



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: Nov 1, 2007
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VanRIMS No.: 13-5000-20
Meeting Date: December 11, 2007

TO: Vancouver City Council
FROM: General Manager of Engineering Services
SUBJECT: Arterial Street Bicycle Lanes

RECOMMENDATION

- A. THAT Council receive for information the plan for installation of bicycle lanes and shared-use lanes on arterial streets as described herein, to be funded from the previously approved 2007 Streets Basic Capital Budget for the Bicycle Network (CC2EA2EX1), in the amount of \$150,000.
- B. THAT, commencing in 2009, the Operating Budget be increased by \$19,000, without offset, subject to Budget Review, for maintenance of signage and paint markings.

COUNCIL POLICY

In 1997, Council approved the Vancouver Transportation Plan that emphasizes the need for developing more bikeways and ranks cyclists second priority after pedestrians.

In 1999, Council approved the 1999 Bicycle Plan that established the goal of developing the bicycle network in the City to ensure a grid of bicycle routes approximately one kilometre (1km) apart.

PURPOSE

This report provides information regarding a program to install bicycle lanes and shared-use lanes on arterial streets where no curb re-alignment is required. It also seeks Council's approval for funding to increase the Operating Budget for maintenance of signage and paint markings.

BACKGROUND

The 1997 Transportation Plan identified several policies for major cycling initiatives. Item C3 states that, where practical, bike lanes should be marked on city streets that provide access to the Downtown and other major destinations.

In 1998, Council approved the Dunbar Community Vision and its role in helping guide policy decisions, corporate work, priorities, budgets and capital plans in this community.

DISCUSSION

The 1997 Transportation Plan established that bike lanes and bikeways would provide safer and more comfortable access to all parts of the city for a broad range of cyclists and would improve awareness of cycling as a legitimate mode. It also recognized that bike lane markings should also improve safety by helping to make other road users more aware of the space needed for bike safety.

Outside of Downtown, Vancouver's existing bicycle network consists mainly of local residential bikeways. Arterial bike lanes make up 12% of the 180 km of total constructed bikeways.

City staff have identified an opportunity to implement a program to provide bicycle lanes and shared-use lanes (see Appendix A) on a number of arterial streets. By the application of road markings alone, these streets in Vancouver's arterial road network can accommodate bike lanes with no required curb work and without affecting parking or compromising space for other traffic. By using this approach, the City can expand the bicycle network with negligible effects to the existing roadway.

Bike lanes will reduce the visual appearance of the road widths, which may result in reduced speeds, and will remind drivers of the shared road facilities. Staff will be monitoring traffic before and after the installation of lane markings to determine what effect narrower marked lanes have on vehicle speed.

Staff plan to begin this program with the installation of bike lanes on sections of Rupert and Dunbar Streets in the construction season of 2008. This program would then be expanded to other arterial streets as budgets permit.

Rupert Bike Lanes

Rupert Street is a north-south secondary arterial located in Renfrew-Collingwood. The proposed section from E 14th Ave to E 29th Ave has a centre median which divides the street

into two constant widths of 7.4 m in each direction, as shown in Figure 1. On-street parking is permitted along the northbound and southbound roadways except near bus stops and major intersections. The proposed section for bike lanes is 1.4 km long.

