PM	236	257	121	404	229	1:00 PM	53	23	2	5	4	34
2:00 PM	241	277	204	471	314	2:00 PM	65	32	2	6	10	41
3:00 PM	403	442	268	502	367	3:00 PM	54	17	2	3	8	42
4:00 PM	293	400	231	576	399	4:00 PM	32	11	5	4	7	28
5:00 PM	200	299	206	637	357	5:00 PM	15	10	1	3	0	24
6:00 PM	95	192	144	520	201	6:00 PM	24	4	2	4	2	16
7:00 PM	88	157	102	420	135	7:00 PM	25	8	1	1	4	14
8:00 PM	77	110	77	329	110	8:00 PM	29	2	0	1	1	14
9:00 PM	57	84	46	239	87	9:00 PM	24	4	1	2	3	5
10:00 PM	33	60	49	146	79	10:00 PM	4	1	0	0	3	0
11:00 PM	51	96	76	55	38	11:00 PM	17	3	1	0	2	1
						Total	863	342	51	94	114	443
						% of Total	64%	25%	4%	7%		

**Traffic Data Online**
[Traffic Data On Demand](#)
[Video Collection Units](#)
[Get Help](#)

North American Classification Guide



Miovision's Traffic Studies system can classify vehicles into six distinct types, which may be grouped in different ways depending upon the Classification Scheme selected. The current Schemes available are:

- All Vehicles (1 group)
- Lights / Other Vehicles (2 groups)
- Motorcycles / Other Vehicles (2 groups)
- Lights / Mediums / Articulated Trucks (3 groups)
- Lights / Buses / Trucks (3 groups)
- Motorcycles / Cars & Light Goods / Other Vehicles (3 groups)
- Lights / Buses / Single-Unit Trucks / Articulated Trucks (4 groups)
- Motorcycles / Cars / Light Goods / Buses / Single-Unit Trucks / Articulated Trucks (6 groups)

Please see the Classification Reference Table below for information on how each Vehicle Class is grouped. If the Group or Class name is not shown in a Classification Scheme, that vehicle type will be included as 'Other Vehicles'.

Bicycles and Pedestrian volumes are not included in any Classification Scheme unless selected.

Pedestrians**Pedestrian**

All people on foot, skateboards, rollerblades, walkers, wheelchairs, etc. on the crosswalk. Pedestrians are documented bi-directionally, providing insight into which direction they crossed the street (i.e., distinguishing between those who travelled East to West and those who travelled West to East).

Bicycles**Pedal Bike**

Pedal Bikes are categorised as either Bicycle on Road or Bicycle on Crosswalk. Bicycles on Road are a distinct class of their own, which can be added to other classification groupings. Bicycles on Crosswalk are part of the Crosswalk Volumes classification with pedestrians, but are reported separately from pedestrians.

Typical Vehicle Length: 3.15 - 7.61 feet (0.96 - 2.32 m)

Lights**Motorbike**

All motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheel motorcycles.

Relevant FHWA Class – 1: Motorcycles

Related Articles

- [Actual Cost May Vary](#)
- [Configure a TMC Study](#)
- [Configure a non-VCU ATR for Upload](#)
- [Configure a non-VCU TMC for Upload](#)
- [Configure an ATR Study](#)
- [Cost Estimates](#)
- [Custom Classifications](#)
- [Non-VCU Video Compatibility Check](#)
- [Traffic Data On Demand \(TDOD\) - Request a Study](#)
- [Traffic Data Online 14.1](#)



Typical Vehicle Length: 3.15 - 7.61 feet (0.96 - 2.32 m)

Car

All passenger-carrying vehicles, including those that pull light trailers: sedans, coupes, station wagons, SUVs, vans, limos, campers, motor homes, small ambulances, etc.



Relevant FHWA Classes - 2: Passenger Cars and Other Two-Axle, Four-Tire Single Unit Passenger Vehicles



Typical Vehicle Length: 13.06 - 22.45 feet (3.98 - 6.84 m)

Light Goods Vehicle

All light goods-carrying vehicles, including those that pull light trailers: pickups, panel vans, tow trucks, etc.



Relevant FHWA Class 3: 2 Axles, 4-Tire Single Units, Pickup or Van (With 1- or 2-Axle Trailers)



Typical Vehicle Length: 13.06 - 22.45 feet (3.98 - 6.84 m)

Mediums

Single-Unit Truck



All rigid vehicles over 3.5 tonnes gross vehicle weight.



All large vehicles on a single frame: trucks, tow trucks, campers, motor homes, large ambulances, etc., including passenger-carrying vehicles from this category pulling trailers. Also includes all buses if the separate Bus class is not selected.



Relevant FHWA Classes – 4: Buses; 5-7: Two-Axle, Six-Tire, Single Unit Trucks and Three or More Axle Single Unit Trucks



Typical Vehicle Length: 20.23 - 34.44 feet (6.17 - 10.50 m)

Bus

All passenger-carrying buses, including school buses and articulated buses.



*Note: if buses are not selected as a separate class, buses will be documented as either Other Vehicles or as Single-Unit Trucks, depending which classification scheme you select.



Relevant FHWA Class – 4: Buses

Typical Vehicle Length: 31.19 - 44.93 feet (9.51 - 13.69 m)

Articulated Trucks

All articulated vehicles.

Articulated Truck

All multi-unit goods-carrying vehicles with a tractor or straight truck power unit, including goods-carrying rigid trucks pulling trailers.



Relevant FHWA Classes – 8-13: Three or More Axle Trailer or Multi Trailer Trucks

Appendix B

Bluetooth Travel Time and Origin Destination Detailed Data

Vancouver West Side Travel Time Data
 Travel Time for CORRIDORS
 Blue Tooth Collection Counts
 3/11/2015 - 3/25/2015

Travel Time (minutes)						# of hrs of data		
Summary of Routes		Average Travel Time	Weekday		Saturday	Weekday AM	Weekday PM	Weekend
			10 AM - 2 PM	3 PM - 6 PM	9 AM - 3 PM			
78th Street	EB	100 (1:40)	2	1	2	44	33	12
	WB	103 (1:43)	2	1	2	44	33	12
39th Street*	EB	100 (1:40)	2	2	N/A	6	6	0
	WB	87 (1:27)	1	2	N/A	7	6	0
4th Plain Boulevard	EB	250.8 (4:10)	5	3	6	49	24	12
	WB	226 (3:46)	4	4	4	32	24	12
Mill Plain Boulevard	EB	288 (4:48)	7	4	5	40	30	12
	WB	268 (4:28)	4	3	5	40	30	12
Fruit Valley Road	NB	423 (7:03)	10	6	6	22	18	6
	SB	397 (6:37)	9	8	16	22	18	5

*Note: Travel Time for 39th is for 1/2 the corridor

Vehicle Speed (mph)						
Summary of Routes		Average Speed	Weekday		Saturday	Road Length
			10 AM - 1 PM	3 PM - 6 PM	9 AM - 3 PM	
78th Street	EB	42	43	56	38	1.28
	WB	42	40	58	42	
39th Street	EB	24	49	53	N/A	1.44
	WB	27	60	47	N/A	
4th Plain Boulevard	EB	22	20	36	16	1.61
	WB	24	22	26	27	
Mill Plain Boulevard	EB	22	16	27	19	1.71
	WB	24	23	31	19	
Fruit Valley Road	NB	26	16	26	26	2.68
	SB	26	18	19	10	

Note: Speed based on distance measured from Google Earth

Appendix C

Detailed Collision Data

Summary of Collisions
 2010-2014 WSDOT Collision Data
 Vancouver Westside Mobility Strategy

Summary							
Roadway	Total Collisions	Total Injuries	Total Fatalities	Pedestrian Collisions	Bike Collisions	Collision Rate Per Mile	Collision Percentage
Fruit Valley Road	20	11	0	0	1	1.5	2%
Main Street	122	81	1	11	5	10.5	14%
Fourth Plain Blvd	87	55	0	4	4	10.8	10%
Mill Plain Blvd	115	68	0	6	3	13.5	13%
39th Street	64	29	0	0	1	8.9	7%
Total West Side	874	351	8	21	14	-	-

Roadway	Total Collisions	Length	Collisions per Mile	AADT	Collision Rate
Fruit Valley Road	20	2.75	1.45	7884	5.05
Main Street	122	2.13	11.46	11543	27.19
Fourth Plain Blvd	87	1.34	12.99	11242	31.65
Mill Plain Blvd	115	1.59	14.47	27445	14.44
39th Street	64	1.37	9.34	14418	17.75

Roadway	Roadway Length (mi)	No. Collisions	ADT	Collisions per 100 million vehicle-miles	Collision rate by route length
Fruit Valley Road	2.68	20	7830	52	1.5
Main Street	2.33	122	11543	249	10.5
Fourth Plain Blvd	1.61	87	9412	315	10.8
Mill Plain Blvd	1.71	115	7144	516	13.5
39th Street	1.44	64	5164	472	8.9
Total	9.77	408	29550	77	8.4

Roadway Departure Collision rate $R = \frac{C \times 100,000,000}{V \times 365 \times N \times L}$

C = Total number of roadway departure Collisions in the study period
 V = Traffic volumes using AADT volumes
 N = Number of years of data
 L = Length of the roadway segment in miles

Most Severe Injury	Collisions	Percent
Unknown	14	1.6%
No Injury	517	59.2%
Possible Injury	207	23.7%
Evident Injury	97	11.1%
Serious Injury	31	3.5%
Fatality	8	0.9%
Dead at Scene	5	0.6%
Died in Hospital	3	0.3%
Additional Data	Collisions	Percent
Total Injuries	351	40%
Alcohol-related Collisions	63	7%
Total Fatalities	8	1%
Bike-Ped Fatalities*	6	75%
Total	874	100%

*Percent of West Side Fatalities

Truck Collisions	Veh 1	Veh 2	Percent
Truck & Trailer	1	1	0.2%
Truck Tractor & Semi-Trailer	9	8	2%
Truck - Double Trailer Combinations	0	1	0.1%
Truck Tractor	0	1	0.1%
Total Truck Collisions	10	11	2.4%

Top Collision Causes	No. Collisions	% of Total
Distracted Driver	48	5%
Under the Influence of Alcohol/Drugs	68	8%
Disobeyed Traffic Rules	224	26%
Exceeding Safe Speeds/Speed Limit	65	7%
Followed too Closely	45	5%
Unkown/None	81	9%
Improper Movement	66	8%

Appendix D

Community Engagement



Community Engagement Framework

Project: Vancouver Westside Mobility Strategy

Date: Tuesday, March 3, 2015

This Draft Community Engagement Framework (CEF) establishes the stakeholder and public involvement approach for the Vancouver Westside Mobility Strategy. The CEF sets the appropriate objectives, methods, tools and techniques to gain public and stakeholder input into transportation strategies (short and long term) that address industrial growth and neighborhood livability in West Vancouver.

Project Objective

The objective of this project is to build trust and establish legitimacy with the public through a transparent process that emphasizes relationship building, stakeholder participation and education.

The stakeholder engagement approach for this project seeks to:

- Provide a forum for a shared understanding of the issues, bringing people together with different perspectives
- Engage stakeholders in experiential activities where they can observe conditions and participate in the project firsthand
- Go to stakeholders rather than expecting them to come to us
- Provide a general understanding and awareness that this project will be seeking to improve current conditions

The CEF supports the following overall project engagement Steps and Key Objectives:

Step One: Issues and Needs Assessment (approx. Feb. – April 2015)

Objectives:

- Issues identification and/or verification
- Problem statement(s) refinement
- Identification of recommended involvement techniques
- Stakeholder list(s) additions and refinement

Step Two: Alternatives Evaluation (approx. May – Aug. 2015)

Objectives:

- Enhance understanding of potential alternatives
- Evaluate preferences for options and option components (keypad polling)
- Consider any missing components and new ideas for inclusion with alternatives
- Stakeholder list(s) refinement



Step Three: Preferred Option Selection (approx. Sept. – Jan. 2016)

Objectives:

- Confirm refined concepts
- Introduce draft Mobility Strategy and implementation plan
- Finalize Mobility Strategy and implementation plan

Step One

Step One is all about understanding/verifying the community needs, issues and concerns related to traffic, freight movement, access and multi-modal mobility in West Vancouver and ensuring that the project has firm footing to move ahead. This is the stage where we compile our stakeholder lists, conduct initial conversations/interviews with key stakeholder groups, verify assumptions, fine tune our outreach approach and begin the outreach activities.

Step One Tasks	When
Draft stakeholder questions	Feb.
Team orientation area van tour	Feb. 23 rd
Port of Vancouver van tour	TBD
Stakeholder interview: VDA Board Mtg.	March 2 nd
Draft project fact sheet/key messages	Week of Mar. 16
Draft initial website content	Week of Mar. 16
Compile stakeholder list(s)	Week of Mar. 16
Core Group Mtg. #1	March
Schedule/conduct stakeholder interviews	March/April
Interviews summary/Finalize CEF	April
**Targeted stakeholder engagement activities	April - Summer
○ Neighborhood association briefings	
○ Key stakeholder van tours	
○ Business canvassing	
○ Community walking tour	
○ Community bicycle tour	
○ Vancouver Farmers Market tabling	
○ Truck Driver Survey???	
Core Group Mtg. #2	April
Town Hall Forum #1	April



Step Two

Step Two is where initial options (project concepts) are developed and vetted with stakeholders and the public. It's where we begin the task of evaluating community and stakeholder preferences and identifying anything missing or possibly new projects/refinements that could help improve existing conditions. The second Town Hall Forum is where we will use keypad polling to help develop project priorities with the public.

Step Two Tasks

Website updates/ongoing outreach**	May – Aug.
Town Hall Forum #2	June
Targeted stakeholder engagement activities cont.**	June/July

Step Three

Step Three seeks to confirm the refined project concepts with the public and key stakeholders. A Draft and Final Westside Mobility Strategy will be prepared during this phase of the work.

Step Three Tasks

Website updates/ongoing outreach**	Sept. – Jan.
Town Hall Forum #3	Sept./Oct.

Note: Schedule above will be revised as needed

**Targeted Stakeholder Engagement Activities

A main focus for this project's community engagement is to *inform and educate*. This shall be accomplished by involving key stakeholder groups directly by attending their meetings and functions and hosting activities outside where people already gather or where existing conditions can be observed firsthand. As such, this Community Engagement Framework shall be *adaptive* in nature, responding to new opportunities for outreach as they emerge during the process. The following represents initial thinking about logical outreach activities for this project:

Neighborhood Association Briefings

Eight neighborhood associations are included within West Vancouver (west of Interstate 5). These are: Arnada, Carter Park, Esther Short, Fruit Valley, Hough, Lincoln, Northwest and Shumway. City of Vancouver staff have already been providing briefings to the neighborhood associations and this activity will continue throughout the course of this project. Upcoming briefings offer the opportunity to invite participation to other outreach activities, meetings and events.



Key Stakeholder Van Tours

Windshield tours of the West Vancouver project area offer perhaps the best method of observing existing conditions firsthand across the entire study area and discussing potential improvement options with stakeholders. The project team will schedule at least two van tours with key stakeholders during Step One and Step Two.

Business Canvassing

Canvassing in the field will reach interested and potentially impacted businesses in West Vancouver, especially in the neighborhoods near downtown, in industrial parks and along commercial districts. The CEF proposes at least one round of canvassing during the project, ideally between Steps One and Two and prior to Town Hall Forum #2.

Community Walking Tours

Walking tours offer up close and personal stakeholder contact and observation of existing conditions. Tours of the primary east/west and north/south corridors can easily be arranged with participation from neighborhood associations and key stakeholder groups. Up to three walking tours can be arranged at various days and times of the week to observe varying conditions (ex. weekday peak travel, weekend, etc.).

Community Biking Tour

Similar to the walking tours, the Bike Tours offers up close and personal stakeholder contact with cyclists to observe existing conditions and brainstorm possible improvement options. One Biking Tour will be offered during the course of this project. Participation will be organized with input from bicycle interest groups and neighborhood associations.

Vancouver Farmers Market

The popular Vancouver Farmers Market at Esther Short Park runs from late March through early November (Saturdays 9 a.m. to 3 p.m. and Sundays 10 a.m. to 3 p.m.). Staffing an information booth offers great project exposure and the opportunity to reach people who may not be plugged in to our scheduled outreach activities. Three weekends (a Saturday or Sunday) will be scheduled throughout the course of this project. We suggest doing so prior to each of the Town Hall Forums.

Truck Driver Survey (Optional)

Although not presently in the project scope or consultant budget, a survey of truck drivers could be commissioned from a polling/research firm to aid in project data collection and understanding. The survey would be coordinated with industry and major employers generating freight traffic in West Vancouver. This activity could be coordinated with the HR depts. or fleet managers and the survey instrument would solicit questions regarding driver choices and behavior that are affecting existing conditions as well as input to potential improvement options. Up to two surveys could be conducted, but one should be sufficient.

Westside Mobility Strategy

SPRING 2015

Project Update

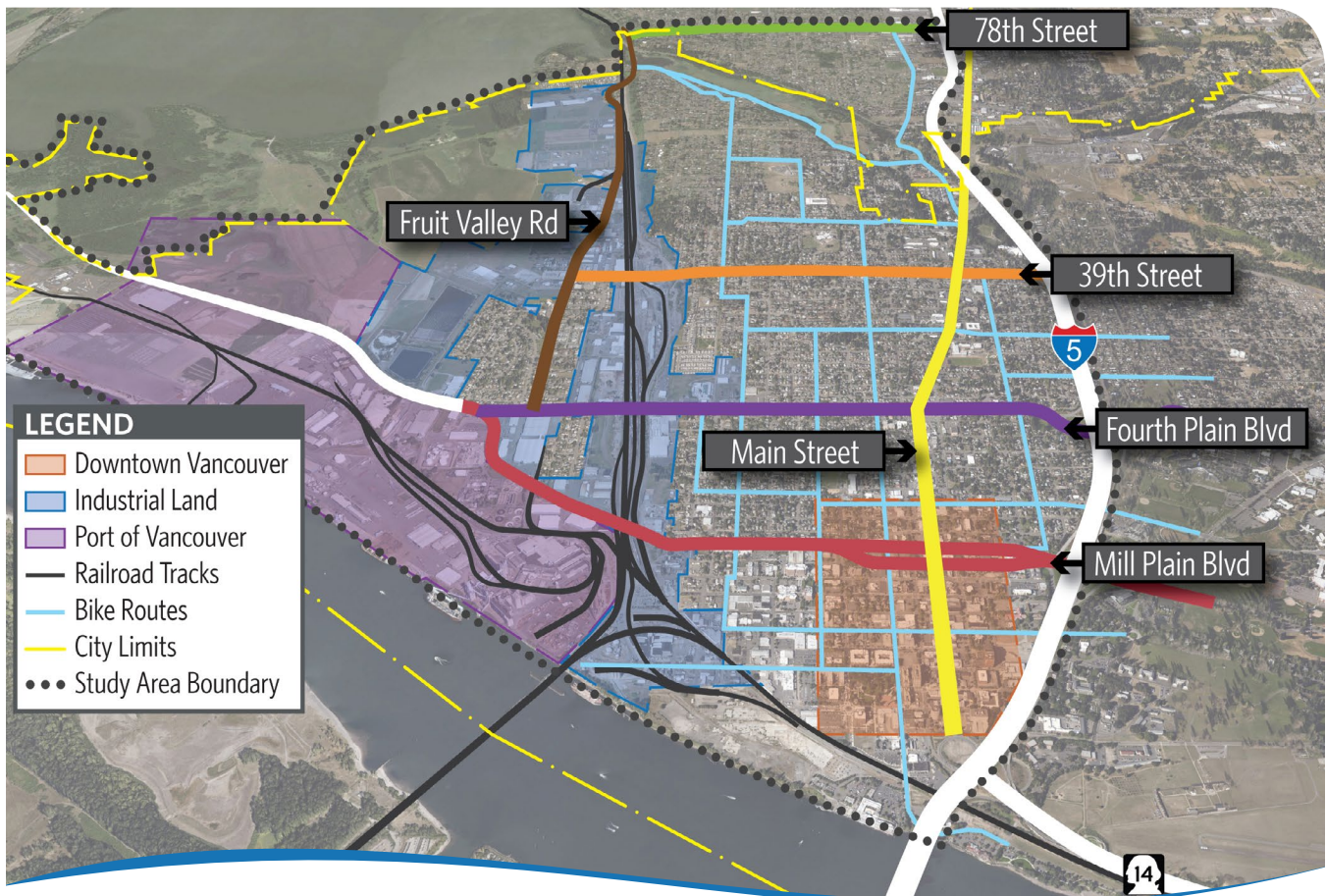
Project Need

The City of Vancouver is fortunate to have a growing economy, desirable neighborhoods and an enviable quality of life. Downtown Vancouver is transforming, especially the emerging waterfront development. Our west side historic and established neighborhoods are the most walkable, bikeable areas of the city. The Port of Vancouver and west side industrial areas are booming, adding to the tax base and creating jobs.

However, all of this growth brings change and the need to manage it sustainably. As Vancouver

grows, so does our traffic, including truck traffic that serves business and industry. The Port of Vancouver and primary industrial-land job centers are situated west of downtown and adjacent to Vancouver Lake and the Columbia River. Established residential neighborhoods, business districts and the city center lie between I-5 and these industrial employment areas, with four major corridors providing east/west connections: 78th Street (in Clark County), and 39th Street; Fourth Plain; and Mill Plain (in Vancouver).

The project area features several east/west routes





Important Issues to Consider

As the west side of Vancouver adds news residents and businesses, the need to move people and goods throughout the city and I-5 will only increase. Therefore, the City of Vancouver is considering some important issues:



- 1 How can we best preserve the livability of residential neighborhoods and the viability of a revitalizing downtown and waterfront when area traffic is projected to increase?
- 2 How do we plan for multi-modal east/west and north/south connections to link residents to downtown destinations?
- 3 What are the best approaches to handling increases in truck traffic as the Port and industrial areas continue to develop?
- 4 How can we minimize potential conflicts between cars, trucks, bicyclists and pedestrians in Vancouver's west side?

In order to assess options that will provide the best possible balance between a thriving Port, industrial areas, livable neighborhoods and a revitalizing urban core, the City is developing a Westside Mobility Strategy to understand existing traffic patterns, points of conflict, street capacity (commuter, freight, bicycle, etc.) and other opportunities and limitations.

With the involvement of local neighborhoods, businesses, industry and organizations, the study aims to recommend a strategy that will allow for continued job growth in Vancouver's western industrial area and port while maximizing the livability of affected neighborhoods along travel corridors.

Planning Background

The Westside Mobility Strategy will build off of a number of transportation and future planning studies conducted by City staff and the Southwest Washington Regional Transportation Council (RTC).

Related Studies:

- Vancouver City Center Vision (VCCV) Plan / June 2007
- VCCV Final Supplemental Environmental Impact Statement (FSEIS) / November 2006
- VCCV FSEIS Appendices / November 2006
- Fact Sheet Briefing Paper: 39th Street
- City of Vancouver's Fourth Plain Road Diet Project
- City of Vancouver's Columbia Bike Lane Project
- Port of Vancouver Truck Study (*Executive Summary, Raw Data, Final Report*)
- Fruit Valley Subarea Plan
- Regional Transportation Council Freight Mobility Study 2010
www.rtc.wa.gov/studies/freight



Community Engagement

The Westside Mobility Strategy will examine a number of issues in an 18+ square-mile area bounded by I-5 to the east, NE 78th Street to the north, the Columbia River to the south, and the Port of Vancouver and western industrial lands to the west. Critical to the study is a thorough understanding of how we get around the area today (in cars, trucks, on bike and by foot) and how we expect to in the future as the community grows. This includes understanding land uses, areas of safety concern (collisions), and neighborhood, commercial, industrial stakeholder concerns and issues.

Guided by a Community Engagement Framework that emphasizes relationship building, stakeholder participation and education through project outreach and events. The stakeholder engagement approach seeks to:

- Provide a forum for a shared understanding of the issues, bringing people together with different perspectives
- Engage stakeholders in experiential activities where they can observe conditions and participate in the project firsthand
- Provide a general understanding and awareness that this project is seeking to improve current conditions and that any solutions likely bring trade-offs

Contact For More Information:

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The project team is conducting interviews with numerous stakeholder groups - including neighborhood leaders, business and industry, bicycle/pedestrian advocates, and downtown interests - to discuss their issues and concerns.

Here, staff are discussing the project with truck drivers for Food Express, Inc. on Fruit Valley Road.



For more information, visit www.cityofvancouver.us/ced/page/westside-mobility-strategy



Community Forum #1: Existing Conditions

Save
the
Date!

What: Westside Mobility Strategy Community Forum

When: Saturday, May 30, 2015, 9:00 a.m. to Noon

Where: Discovery Middle School Commons*, 800 E. 40th Street, Vancouver, WA 98663

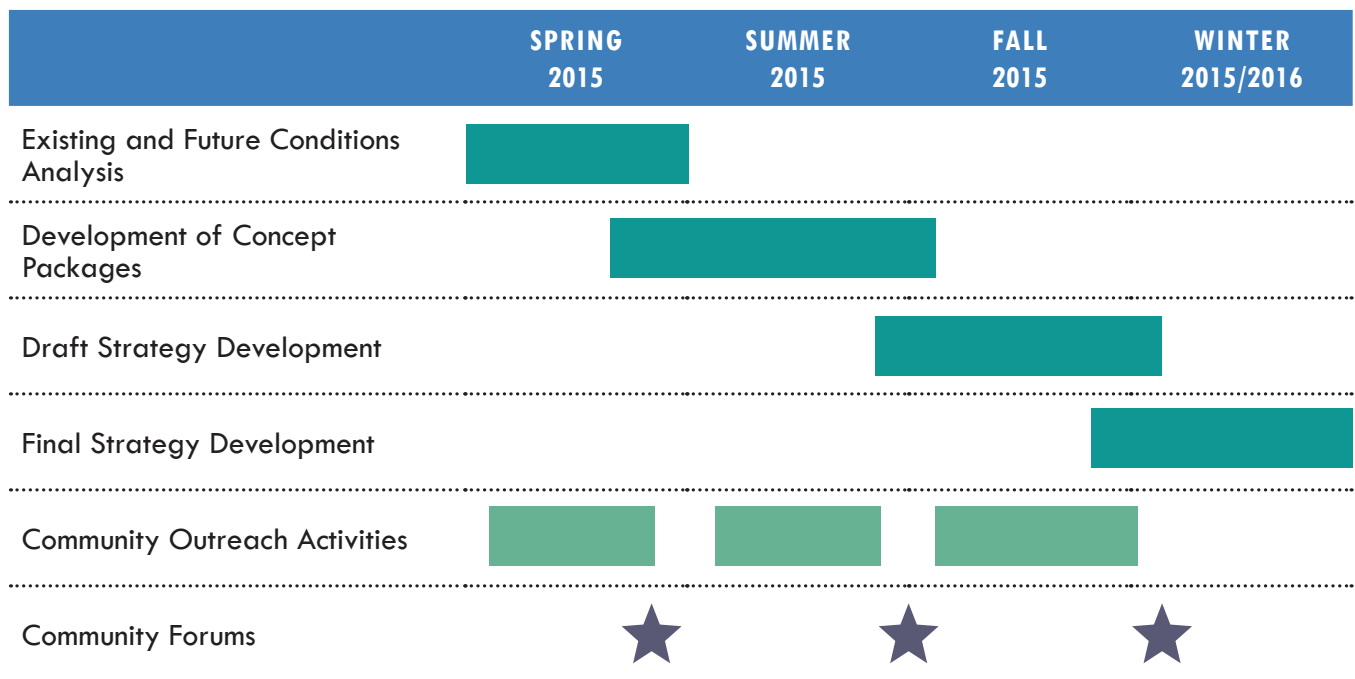
Who: Anyone who is interested in transportation and community in West Vancouver

**This event is not sponsored or endorsed by the Vancouver School District*

What is this?

The City of Vancouver is conducting the Westside Mobility Strategy to assess transportation options that provide the best possible balance between a thriving port, industrial areas, livable neighborhoods and a revitalizing urban core. With the involvement of local neighborhoods, businesses, industry and organizations, the study aims to recommend a strategy that will allow for continued job growth in Vancouver's western industrial area and port while maximizing the livability of neighborhoods along travel corridors. This community meeting will feature an overview of the project, a moderated panel discussion and group activities to stimulate conversation about what needs to be improved.

The proposed project schedule is highlighted below



For more information, visit www.cityofvancouver.us/ced/page/westside-mobility-strategy

Stakeholders Interviewed/Meetings Attended

Vancouver Downtown Association	PoV/Farwest Steel/SAPA/Food Express, Inc./Great Western Malting	Frito-Lay/Firestone Pacific
10 Westside NA Meetings	Matt Ransom	CoV Public Works
VPD/VFD	Bike/Pedestrian Stakeholders	Westside NA Leaders
Identity Clark County	Food Express Inc. Truck Driver Safety Meeting	City Manager Eric Holmes

Notes Summary

East/West Routes

- City needs to manage arterials as a network, not just address issues one at a time
- Fourth Plain – generally second choice, neighborhood traffic calming after Mill Plain improvements due to jurisdictional transfer from WSDOT. Truck drivers like road diet
- Fourth Plain – walking conditions are hostile with narrow sidewalks, especially east of C Street when bike lane disappears
- “Unless truck drivers are lost, we don’t use 39th.”
- 78th Street: Preferred for northbound freight and trucks coming from north to Fruit Valley and PoV
- Many drivers are not locally based
- “50 percent are from elsewhere...contract carriers, gypsies, independents.”
- Biggest transportation challenges are beyond Westside
- Evergreen: Great east-west bike-ped route, should have bike lanes or sharrows,
 - connect to Fort Vancouver
 - Should have sharrows now
- McLoughlin: potential east-west bike route
 - Connects to Fort Vancouver Way
- 33rd or 29th should be designated as Westside local street connection to BBC trail
- Crossing west ends of Fourth Plain is dangerous
- Fourth Plain left-turns are tough – take long time for signal cycle

North/South Routes

- Washington: Excess capacity with 3 southbound lanes from McLoughlin to river
 - Washington could be a huge opportunity
- People crossing Mill Plain, Fourth Plain, 39th needs to be improved
- Should proposed Washington St McLoughlin to 15th Street 2-way conversion extended south of 15th?
- Truck drivers concerned about Fruit Valley school during school zone times, higher density residential areas
- Main Street north of 29th has 2 lanes each direction and transitions to 1 lane in each direction south of Fourth Plain
 - Many are interested in reducing travel lanes north of Fourth Plain

- Over long term, NW 32nd Avenue – Lakeshore Drive connection will be positive.
- Main: Two Way Conversion was a good thing
- Franklin/Kaufman north/south bike route would be great western neighborhood companion route to eastern neighborhood bike route (Columbia or Daniels/Washington or other)
 - 33rd to 37th mid-block sidewalk to Hidden Park?
- Pedestrian and bicycle crossing needed at Fourth Plain and Franklin
- F Street or C Street north/south route for east side
- Main Street north of VCCA is where the street becomes less pedestrian and bike friendly and more auto oriented
- VSD has maintenance shop on FVR, uses 39th frequently, 60-80 vehicles per day to school sites across City
- Safety on Fruit Valley Road is becoming bigger issue as commuter traffic increases\
- Fruit Valley Road Bridge is a problem for all users
- Main Street is a mess –
 - windy and indirect
 - Different traffic control configurations at each intersection

Westside Neighborhoods

- Westside pride: Walkability, history, access to downtown, uptown
- "A culture of transportation innovation:" City's first road diet, intersection repair, traffic calming circle, first to redevelop with Esther Short Park Plan
- Real opportunity to build public trust with smart traffic improvement projects
- History of westside neighborhoods lends to feeling of authenticity
- Mill Plain, Fourth Plain history of improvements
- Cut through traffic is concern
- Hough School 1-mile walkshed crosses 4th Plain and Mill Plain
- Lincoln and Discovery 1-mile walkshed crosses 39th
- VSAA 1-mile walkshed crosses Main Street, Fourth Plain, Mill Plain
- VSAA student drivers use any local street for ingress/egress
- Most students bussed to Discovery
- VSD buses kids across major east west routes (4th Plain, Mill Plain, 39th)
- Discovery pick-up backs traffic onto Main Street
- Hough has volunteer bike safety program c/o Eric Gaiccino
- Better access and signage to BBC would be helpful
- BBC trailhead at top of NW neighborhood is untapped asset/connectivity point for Westside and City
- BBC safety is a big issue – lack of lighting and security
- Westside has best cultural compatibility of Westside neighborhoods to walking and biking
- Most emergency calls are for Mill Plain and Fourth Plain, 39th gets the truck-related calls
- Like narrow streets – feel safer, vehicles move slower
- Like sidewalks, street trees, on-street parking, and grid of streets
- Like more choices to get around
- Like access to I-5, SR 14, SR 500, Evergreen.

- Less truck traffic on Fourth Plain
- Fourth Plain, Mill Plain are dividers
- Sidewalks are needed north of 39th
- Lack of signage and sidewalks to AMTRAK
- How will peds/bikes access 15 West Apartments?
- NW neighborhood to Lincoln at 39th very dangerous – poor sight lines and blocked visibility from utility poles and parked cars
- Truck companies generally try to avoid school zones
- ADA parking is not good

Downtown

- Freight not the concern - speed is concern
- Volume and speed are concerns for 4th Plain and 39th
- Need to improve 6th Street gateway, downtown signage and wayfinding (underway)
- Need intersection traffic control consistency – some intersections are 4-way stop, some are signaled, some are flashing red...
- Parking: Real problem or perception?
- Excitement about new downtown and waterfront development
- Walkability around Esther Short is popular
- Slower traffic is needed
- Access to I-5 is a blessing and a curse
- Waterfront development will generate traffic increases on Columbia and take away east-west green time for access to Mill Plain
- Esther Short area is popular and attracts people
- Sensitivity to amount of on-street parking
- Parking wayfinding is needed
- 2-way main street is good
- Evergreen is a great connection that is unrealized
- Convert excess capacity on Washington into linear urban park space
- Need to consider parking structures

Mill Plain

- Maintain and improve Mill Plain as the premier freight route
- Viewed as best freight route by stakeholders including Port, FV industries and Downtown businesses
- Most direct to industrial, highest volume, most collisions
- Proposed downtown development and projected increase in freight traffic will constrain access to I-5/Mill Plain interchange
- Controller cabinets, signals, road detection, fiber optic, mast arms, improved signage and corridor striping are needed through corridor
- Mill Plain – generally first choice for truck drivers and industry headed east or south or from east or south
- Coordinated signals eastbound work well for commuters

- Mill Plain crossing for peds and bikes is a concern
- Mill Plain at C Street – PW installed a leading walk phase
- Mill Plain path is nice facility for pedestrians and bikes west of Daniels with multipurpose path but becomes more hostile east of Columbia where bike lane disappears and sidewalk becomes narrow
- Intersections of Main Street and Broadway see cut through traffic at peaks
- AM congestion is an issue
- Trucks too fast westbound from Mill Plain interchange
- Mill Plain merge for trucks to I-5 southbound is problematic for truck drivers – frequently cut-off
- Better lane positions are need for Mill Plain to I-5 NB and SB

39th Street

- System level discussion beyond just trucks is needed for 39th Street
- Vancouver companies that ship freight discourage use of 39th
- Freight carriers delivering to FV or POV are not aware of 39th St issues – to them it is just a truck route
- FV industries like 39th for southbound I-5 because it avoids FV elementary – lots of walkers and unsupervised kids

Columbia Street

- Columbia Street is designated and a popular/preferred bike route because it is direct and connects northern neighborhoods to downtown and the riverfront activity areas
- Crossing Fourth Plain is tough for people on bikes
- McLoughlin to Fourth Plain is the worst for cyclists
- City should go all-in on Columbia and make it a primary north-south route for people biking
- Columbia Street is used as a cut-through from I-5 SB via NE 45th and Main Street
 - How many of the cars that use Columbia daily are from beyond Vancouver?
 - Neighborhood paying the price of I-5 congestion
- On-street parking will need to be carefully evaluated – some adjacent property owners have other options to park vehicles on-street
- Improve Columbia b/t waterfront and Mill Plain

Systems

- Need better bike annual counts
- Signals need to be improved and better coordinated
- VSD strong supporter of radar feedback units
- Congestion is not that bad on west side except at peaks
- Bad intersections are Main Street at Fourth Plain and Main Street
- Pedestrian advance on signals is appreciated
- School Zone Flashing lights should be double-sided
- Need north/south balance to signal timing, too east/west oriented

Freight

- Street tree canopies need to be raised on freight routes
- Reliability/consistency is key to trucks
- Main Street and Broadway signals on fourth Plain
- Many freight deliveries at night
- Leave 1 AM to 7 AM, return noon to 2PM
- 4th Plain gets congested, Mill Plain flows better
- 3:30-4PM longshore worker shift change – lots of cars and trucks from PoV
- Many freight companies are going to Portland to transfer freight for shipment elsewhere
- 24-hour freight operations
- Fourth Plain/FVR pedestrian/sidewalk issues – NOT SAFE
- Many companies are running doubles because more efficient
- Fourth Plain unpredictable and not reliable between 3 and 5

Westside Mobility Strategy

SPRING 2015

Community Forum #1: Existing Conditions

Save
the
Date!

What: Westside Mobility Strategy Community Forum

When: Saturday, May 30, 2015, 9:00 a.m. to Noon

Where: Discovery Middle School Commons*, 800 E. 40th Street, Vancouver, WA 98663

Who: Anyone who is interested in transportation and community in West Vancouver

**This event is not sponsored or endorsed by the Vancouver School District*

What is this?

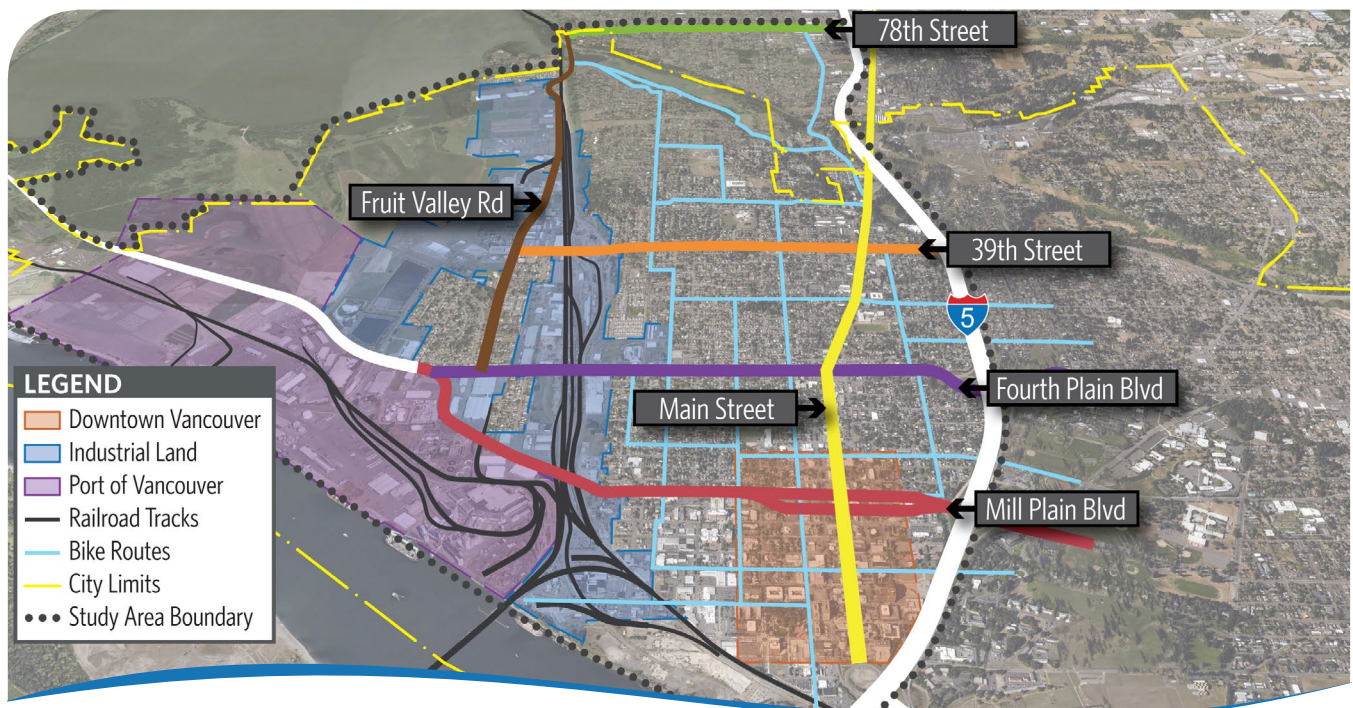
The City of Vancouver is conducting the Westside Mobility Strategy to assess transportation options that provide the best possible balance between a thriving port, industrial areas, livable neighborhoods and a revitalizing urban core. With the involvement of local neighborhoods, businesses, industry and organizations, the study aims to recommend a strategy that will allow for continued job growth in Vancouver's western industrial area and port while maximizing the livability of neighborhoods along travel corridors. This community meeting will feature an overview of the project, a moderated panel discussion and group activities to stimulate conversation about what needs to be improved.

Contact For More Information:

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Email: Patrick.Sweeney@cityofvancouver.us





Westside Mobility Strategy Community Forum #1: Existing Conditions

Saturday, May 30, 2015; 9AM to Noon
Discovery Middle School Commons, 800 E. 40th Street, Vancouver, WA 98663

Meeting Summary

Overview

The City of Vancouver held its first community forum for the Westside Mobility Strategy on Saturday, May 30th from 9:00 am to noon at Discovery Middle School. There were three primary elements of the meeting:

- A Power Point presentation with information about the project, including current conditions of each major corridor and results from preliminary traffic studies.
- A moderated panel discussion with city staff and community representatives, including emergency services, freight, business and neighborhood interests.
- Facilitated small group table discussions.

Fifty people signed in for the event, which was publicized through the City website, media release, an article in *The Columbian* the week of the meeting, tabling at the Vancouver Farmer's Market, stakeholder meetings, and flyers distributed in advance to various community groups and stakeholders. The purpose of the meeting was to formally kick off the community engagement portion of the project, initiate a community conversation about existing transportation conditions in West Vancouver and solicit feedback from meeting participants.

As participants arrived to sign in they were given a name tag. Each name tag had a number on it indicating a table assignment where individuals were asked to sit for the small group discussions. Tables



could accommodate 5-7 participants plus one table facilitator and each table featured a large map of the study area, index cards for panel comments, pens, a copy of the Power Point presentation and a large flip chart pad to record comments. Handouts and project maps were available at the sign-in table.

The Takeaways

Generally, meeting participants recognized the challenges inherent in improving transportation in West Vancouver equitably and for all modes. Developing a clear strategy and then achieving consensus to implement the specific recommendations was seen as the greatest challenge to overcome. Participants also seemed to recognize that Vancouver is on the cusp of change and that not everyone welcomes change. Preserving neighborhood charm and livability while accommodating growth will be critical. This will require a wide range of transportation improvements, coordination among multiple agencies and jurisdictions as well as the identification of new funding sources.

The most common suggestions for what should be changed included better signage, consistent traffic signals/timing and more law enforcement throughout the street network. Participants agreed that small street network improvements could go a long way toward making the entire transportation system more efficient. New bicycle/pedestrian facilities were desired, especially along north/south corridors where crossing busy east/west arterials can be challenging. Kauffman, Lincoln, Daniels, Columbia and Washington streets were seen as potential options to meet this need. The importance of Fruit Valley Road in the system was recognized and replacing the Fruit Valley Road bridge with a wider bridge is desired. Limiting the impacts of articulated trucks on residential neighborhoods remains a priority, particularly along 39th Street. In the long run, finding a permanent solution to the I-5/Columbia River Crossing was viewed as necessary to alleviating traffic impacts on the local street grid and enhancing neighborhood livability.

Meeting Introduction and Presentation

Doug Zenn with HDR, the meeting moderator, started the proceedings shortly after 9:00 a.m. and welcomed participants. Patrick Sweeney, Westside Mobility Strategy Project Manager for the City of Vancouver, then provided a round of team introductions and explained the purpose of the event. Andrew Johnson, project manager for the HDR consultant team, provided a Power Point presentation with information outlining existing conditions of the various Westside neighborhoods and eight high travel arterials (four north/south and four east/west). He also reviewed findings from recent traffic data that had been collected on the roads in the study area. [A copy of the Power Point is available at www.cityofvancouver.us/WestsideMobility.]

Moderated Panel Discussion

Following the presentation, Doug Zenn facilitated a panel discussion with community representatives. Panel members included:

- Officer Tyler Chavers with the Vancouver Police Department

- Michael Lary, Vancouver Downtown Association Board Member and owner of The Source Climbing Center
- Noland Hoshino, Vancouver Neighborhood Coalition and President of Northwest Neighborhood Association
- Jim Craig, Terminal Manager for Food Express, Inc.
- Patrick Sweeney, City of Vancouver, Westside Mobility Strategy Project Manager

The panel discussion was centered on the following three questions. As the panel responded to questions, the audience was encouraged to use index cards to submit additional or clarifying questions to the facilitator to be included as part of the discussion.

1.) *In your view, what are the biggest challenges/obstacles to improving transportation in West Vancouver?*

Overall, the panel agreed that achieving consensus among the community, consisting of a broad range of transportation users, while maintaining constructive conversations will be the biggest challenge to improving transportation in West Vancouver. And specifically, enhancements on Lincoln Avenue, including sidewalks and drainage, will help pedestrian and bike flow through West Vancouver.

2.) *Name one change you would make, if you could, that you think would provide the greatest benefit.*

Answers ranged from a new I-5 bridge over the Columbia River to eliminating articulated truck traffic on 39th Street to improved timing of traffic lights and design/layout consistency for east/west corridors. It was also stated that increased foot traffic on Main Street will improve local business viability.

3.) *What is one existing condition you would want to preserve?*

The overarching response was to preserve the livability, charm and sense of community of West Vancouver neighborhoods and the downtown area.

Additional questions to the panel included:

- *During the presentation, a lack of consistency in the east/west corridors was mentioned; can you elaborate?*
Panel members discussed the lack of consistency between corridors, focusing on inconsistency of crosswalks at street crossings and types of crosswalks used throughout the corridors.
- *What are your concerns, specific to the different arterials?*
78th Street has grown over time, with more traffic than anticipated. The relationship of 78th Street to Fruit Valley Road is concerning, as it doesn't have the same capacity/capability. Morning congestion on Fruit Valley Road is increasing, posing more problems for adjacent land uses with freight trucks that use Fruit Valley Road to get to the I-5 corridor.
- *Can you articulate what constitutes "charm" in West Vancouver?*

Panel members stated that “charm” related directly to walkability and livability of the area, as well as thriving businesses. The panel agreed that with this comes the necessity for trucks and deliveries; finding the best way for these elements to work in harmony will be the challenge moving forward.

- *Can you explain how public transportation should be integrated?*

Public transportation is lacking in West Vancouver, and the panel agreed it is a great way for community members to get downtown without creating additional parking issues. With the Vine Bus Rapid Transit (BRT) system opening in late 2016, the nature of public transportation in Vancouver will begin to change.

- *Isn't the CRC the 800 pound gorilla in the room? Improvements to the I-5 Bridge could have an effect on the entire system. Thoughts?*

Panel members noted that CRC would have brought more commerce and people into Vancouver and help move traffic off of the neighborhood streets, reducing congestion and improving safety. It is not uncommon for these types of mega-projects to be rejected the first time around; the project can be modified moving forward, but the need still remains.



While most of the questions received from the audience were addressed during panel dialogue, time was not permitted to respond to all questions. A list of all questions that were not addressed, but noted, follows.

- *What will the Mill Plain interchange look like? How will it change with a new bridge? Won't that ultimately affect the traffic and usage of Mill Plain and how?*
- *Would the panel like to see all non-local freight and commerce traffic removed from grade-level streets (Mill Plain, Fourth Plain, 39th Street and Waterfront Avenue), yet have extra capacity for all modes?*
- *I see two plans need to be developed: one assuming a new I-5 Columbia River bridge (a number of years away) vs. not – it really impacts community members' choices.*

- *Question to truck firm representative: Do you think adding one or two traffic signals to Fourth Plain (Daniels/Franklin) would make Mill Plain a more desirable truck route (less delay than new Fourth Plain)?*
- *Highway 14 users take City Center exit and make a left turn at Washington St. to get to the bridge. Any resolution to this?*
- *We understood that the Fruit Valley Road bridge over the railroad at Whitney was closed to heavy articulated trucks. Is this true? Should we put money into rebuilding it?*
- *If 78th Street is County territory, why aren't any commissioners involved? Do County commissioners issue truck permits to drive on 39th Street? Why?*

Small Group Discussions

After the panel discussion, meeting participants took a short break and reconvened at their assigned tables to begin the small group discussions. As with the panel dialogue, each of the eight tables went through a similar process of having their table facilitator ask the same three questions that were presented earlier. However, this time their feedback was recorded on the study area maps and flip chart pads. The table groups were given 45 minutes to engage with their fellow community members to:



- 1.) *Discuss challenges and obstacles to improving transportation;*
- 2.) *Identify changes that would make the greatest benefit; and*
- 3.) *List existing conditions they would want to preserve.*

At the end of the table discussions, each facilitator was asked to report back to the group at large, sharing highlights from their conversations. The major themes amongst all tables by questions were:

1.) *Challenges/Obstacles*

- a. Achieving a common vision and consensus
- b. Collaboration amongst local agencies and constituencies
- c. Public perception and attitude towards change
- d. Preserving livability, historical neighborhoods and institutions
- e. Managing a complex transportation network with different needs and understanding the associated trade-offs
- f. Addressing all modes of transportation with limited capacities

2.) *Recommended Changes*

- a. Better signage and traffic signals/timing
- b. More consistent and improved bike and pedestrian facilities
- c. I-5 and river crossing solutions (to improve transport and access, and help alleviate westside traffic congestion and impacts)
- d. Better truck routing systems (and eliminate articulated trucks on 39th Street)
- e. Improvement/widening Fruit Valley Road bridge
- f. Better traffic enforcement to help control speeding

3.) *Existing conditions to preserve*

- a. Livability and neighborhood historic charm (specifically Main Street/Lincoln, Downtown and 39th Street)
- b. Public amenities including sidewalks, bike lanes, crosswalks, trees, parking and green spaces

A detailed list of all participant feedback provided on both the maps and flip chart notes can be found in Appendix A (for location-specific comments organized by street, see Appendix B)

Additional individual comments received from the comment forms can be found in Appendix C.

The meeting adjourned at 12:15 pm.





Westside Mobility Strategy
Community Forum #1: Existing Conditions

Appendix A. Small Group Feedback

Question 1: In your view, what are the biggest challenges/obstacles to improving transportation in West Vancouver? Bold = frequently mentioned.

- **Funding for improvements**
- **Construction of systems – limited space and disturbance**
- **Preserve/maintain neighborhood livability**
- **Lack of biking facilities**
- **Achieving consensus about priorities**
- **Balancing all transportation needs**
- **Need culture shift towards change and impacts**
- Auto-centric
- Social dissonance
- Bringing more people downtown
- No restriction of truck traffic
- Geographical layout – neighborhoods between I-5 and Port
- Lack of affordable housing
- Safety – driving, walking, bike routes
- Lack of consistency (e.g. sidewalks, bike routes, etc.) Don't sacrifice neighborhoods for jobs
- Looking at roads as a network
- Right-sized vehicles for deliveries; restrict times in downtown
- Keep the alleys
- I-5 bridge
- Keeping up with growth
- Maintaining historical neighborhoods
- Changing driving habits
- Acceptance of transit
- Popular misconceptions
- Change in general
- Political will/conflict
- Wide roads invite heavy/fast traffic
- Lack of enforcement
- Lack of business engagement



- Lack of coordination among groups (government, neighborhoods, businesses)
- Mill Plain onto I-5 south-bound too tight for oversized loads
- Getting people in and out of the Waterfront
- Main Street cut-through from I-5 southbound
- Potential impact of CRC
- Education of drivers, bicyclists and pedestrians
- Shared space causes conflicts
- Cell phone usage, pot, etc.
- Parking spill over into neighborhoods/impacts of new development
- Continued cost of municipal parking lots/structures
- Port of Vancouver's support, input and coordination
- Understanding trade-offs by having proper information
- Collaboration with BNSF/Rail, freight groups, Clark County, City of Vancouver, neighborhood associations, community/public at large, business groups/chamber of commerce
- Common understanding of a vision
- Managing all components of a complex network (matching the context)
- Buy-in from all neighborhoods
- Addressing all modes of transport in growing community
- Make Mill Plain work better
- Reduce traffic on Fourth Plain
- Re-evaluate "arterials" – what traffic calming can work on different sections? Could signage on I-5 help direct trucks to interchanges?
- Too much commuter traffic southbound on Fruit Valley Road
- Steep hill on 48th

Question 2: Name one change you would make, if you could, that you think would provide the greatest benefit. Bold = frequently mentioned.

- **Eliminate articulated trucks on 39th Street**
- **Improvement/widening Fruit Valley Road bridge, as well as corridor improvements on 78th to 61st**
- **Consistency and timing of signals (Kauffman/Fourth Plain, eastbound left turn too long)**
- **Pedestrian access from residential area south of Fourth Plain to Fruit Valley Elementary dangerous**
- **Traffic impacts downtown for drivers cutting through to avoid or get on I-5**
- **Better bus service**
- **Need sidewalks and drainage on Lincoln**
- **Speeding on Fourth Plain between Kauffman and Columbia, need signals with crosswalks**



- **I-5 bridge improvements, including light rail**
- **Need bike lanes**
- County participation
- Close the on ramp to I-5 south at the southern end of Washington Street from 7 - 9 a.m. Closing it for those two hours daily would dramatically change the flow of traffic the entire length of Main Street
- Enforce traffic laws
- Bike lane changes
- Bring back parking on both sides of 39th Street
- Improve bike parking
- Complete project at Fruit Valley and 32nd bypass
- Need better directional signage on Fourth Plain/Fruit Valley Road and at Mill Plain railroad crossing
- Add jobs
- Add restaurants
- Destinations
- Neighborhood commercial for daily needs to reduce driving
- Grocery store
- Affordable housing
- Add/remove traffic signals
- Better access and safety: consistent pedestrian crossings and sidewalks, consistent bike facilities for Columbia and Lincoln, Kauffman and Burnt Bridge Creek
- 39th Street and Lincoln intersection – increased traffic control/flow control for all modes of traffic
- Better access between border: light rail from Portland to Vancouver, bridge from the Port to Oregon
- Have local truck companies collaborate and agree to designated truck routes
- Make it desirable and intuitive for trucks to take identified routes
- Shift Lincoln priority to reflect demographic changes
- Street signs need to be upgraded/replaced
- Right turn from eastbound 39th Street to southbound Main is difficult with poor visibility
- Signals south of Mill Plain need to be upgraded
- Traffic back-ups on 39th Street between I-5 and Columbia
- Mix of stops, lights, one-ways around downtown/uptown
- 45th Street too narrow between Washington and Main Street
- Poor visibility at Old City Hall
- Traffic weaving at southbound on-ramp at Mill Plain

- Fix connection between Lincoln and Kauffman
- Change classification of 39th Street
- Full re-build of Mill Plain interchange
- Prioritize 32nd exit north
- 39th Interchange flow from SR 500 is concerning
- Truck restrictions in regards to weight, times, enforcement, and location (route)
- Fast traffic on Lincoln in am/pm
- Extension of 32nd Street
- Freight bridge to west across Columbia
- Weekend signals should allow for better north/south movement
- Crosswalks and traffic lights needed at Fourth Plain and Franklin
- Add sidewalks near schools in north (connected sidewalks)
- More off-street parking
- Consider changing traffic light timing in am/pm
- Improve transit at Fourth Plain and Lincoln
- 39th between Main Street and Lincoln: lanes too narrow for both traffic and bikes
- Washington underutilized
- 22nd and Broadway is a blind intersection, four-way stop
- Water system infrastructure is failing – broken waterlines are creating sinkholes, and repairs keep resulting in patches, affecting both pavement structure and smoothness/ride
- C and 25th cut through S. Broadway, Main at Fourth Plain
- Morning gridlock at 5th between Columbia and Broadway
- Improve intersection at 78th Street and Fruit Valley Road
- Commuter traffic southbound on Fruit Valley Road is an issue
- Traffic light delays at Fourth Plain and Columbia, hard to cross as pedestrian
- Cars and trucks running red lights east and west bound on Columbia and Fourth Plain
- Speeding on Lincoln between 53rd and 39th
- More sidewalks between Benjamin Franklin Elementary and Lincoln Elementary
- Traffic issues with pick up/drop off for immersion program at Benjamin Franklin Elementary
- Need sidewalk to connect Division and Washington (major streets)
- Vancouver School of Arts and Academics: school drop-off/pick-up creates traffic and safety issues
- I-5 congestion is a major obstacle, as it creates cut-through, north-south traffic that burdens neighborhoods
- Speeding issues in many places; need increased enforcement but not enough resources (can neighborhoods opt into a local sales/property tax increase to pay for dedicated enforcement?)
- More intuitive crossings for pedestrians at Columbia and 39th Street



- Consistent bike facilities full length of Columbia and Lincoln/Kauffman, Burnt Bridge Creek Crossing – no sharrows
- Consistent bike facilities at Fourth Plain and Kauffman – no sharrows
- Improve west side bridge on Fruit Valley
- More intuitive for trucks to take two routes: N via 78th Street and S via Mill Plain (not with policy or signs but improved traffic flow, easier travel)
- Narrow and old section of north Fruit Valley Road, on lakeshore
- Need sidewalk on Lincoln and 53rd by Benjamin Franklin Elementary
- 45th Street too narrow at Main Street
- Obstructed view at 39th Street and Lincoln
- New fire station at Main Street and Fourth Plain will add to traffic
- Traffic timing at Fourth Plain and Kauffman
- Improve visibility on 8th and Franklin
- Highway 14 traffic on 5th and Columbia
- Traffic, visibility, as well as width and lights, on 13th between Columbia and Main
- Outdated signals need to be updated from timed to sensors on I-5 and entire downtown area south of 15th and Mill Plain
- Bike/pedestrian access is dangerous on 32nd and Lower River
- 39th and Fruit Valley intersection needs a lighted signal
- Extend public transportation (C-Tran) at Fourth Plain and Fruit Valley
- Signal inconsistency from Washington to Broadway
- Speeding of trucks and cars on Fourth Plain and Columbia
- Need a bike/pedestrian only bridge through Burnt Bridge Creek Park
- Need a path around Discovery Middle School
- Future over crossing (5th Street) land bridge
- Hough Elementary - school crossing/walk at Fourth Plain and Daniels. Stop sign needed. Stop sign also needed at Fourth Plain and Franklin
- Infill bike lane at east end of Fourth Plain, extending over I-5
- Bike lanes on Main Street (Road Diet)
- Complete bike lane on Mill Plain before I-5
- Bikes are not allowed on I-5 north of SR-14 interchange
- Replace and widen sidewalks on north end of Fruit Valley
- Weight restriction on 39th Street
- More marked, painted crosswalks on 39th Street
- Trucks only on Mill Plain
- Bike route changes on Columbia, south of Fourth Plain
- Pedestrian signal at Daniels and Fourth Plain



- Signal on 39th Street and Kauffman
- Remove pedestrian island on 39th Street and Daniels
- Pedestrian signal on 39th Street and Washington
- Move Vancouver School of Arts and Academics
- Close ramp to I-5 in am (except for bus and carpool) at southern end of map

Question 3: What is one existing condition you would want to preserve? Bold = frequently mentioned.

- **Neighborhood historic charm, specifically Main Street/Lincoln, Downtown and 39th Street**
- **Affordable diversified housing, specifically along Fruit Valley**
- **Burnt Creek Trail and Vancouver Lake access**
- **Safe access throughout west side**
- **Access, new underpasses to waterfront**
- **Thriving Downtown**
- **Walkability**
- Quietness
- Livability
- Across service enforcement
- Parking
- Balance car parking
- Existing bike lanes
- Liberty Park
- Fourth Plain as three lanes
- One-way streets
- Alleys, sidewalks, pedestrian crossings
- Keep as much truck traffic on Mill Plain as possible
- Keep Evergreen Boulevard functional
- Large lots, garden space
- Recreation along Columbia
- Convenient City services
- Trees
- Sound wall
- Smaller streets
- Esther Shore Park
- Bike/pedestrian facilities and access
- Space for potential future light rail accommodations
- New section of Mill Plain west of Markle
- Sidewalks on Fruit Valley between 39th and 61st Street



- New railroad bridge on 39th Street, wider and multi-modal
- Where 8th was re-routed
- Keep Waterfront focus
- Keep Fourth Plain streetscape: growth is a challenge, maintain residential uses
- Mixed demographic profile
- Public schools to remain as neighborhood hubs
- Keep Safeway on Main Street
- Industry jobs and quality of life
- Support active/public transit
- Park accessibility in order to preserve schools
- Fruit Valley Road
- Kauffman and 13th intersection
- Mill Plain onto I-5
- Ramp from Fruit Valley Road to 78th Street
- Smaller streets
- Wide streets on Kauffman and Columbia
- Keep Evergreen as an east to west arterial
- Industry parking lots on Lincoln between Fourth Plain and Mill Plain
- Sidewalks on Markle between Fourth Plain and Mill Plain
- Path through John Ball Park
- Esther Shore Park
- Keep downtown nice – place to be, accessible to walkers
- Area surrounding Lincoln Elementary, nice place to live

Appendix B. Map Comments Organized by Location-Specific

Mill Plain Boulevard

Challenges:

- Mill Plain onto I-5 south-bound too tight for oversized loads

Suggested Changes:

- Full re-build of Mill Plain interchange
- Traffic weaving at southbound on-ramp at Mill Plain
- Signals south of Mill Plain need to be upgraded
- Need better directional signage on Fourth Plain/Fruit Valley Road and at Mill Plain railroad crossing
- More intuitive for trucks to take two routes: N. via 78th Street and S. via Mill Plain (not with policy or signs but improved traffic flow, easier travel)
- Outdated signals need to be updated from timed to sensors on I-5 (most southern portion of map). Entire downtown area south of 15th and Mill Plain
- Complete bike lane on Mill Plain before I-5
- Trucks only on Mill Plain
- Industry parking lots on Lincoln between Fourth Plain and Mill Plain
- Sidewalks on Markle between Fourth Plain and Mill Plain

Please Preserve:

- Mill Plain onto I-5
- Keep as much truck traffic on Mill Plain as possible
- New section of Mill Plain west of Markle

Fourth Plain Boulevard

Suggested Changes:

- Pedestrian access from residential area: south of Fourth Plain to Fruit Valley Elementary dangerous
- Speeding on Fourth Plain between Kauffman and Columbia, need signals with crosswalks
- Extend public transportation (C-Tran) at Fourth Plain and Fruit Valley
- C and 25th cut through S. Broadway, Main at Fourth Plain
- Improve transit at Fourth Plain and Lincoln
- Crosswalks and traffic lights needed at Fourth Plain and Franklin
- Long pedestrian wait on Fourth Plain and Columbia due to semis turning
- Need better directional signage on Fourth Plain/Fruit Valley Road and at Mill Plain railroad crossing
- Traffic light delays at Fourth Plain and Columbia, hard to cross as pedestrian
- Cars and trucks running red lights east and west bound on Columbia and Fourth Plain



- Consistent bike facilities at Fourth Plain and Kauffman – no sharrows
- New fire station at Main Street and Fourth Plain
- Consistency and timing of signals (Kauffman/Fourth Plain – left turn too long)
- Hough Elementary - school crossing/walk at Fourth Plain and Daniels, stop sign needed. Stop sign also needed at Fourth Plain and Franklin
- Infill bike lane at east end of Fourth Plain, extending over I-5
- Bike route changes on Columbia, south of Fourth Plain
- Pedestrian signal at Daniels and Fourth Plain

Please Preserve:

- Industry parking lots on Lincoln between Fourth Plain and Mill Plain
- Sidewalks on Markle between Fourth Plain and Mill Plain
- Fourth Plain as three lanes
- Keep Fourth Plain streetscape: growth is a challenge, maintain residential uses

39th Street

Suggested Changes:

- 39th between Main Street and Lincoln: lanes too narrow for both traffic and bikes
- Long pedestrian wait on 39th between Fourth Plain and Columbia due to semis turning, need more intuitive crossings
- Change classification of 39th Street
- Traffic back-ups on 39th Street between I-5 and Columbia
- Bring back parking on both sides of 39th Street
- Eliminate articulated trucks on 39th
- 39th Street and Lincoln intersection – increased traffic control/flow control for all modes of traffic
- Right turn from eastbound 39th Street to southbound Main is difficult with poor visibility
- 39th interchange flow from SR 500
- Speeding on Lincoln between 53rd and 39th
- Obstructed view at 39th Street and Lincoln
- 39th and Fruit Valley intersection needs a lighted signal
- Weight restriction on 39th Street
- More marked, painted crosswalks on 39th Street
- Signal on 39th Street and Kauffman
- Remove pedestrian island on 39th Street and Daniels
- Pedestrian signal on 39th Street and Washington

Please Preserve:

- Neighborhood historic charm, specifically Main Street/Lincoln, Downtown and 39th Street



- Sidewalks on Fruit Valley between 39th and 61st Street
- New railroad bridge on 39th Street, wider and multi-modal

78th Street

Suggested Changes:

- Corridor improvements on 78th to 61st
- Improve intersection at 78th Street and Fruit Valley Road
- More intuitive for trucks to take two routes: N. via 78th Street and S. via Mill Plain (not with policy or signs but improved traffic flow, easier travel)

Please Preserve:

- Ramp from Fruit Valley Road to 78th Street

Fruit Valley Road

Suggested Changes:

- Widen Fruit Valley Road Bridge
- Pedestrian access from residential area: south of Fourth Plain to Fruit Valley Elementary dangerous
- Complete bypass between Fruit Valley Road and 32nd to decrease truck/freight traffic
- Extend public transportation (c-Tran) at Fourth Plain and Fruit Valley
- Improve intersection at 78th Street and Fruit Valley Road
- Improve commuter traffic southbound on Fruit Valley Road
- Need better directional signage on Fourth Plain/Fruit Valley Road and at Mill Plain railroad crossing
- Narrow and old section of north Fruit Valley Road, on lakeshore
- 39th and Fruit Valley intersection needs a lighted signal
- Replace and widen sidewalks on north end of Fruit Valley

Please Preserve:

- Ramp from Fruit Valley Road to 78th Street
- Affordable diversified housing, specifically along Fruit Valley
- Sidewalks on Fruit Valley between 39th and 61st Street
- Fruit Valley Road

Main Street

Suggested Changes:

- 39th between Main Street and Lincoln: lanes too narrow for both traffic and bikes
- C and 25th cut through S. Broadway, Main at Fourth Plain
- 45th Street too narrow between Washington and Main Street



- Right turn from eastbound 39th Street to southbound Main is difficult with poor visibility
- New fire station at Main Street and Fourth Plain
- Traffic, visibility, as well as width and lights, on 13th between Columbia and Main
- Bike lanes on Main Street (Road Diet)

Please Preserve:

- Walkability and charm of Main Street
- Safeway on Main Street

Columbia Street

Suggested Changes:

- Long pedestrian wait on 39th between Fourth Plain and Columbia due to semis turning, need more intuitive crossings
- Speeding on Fourth Plain between Kauffman and Columbia, need signals with crosswalks
- Freight bridge to west across Columbia
- Traffic back-ups on 39th Street between I-5 and Columbia
- Better access and safety: consistent pedestrian crossings and sidewalks, consistent bike facilities for Columbia and Lincoln, Kauffman and to Burnt Bridge Creek
- Morning gridlock between Columbia and Broadway and 5th Street
- Traffic light delays at Fourth Plain and Columbia, hard to cross as pedestrian
- Cars and trucks running red lights east and west bound on Columbia and Fourth Plain
- Consistent bike facilities full length of Columbia and Lincoln/Kauffman, and to Burnt Bridge Creek Crossing – no sharrows
- Highway 14 traffic on 5th and Columbia
- Traffic, visibility, as well as width and lights, on 13th between Columbia and Main
- Bike route changes on Columbia, south of Fourth Plain

Please Preserve:

- Wide streets on Kauffman and Columbia
- Recreation along Columbia

Kauffman Avenue

Suggested Changes:

- Fix connection between Lincoln and Kauffman
- Better access and safety: consistent pedestrian crossings and sidewalks, consistent bike facilities for Columbia and Lincoln, Kauffman and to Burnt Bridge Creek
- Speeding on Fourth Plain between Kauffman and Columbia, need signals with crosswalks
- Consistent bike facilities full length of Columbia and Lincoln/Kauffman, to Burnt Bridge Creek Crossing – no sharrows



- Consistent bike facilities at Fourth Plain and Kauffman – no sharrows
- Signal on 39th Street and Kauffman

Please Preserve:

- Wide streets on Kauffman and Columbia
- Kauffman and 13th intersection



Appendix C. Comment Forms

Comment Forms

- Large semi-trucks cannot make turns off exit ramps of I-5 on 39th Street. They need to have cars move back in order to make the turns.
- Intersection at 39th and Main Street is grossly inadequate for traffic volume, as lanes are far too narrow. Buses and trucks barely fit in lanes. Two convenience stores with gas too much for intersection.
- Need clarification on what routes trucks can use and when. Would like to know where exactly trucks are traveling to and from on the east to west route. Need to slow traffic down on Fourth Plain (speed limit is higher than Mill Plain, and there are fewer traffic signals).
- With the anticipated increase in volume of commercial and non-commercial traffic on the west side (due to port development, waterfront, increased residential housing units and businesses), is the city specifically addressing increases in policies/fire staffing to address the added issues and calls for service?
- Fix Fruit Valley Road Railroad overpass.
- Consistent design, expectations and traffic enforcement.
- Overall safety of 39th Street.
- Make 39th Street less attractive to trucks and more safe for pedestrians.
- Pedestrian activated stop signals at 39th Street and Daniels.
- Stop lights at Kauffman and 39th Street, as well as possibly Washington and 39th Street and Lincoln and 39th Street.
- The Lincoln neighborhood would never have agreed to 39th Street overpass if we had been told that trucks would be able to use 39th Street as a truck route. Safe egress for Fruit Valley in event of earthquake or exploding rail cars was a priority. Now Lincoln neighborhood is paying the price on 39th Street.
- 39th Street is a narrower street with homes that are more affordable. These need to be maintained. Trucks bring environmental hazards: air particles, vibration, noise, and visual.
- Put parking back on 39th Street and narrow street more.
- Consider including Washington and/or Daniels as another way for multi-modal instead of all on Columbia.
- Change the wording from "How are things going to look in 20 years" to How do we want things to look in 20 years."
- Important to note that we can choose some aspects of our future, as other communities have shown.
- Mill Plain is a sound wall – we need to keep and improve it.
- Why is there no inclusion or discussion of possible "rolling bombs" – oil tank cars?



- How will the new I-5/Mill Plain interchange impact Mill Plain traffic?
- Why can't we have water taxis travel the river from I-5 west and over to Oregon?
- There is no railroad connection shown for the new railroad under the Columbia River Crossing.
- How does the Lincoln corridor study relate to this project?
- Concerned that Washington was not considered as part of any of the main corridors. We devote a lot of space to that street.
- Timing/coordination of lights on Mill Plain is an easy way to improve mobility.
- Very concerned about trucks turning right onto 39th Street from Main Street; cars and pedestrians should not have to give up their right-of-way to trucks.
- Have witnessed five cars that had to back up in the turn lane so two trucks could navigate the right turn.
- Students waiting for their crosswalk light also have to back up so there is a safe distance from the truck trailer.
- Future presentation needs to show map with HGV (truck) crash locations and bike pedestrian crashes, including mortality.
- Future presentation needs map showing school catchment areas (elementary and middle), safe walking routes, transit routes, fire station, VA senior housing (EMS trip generators).
- Stop the 18-wheelers from using 39th Street to and from I-5. This is a neighborhood street and not a commercial avenue, especially with the redesign of 39th Street a few years ago.
- If you have ever been followed by an 18-wheeler heading west from I-5 and need to turn north (right turn) onto Lincoln Avenue, the fear of being rear-ended seems very real.
- First time 18-wheeler drives turning onto 39th Street from the north exit of I-5 causes traffic back-up because they have not allowed enough distance to make the turn.

[Multiple comment forms were submitted by one individual; these comments have been included separately as follows:]

- To minimize the number of trucks on Fourth Plain (and increase pedestrian safety and north/south neighborhood access), consider adding two traffic signals on Daniels and Franklin.
- Trucks use Fourth Plain (and 39th Street) since there are fewer traffic signals than on Mill Plain.
- The bike lane on Fourth Plain needs to be extended to at least F Street and preferably across I-5 (City of Vancouver forgot to suggest to WSDOT to set aside space for the bike lane across I-5 when section was re-surfaced in 2007/2008).
- Build a pedestrian path to Fourth Plain from H/I Streets (Arnada) and K Street north (WSDOT Role).
- Need a real plan for a north/south bike lane on Columbia or Washington



- Parking enforcement should extend meters to uptown. Program to enhance residential parking off-street in garages.
- Transit: Extend transit and CTR services to Port to conserve traffic space for freight vs. commuter.
- Freight delivery: need to enforce truck weight and size to downtown as part of a real loading zone plan. Delivery permit system to be enforced.
- City needs to work with waste management on coordinated trash pick-up along uptown and downtown areas so trash pick-up dates and times are minimized. Trash trucks currently pick-up at adjoining businesses almost every other day. Also develop a new dumpster design to reduce sound impact of pouring glass/cans (reference Netherland's dumpster with crane).
- What is the City doing to enforce code about building missing sidewalks on West Fourth Plain, west of Kauffman?
- Restripe highly-faded crosswalks on I-5 and Mill Plain interchange (at ramps); they were last completed in 2000.
- Please complete the planned bike lane on Columbia (north of 13th Street) per 1999 Bikeway Plan.
- Please implement 2002-2003 road striping (Fourth Plain to 39th Street). Plan was completed during last pavement overlay but coordination did not allow it to be completed then.

Westside Mobility Strategy

Summary: Phase 1 Stakeholder and Community Suggested Improvements

Introduction

The purpose of this document is to summarize feedback and suggestions received from stakeholders and community during Phase 1 of the Westside Mobility Strategy project. The first section outlines key themes consistently brought forth by stakeholder groups and the wider community. The second section is a comprehensive list of suggested improvements and actions that should be taken to improve transportation conditions on the west side.

Key Themes

The following key themes emerged from a review of the stakeholder and community feedback:

1. The need to plan and manage westside arterial streets as an interdependent network.
2. Recognition that congestion on I-5 is the root cause of many of the area's transportation issues.
3. Desire to balance needs of multiple travel modes (bicyclists, pedestrians, auto commuters, freight) and multiple users (livability and safety for neighborhood residents, predictability for freight and commuters).
4. Cut-through traffic moving north-south through the area—usually diverted from I-5—causes congestion and reduces safety for all users.
5. Projected future development—both in the industrial port area and in the downtown/waterfront area—is likely to intensify pressure on the transportation network on the westside.
6. Consensus-building, dialogue and collaboration with all stakeholders will be foundational to successful planning and implementation of improvements.
7. North-south travel is generally most challenging for bicyclists and pedestrians because they have to cross multiple, busy arterial streets and bike and pedestrian facilities are inconsistent.
8. Speeding is a persistent issue that impacts neighborhood livability and safety; a broad mix of strategies is needed to reduce speeding, including enforcement, traffic calming, and signal timing.
9. Schools are considered points of safety concerns between modes by both residents and freight operators.
10. Operational and educational interventions such as signal timing, signage, radar feedback, wayfinding, and coordination among freight operations are seen as potential actions.
11. Mill Plain Boulevard is widely viewed as the most appropriate and efficient route for freight.

List of Suggested Improvements/Actions

The following list of suggested improvements or actions was generated based on the notes from 11 stakeholder meetings, 10 neighborhood association meetings and one large community workshop completed during Phase 1 of the Westside Mobility Strategy. The list is organized by corridor or area, with specific locations where appropriate. A count of the number of times that suggestion was identified is provided in the last column.

Study Area

Capital

Suggestion	Specific Location	Count
Improve consistency of bike/ped facilities	N/A	2
Improve I-5 bridge	N/A	2
Improve sidewalks and signage around Amtrak Station	Amtrak Station	1
Create bike/ped facilities on Evergreen Blvd. as east-west route	Evergreen Blvd	1
Create bike/ped facilities on McLoughlin as east-west route	McLoughlin	1
Narrow travel lanes to reduce volumes/speed	N/A	1
Improve bike parking	N/A	1
Consider traffic calming on some segments of arterials	N/A	1
Install signage on I-5 to redirect trucks to right interchanges	N/A	1
Upgrade and replace street signs	N/A	1
Construct freight bridge west across Columbia River	N/A	1
Expand off-street parking	N/A	1
Upgrade water infrastructure to maintain pavement quality	N/A	1
Preserve space for potential future light rail facilities	N/A	1
Consider water taxis for crossing Columbia River just west of I-5	N/A	1
Extend transit to Port area to reduce congestion for freight	N/A	1
Implement 2002-2003 road striping plan from Fourth Plain to 39th St.	N/A	1

System/Operations

Suggestion	Specific Location	Count
Improve consistency and timing of signals, upgrade to sensors	N/A	5
Increase enforcement	N/A	3
Enhance coordination between truck companies on route selection	N/A	2
Identify funding sources	N/A	1
Minimize construction impacts	N/A	1
Enhance bus service	N/A	1
Install school zone speed enforcement cameras	N/A	1
Restrict trucks on some routes/times of day	N/A	1
Improve signals to allow better north/south mobility on weekends	N/A	1
Adjust signal timing for differences in a.m./p.m. traffic	N/A	1
Enable neighborhoods to opt-in to property tax levy to fund enforcement	N/A	1
Consider Washington as a key corridor in study	N/A	1
Streamline waste management uptown/downtown to minimize trash trucks	N/A	1
Develop consistent annual bike count program	N/A	1
Install more radar feedback units	N/A	1
Expand pedestrian advances on signals	N/A	1

Make all school zone flashing lights double-sided	N/A	1
Adjust signal timing to better accommodate north/south traffic	N/A	1
Raise street tree canopy on designated freight routes	N/A	1

Downtown

Capital

Suggestion	Specific Location	Count
Enhance signage and wayfinding downtown, including parking wayfinding	N/A	2
Reduce a.m. congestion on 5th from Columbia to Broadway	Columbia to Broadway	1
Improve 6th St. as a gateway to downtown	6th St	1
Extend two-way conversion of McLoughlin/Washington south of 15th	McLoughlin and Washington	1
Upgrade signals south of Mill Plain	N/A	1
Improve consistency of intersection control and traffic flow downtown	N/A	1

System/Operations

Suggestion	Specific Location	Count
Right-size delivery vehicles in downtown/create delivery permit system	N/A	2
Reduce diversion of I-5 traffic through downtown	N/A	2
Close I-5 SB ramp at Washington St. during morning rush hour	Washington/I-5	2
Restrict times for delivery vehicles downtown	N/A	1
Develop more consistent traffic controls throughout downtown	N/A	1

Neighborhoods

Capital

Suggestion	Specific Location	Count
Widen 45th St. from Washington to Main	45 th , Washington to Main	2
Remove sharrows and create bike/ped bridge at Burnt Bridge Creek Park	Burnt Bridge Creek	2
Improve access and signage to Burnt Bridge Creek	Burnt Bridge Creek	2
Reduce congestion/improve visibility on 13th from Columbia to Main	13th from Columbia to Main	1
Improve sight lines at 22nd/Broadway intersection	22nd/Broadway	1
Designate 29th as a local street connection to Burnt Bridge Creek	29th/Burnt Bridge Creek	1
Improve bike/ped safety at 32nd/Lower River	32nd/Lower River	1
Designate 33rd as a local street connection to Burnt Bridge Creek	33rd/Burnt Bridge Creek	1
Improve sightlines at 8th/Franklin intersection	8th/Franklin	1
Install sidewalks on major streets connecting Division and Washington	Division and Washington	1
Add lighting to Burnt Bridge Creek area to improve safety	Burnt Bridge Creek	1
Improve BBC trail crossing on Hazel Dell in Clark County	Burnt Bridge Creek	1

Establish north/south bike route on C St	C St	1
Establish north/south bike route on F St, especially at north end	F St	1
Enhance sidewalk connectivity between Franklin and Lincoln Elementary	Franklin/Lincoln schools	1
Add sidewalks around schools in north neighborhoods	N/A	1
Implement parking management (metering and/or permitting) in Uptown	N/A	1

System/Operations

Suggestion	Specific Location	Count
Reduce congestion and improve safety during school drop-off/pick-ups	Franklin Elementary, VSAA	1
Develop disaster response plans for Lincoln neighborhood	Lincoln Neighborhood	1

39th St.

Capital

Suggestion	Specific Location	Count
Improve 39th/Main intersection to improve flow, congestion, truck issues	39th/Main	4
Add signal to 39th/Kaufmann intersection	39th/Kaufmann	2
Improve traffic control/flow and visibility at 39th and Lincoln intersection	39th/Lincoln	2
Add signal to 39th/Lincoln intersection	39th/Lincoln	2
Install pedestrian crossing and/or signals at 39th/Washington	39th/Washington	2
Allow street parking on both sides of 39th St.	N/A	2
Improve pedestrian crossings at Columbia/39th	39th/Columbia	1
Install school zone speed enforcement cameras at 39th/Daniels	39th/Daniels	1
Remove safety island at 39th/Daniels intersection	39th/Daniels	1
Install pedestrian signal at 39th/Daniels	39th/Daniels	1
Install signal at 39th/Fruit Valley intersection	39th/Fruit Valley	1
Improve I-5/39th interchange to allow trucks better access	39th/I-5	1
Improve 39th St/SR 500 interchange	39th/SR-500	1
Reduce congestion on 39th from I-5 to Columbia	I-5 to Columbia	1
Widen lanes to allow both vehicles and bikes on 39th from Main to Lincoln	Main to Lincoln	1
Install more crosswalks on 39th	N/A	1
Improve overall safety of 39th St.	N/A	1
Create consistent sidewalks throughout 39th St. corridor	N/A	1

System/Operations

Suggestion	Specific Location	Count
Apply weight restriction and/or discourage/ban trucks on 39th St.	N/A	8
Change classification of 39th St.	N/A	1

Columbia

Capital

Suggestion	Specific Location	Count
Develop Washington and/or Daniels into bike/ped route	N/A	4
Create consistent bike facilities on Columbia/designate as bike route	N/A	4
Improve bike crossing at Columbia/Fourth Plain intersection	Columbia/Fourth Plain	1
Improve bike facilities on Columbia from McLoughlin to Fourth Plain	McLoughlin to Fourth Plain	1
Complete bike lanes on Columbia north of 13th St.	North of 13th St	1
Improve bike facilities on Columbia south of Fourth Plain	South of Fourth Plain	1

System/Operations

Suggestion	Specific Location	Count
Improve enforcement at signals on Columbia	N/A	1

Fourth Plain

Capital

Suggestion	Specific Location	Count
Extend bike lanes on Fourth Plain from east end near F St. across I-5	F St. across I-5	2
Add crosswalk, stop sign or signal at Fourth Plain/Daniels	Fourth Plain/Daniels	2
Add signals and/or bike-ped crossing to Fourth Plain/Franklin intersection	Fourth Plain/Franklin	2
Add signals to Fourth Plain/Daniels intersection	Fourth Plain/Daniels	1
Install crosswalks and signals at Fourth Plain/Franklin	Fourth Plain/Franklin	1
Add stop sign at Fourth Plain/Franklin	Fourth Plain/Franklin	1
Improve directional signage at Fourth Plain/Fruit Valley	Fourth Plain/Fruit Valley	1
Improve transit at Fourth Plain/Lincoln	Fourth Plain/Lincoln	1
Improve Fourth Plain/Main intersection	Fourth Plain/Main	1
Build a pedestrian path to connect from H/I/K streets to Fourth Plain	H/I/K Streets	1
Install crosswalks and signals on Fourth Plain from Kauffman to Columbia	Kaufmann to Columbia	1
Enhance safety for pedestrians south of Fourth Plain to Fruit Valley school	N/A	1
Create consistent bike facilities on Fourth Plain	N/A	1
Reduce truck traffic on Fourth Plain	N/A	1
Create consistent sidewalks throughout Fourth Plain corridor	N/A	1
Improve pedestrian crossings of Fourth Plain on west end	West end	1
Improve circulation/urban design at Fourth Plain/25th/Main intersection	Fourth Plain/25th/Main	1

System/Operations

Suggestion	Specific Location	Count
Reduce speeding on Fourth Plain from Kauffman to Columbia	Kaufmann to Columbia	2
Improve signals at Fourth Plain/Broadway to better accommodate freight	Fourth Plain/Broadway	1

Improve signal timing for pedestrian crossing at Fourth Plain/Columbia	Fourth Plain/Columbia	1
Reduce duration of EB left turn signal at Kaufmann/Fourth Plain	Fourth Plain/Kaufmann	1
Improve signal timing at Fourth Plain/Kaufmann intersection	Fourth Plain/Kaufmann	1
Improve signals at Fourth Plain/Main to better accommodate freight	Fourth Plain/Main	1
Reduce traffic volume on Fourth Plain	N/A	1
Improve enforcement at signals on Fourth Plain	N/A	1
Extend transit to Fourth Plain	N/A	1
Reduce speed limits on Fourth Plain	N/A	1
Enforce ROW improvement code for building sidewalks on west Fourth Plain	N/A	1
Shorten signal cycles for left turns off Fourth Plain	N/A	1
Improve signals at Fourth Plain/Broadway to better accommodate freight	Fourth Plain/Broadway	1
Improve signal timing for pedestrian crossing at Fourth Plain/Columbia	Fourth Plain/Columbia	1

Fruit Valley

Capital

Suggestion	Specific Location	Count
Improve/widen Fruit Valley Rd. bridge	Fruit Valley/Railroad	4
Improve Fruit Valley Rd. between 61st and 78th	61st to 78th	1
Complete project at Fruit Valley and 32nd bypass	Fruit Valley/32nd	1
Improve intersection at 78th/Fruit Valley	Fruit Valley/78th	1
Replace and widen sidewalks on north end of Fruit Valley	North end of Fruit Valley	1

System/Operations

Suggestion	Specific Location	Count
Reduce commuter traffic southbound on Fruit Valley Rd.	N/A	3
Extend transit to Fruit Valley	N/A	1

Kaufmann

Capital

Suggestion	Specific Location	Count
Establish north/south bike route on Franklin and/or Kaufmann	Franklin and Kaufmann	1
Improve connectivity between Lincoln and Kauffman	Kaufmann/Lincoln	1

Lincoln

Capital

Suggestion	Specific Location	Count
Create consistent bike facilities on Lincoln/Kaufmann	N/A	2

Add sidewalk on Lincoln/53rd near Franklin Elementary	Lincoln/53rd	1
Improve sidewalks on Lincoln Ave.	N/A	1
Improve stormwater management on Lincoln Ave.	N/A	1

System/Operations

Suggestion	Specific Location	Count
Reduce speeding on Lincoln	N/A	2

Main

Capital

Suggestion	Specific Location	Count
Add bike lanes on Main St. and consider road diet	N/A	1
Make traffic signals more consistent on Main St.	N/A	1
Reduce travel lanes on Main north of Fourth Plain	North of Fourth Plain	1

Mill Plain

Capital

Suggestion	Specific Location	Count
Improve safety of SB I-5 entry ramp at Mill Plain, especially for trucks	Mill Plain/I-5	3
Rebuild Mill Plain interchange	Mill Plain/I-5	2
Improve bike-ped facilities on Mill Plain east of Columbia	East of Columbia	1
Widen Mill Plain entry ramp on I-5 SB to accommodate oversized loads	Mill Plain/I-5	1
Restripe crosswalks on I-5/Mill Plain interchange	Mill Plain/I-5	1
Improve directional signage at Mill Plain railroad crossing	Mill Plain/Railroad	1
Complete bike lanes on Mill Plain just east of I-5	N/A	1
Create consistent sidewalks throughout Mill Plain corridor	N/A	1
Preserve and improve the Mill Plain sound wall	N/A	1
Reduce/improve traffic signals on Mill Plain to be friendlier to trucks	N/A	1

System/Operations

Suggestion	Specific Location	Count
Designate and improve Mill Plain as the sole/preferred truck route	N/A	3
Improve signal timing on Mill Plain	N/A	1



Westside Mobility Strategy Community Walk and Bike Ride

Saturday, October 10, 2015 – 10AM to 11:30AM
City Hall, 615 W. 6th Street, Vancouver, Vancouver, WA 98660

Event Notes

Community Walk Comments (by stop location):

1.) 6th and Washington

- There is a long wait time at the pedestrian signal, and it is not a fluid walk between lights.
- The timing of pedestrian signal going east-west is not long enough for people getting off the #3 bus.
- Walk signal time intervals are inconsistent in this area. By the time a pedestrian arrives at the next intersection the walk signal has turned to a stop signal.
- Cars try to take right turn ahead of pedestrians even though pedestrian has a walk signal.

2.) E. Mill Plain Blvd and Main Street

- Intersection at 11th Street:
 - Change diagonal parking to reverse parking for improved safety and visibility.
 - Hard to see pedestrians.
 - Awkward intersection layout and angled parking makes it hard to see cars and pedestrians when backing out of parking spaces.
- Intersection at 12th Street:
 - An awkward corner, as there is no ramp on NE corner going north.
 - Awkward intersection layout and angled parking makes it hard to see cars and pedestrians when backing out of parking spaces.
- Intersection at 13th Street:
 - Crosswalk and stop sign is set too far back from actual intersection that vehicles have to stop a second time to double check for vehicle and pedestrian movements. Or they roll the stop sign and stop when closer to intersection.
 - May need second stop line where curb extensions are large.
- Add more benches along Main; it is a challenge for older residents traveling uphill. More benches, with median arm rest to prevent sleeping, are needed for rest stops.

- Striping is slippery when wet.
 - Broadway and Evergreen – might be good to have curb extensions.
 - Participant: Is parallel parking along Main Street still being considered?
 - City: Trade-offs are still being assessed due to the large number of parking spacing that would be lost by going to parallel parking treatment.
 - Intersection at Mill Plain:
 - This is a bad intersection and cars try to take a right turn without consideration of pedestrians.
 - A bike box at this intersection for cyclists could be good.
 - Overall roadway improvements needed.
 - There is an audible signal at the Mill Plain intersection, but not at some of the surrounding intersections. Could be useful to have audible signal at some of the other intersections.
- 3.) W. 20th Street and Main Street
- It is difficult to cross Main Street between McLoughlin Boulevard and 22nd Street due to lack of crosswalks.
 - Can be busy through this area due to I-5 diversion traffic.
 - Light at 22nd Street and Main Street will blink red at unusual times and is not useful.
- 4.) W. 17th Street and Columbia Street
- Columbia seems to be a main thoroughfare and there is a lot of traffic moving through here.
 - Traveling down Columbia is brutal for bikers.
 - No marked crossings.
 - Heavy traffic flow.
 - Timing of pedestrian walk signals is good through this area.
- 5.) W. 8th Street and Washington Street
- The walk light timing is good on Washington Street, except at 8th Street.
 - Traffic builds up in this area.
 - Reducing number of lanes could increase bad driver behavior. Almost got hit from a vehicle trying to go around another vehicle.

Other / General Comments:

- Add a crosswalk on Main Street, between Starbucks and Bleu Door.
- The largest concerns are uneven sidewalks (tripping hazard) and inaccessible areas due to trees/shrubs that are not maintained.
- Sand should be added to paint for striping to avoid slips and falls when it rains.
- Broadway Street:
 - Intersection at 6th Street does not have a crosswalk
 - Intersection at 8th Street does not have a crosswalk, only a NW ramp

- Intersection at 9th Street, specifically the ramp at Bank of America, leaves wheelchairs in the street from the handicap parking. Change to ramp in striping area.
- Motorcycle parking is needed and could potentially be at corners to increase visibility while allowing dedicated parking.
- More trash cans are needed in Esther Short Park, as there are many benches.
- In order to step over crosswalk stripes, they need to be narrower.
- Keep courtesy space for parallel parking.
- Intersection at Daniels Street and 20th Street is not a smooth transition to the street.
- Intersection at Mill Plain Boulevard and Columbia Street doesn't contain crosswalk markings, and most cars turn right.
- Suggested permit process for A-Boards/Sandwich Signs, similar to Portland:
 - Sticker on each sign
 - Address for sign location
 - Date of expiration (1 year)
 - Date of label

Community Bike Ride Comments (by stop location):

- 1) W. 17th and Kauffman Ave.
 - The intersection of Kaufmann Avenue and 13th Street is not concerning.
 - What are the impacts associated with re-aligning the intersection?
- 2) NW 41st Street and Lincoln Ave.
 - Is W. 36th the most logical place to make the jog over from Kauffman to Lincoln?
- 3) Daniels Street (near Lincoln Elementary School)
 - Daniels is a very pleasant neighborhood street, much preferable to ride than Columbia.
 - Good connections to Lincoln and Hough Elementary schools.
 - Both Daniels and Columbia provide great southerly view corridors to downtown Portland.
- 4) W. 20th and Washington Street and Columbia Street
- 5) E. 25th Street and F Street
 - F Street connection at E. Fourth Plain is a great "secret" access point for bikes.
 - The light timing at E. Fourth Plain and F Street could be improved to be more responsive to people needing to cross the road.
 - Sidewalk is very narrow. Could the intersection be widened to allow bike/peds to cross at an angle from F?
- 6) W. 32nd and Columbia Street
 - In order to 'keep the peace' among residents, avoid Columbia Street, as Daniels is plenty wide.

Other / General Comments:

- It is recommended that some stop lights be removed on Daniels Street.

- The best way to ride to Hazel Dell is to take 45th Street, head north on Main Street and then northwest on NE Hazel Dell Avenue.
- Community member usually rides on Franklin Street to avoid two lights on Mill Plain Boulevard and 16th Street. They also don't use Columbia Street until south of Mill Plain Boulevard.



Westside Mobility Strategy

Community Forum #2

Save
the
Date!

- What:** Westside Mobility Strategy Community Forum
- When:** Thursday, October 15th, 2015, 6:00 p.m. to 7:30 p.m.
- Where:** Vancouver City Hall, 615 W. 6th Street, Vancouver, WA, 98660
- Who:** Open to the public: any residents, property owners, business owners or industry representatives interested in transportation in West Vancouver

What is the Westside Mobility Strategy?

The City of Vancouver is conducting the Westside Mobility Strategy to assess transportation options that provide the best possible balance between a thriving port, industrial areas, livable neighborhoods and a revitalizing urban core. With the involvement of westside neighborhoods, businesses, industry and organizations, the study aims to develop a strategy that will allow for continued job growth in Vancouver's western industrial area and port while maximizing the livability of neighborhoods and mixed-use commercial areas along travel corridors.

What will we do at the meeting?

Project staff will provide a presentation and engage meeting participants in discussion on the following topics:

1. **Community values** that will guide the development of the strategy and evaluation of alternative solutions
2. A **balanced mobility** approach to planning transportation improvements
3. Specific **network management concepts** that can achieve the goals of the mobility strategy



Westside Mobility Strategy Community Forum #2

Thursday, October 15, 2015 – 6:00 to 7:30 PM
City Hall Aspen Room, 615 W. 6th Street, Vancouver, WA 98660

Meeting Summary

Overview

The City of Vancouver held the second community forum for the Westside Mobility Strategy on Thursday, October 15th from 6:00 to 7:30 p.m. at Vancouver City Hall. The meeting was a project update and briefing, featuring a Power Point presentation followed by Q&A with participants. The intent of the meeting was to review:

- Community values the project team has heard to guide the development of the strategy and evaluation of alternatives
- Balanced mobility approach to planning transportation improvements
- Specific network management concepts to achieve the goals of the strategy

Twenty people signed in for the event, which was publicized through the City website, media release, emails from the project team, and flyers distributed in advance to various community groups and stakeholders. Fourteen comment forms were turned in and project staff took notes throughout the meeting.

Comment Forms

Session and Concept Concerns/Feedback:

- Attendee enjoyed the breakout sessions at the last community forum.
- It might have been helpful to meet up after the Community Walk/Bike Ride. Attendee felt that there might be a chance to do that tonight.
- Love Concept #2. Good luck getting the county to cooperate.
- Concepts #1 and #2 sound very promising. Concept #3 is needed but seemingly challenging, given the politics involved.
- Thanks for listening during Community Forum #1, as well as this update.
- Should residents be writing legislators for Concept #2 funding?
- Consider setting up boards/sandwich boards in each westside neighborhood with meeting notices and updates and specifically on Main Street/Mill Plain Boulevard/39th Street/etc. announcing Community Forum #3.
- Liked the meeting, very interesting. Thanks for all the hard work thus far on the project.

- Thank you for taking a look at all possibilities and options.
- Go for the 'Kitchen Sink'.

Area Concerns/Feedback:

- Need sidewalks and bike paths on Lincoln Avenue from 39th Street to Bernie Drive.
- Need sidewalks from Lincoln Avenue to Franklin Elementary School along 53rd Street.
- Consider the impact of new fire station at Fourth Plain Boulevard and Main Street.
- Taxpayers paid a significant amount to fix Mill Plain Boulevard so trucks would utilize that street, leaving less truck traffic on Fourth Plain Boulevard. Trucks seem to still use Fourth Plain Boulevard even though the left lane off of I-5 onto Fourth Plain is not easy for trucks to use. Crossing Fourth Plain Boulevard while walking/biking is difficult.
- Timing of traffic lights on Columbia Street, south of Mill Plain Boulevard, should be improved.
- Thank you for recognizing that Main Street through Uptown Village is a place. Cars should only be there to go to the businesses. This is an issue on most days and most hours, *not just* rush hour. The thru traffic can use Broadway Street, but going south on Main Street, you are forced on to Main Street at the D.Q. (can't easily access Broadway Street). Thru traffic could also use Columbia Street.
- The street to the east of D.Q. needs to be two-way.
- Main Street should be vibrant with shopping, dining, etc. Obstacles include: on street parking, narrow sidewalks, lack of bike lanes, thru traffic. Push thru traffic to Washington? Broadway?
- Consider addressing the bus stop at Walgreens on Broadway Street going south, as well as north. Many people catch buses from one stop to the other, and while it may improve with changed #4 bus route; it might still be worth looking into.
- Attendee strongly encourages more marked crosswalks (even at the cost of removing parking) on Main Street in Uptown Village, as pedestrians are currently crossing throughout the street, which is dangerous.
- Attendee wondered, in general, if eliminating the center third lane (e.g. 39th Street) and converting to two vehicle lanes and two bike lanes might encourage bikes and discourage trucks.
- Continue to further develop bike lanes and facilities on Columbia Street, from 13th Street north to 39th Street.
- Attendee's main concern is 39th Street. As ways are considered to improve safety for pedestrians, please remember it is east/west: main traffic is usually going into the sun, if not rain. At least one more traffic light is needed.
- Fruit Valley Road Bridge: use bike-operated flashing lights, similar to SRIY tunnels in Klickitat County.
- Consider the impact of new waterfront development (i.e. Grant Street and others that will feed into waterfront).
- Attendee suggested a light at 61st Street: when traffic is heavy, it is tough to get onto Fruit Valley Road.

- A crosswalk would draw attention to the bicyclist/pedestrian crossing from the northbound bike lane on NE Hazel Dell Avenue to Burnt Bridge Creek Train (entry/juncture in road), which is on the southbound side coming downhill.
- The new 32nd Avenue route seems like a dream come true; it looks fantastic!

Meeting Notes:

- After a show of hands, about ½ of the audience indicated they were also at Community Forum #1.
- **What we learned slide:** Please explain the percentage regarding collision rates (percent of all traffic). Oregon data or Puget Sound data? (ODOT data – they use collision/mile).
- How many modes does this data represent? Fourth Plain Boulevard – total length or just the study area?
- **Main Street and 25th Street:** The bus drops off on Main Street at Hi-School Pharmacy, which adds to the pedestrian issue. What is the new fire station going to do to this intersection?
- It's hard to see people at night in dark clothes.
- 25th Street was designed to be a narrower street, and the city didn't put in a crosswalk like they should have.
- Raised crosswalk near Starbucks on Main Street and north of 25th Street does not work well.
- **Concept #2 – Mill Plain and 78th Freight Routes:** Limit truck traffic through middle section.
- **Alternate Scenarios:** When you say "Main Street," are you distinguishing between upper and lower Main Street? They function differently. Does your work include all of the modeling covered during the CRC study?
- When will the City know the results of these models?
 - By the next community forum.
- Main Street roadway improvements were previously designed up to 90% but it was decided not to complete. It would be worth looking at what was previously designed.
- **Concept #3 – The Kitchen Sink:** Where would 32nd Ave. extension come out on Fruit Valley?
 - Road would connect at 61st and run along 78th.
- The Fruit Valley Bridge to 78th Street was recently resurfaced. Cyclists don't have anywhere to go coming from the nearby trails and have to ride in the middle of the road – there are no bike facilities. Signs are needed to alert drivers to watch for cyclists.
- (Someone whispered what we mean by "neighborhood vitality")
- When did we move away from gross vehicle weight instead of articulated trucks? Isn't that a better measure?
 - Axles and articulation is an easier data point to collect rather than weight.
- Someone called BS on oversized load trucks on 39th Street, stating they see them all the time.
- The large trucks with the large turbines travel through the areas where they are not permitted.
- Will you be giving RTC your updated traffic data?
 - The City has been talking to other agencies about sharing this data. The existing conditions report will be out soon and shared with the public.
- Does the city publish preferred truck routes? Do drivers know which routes they should take?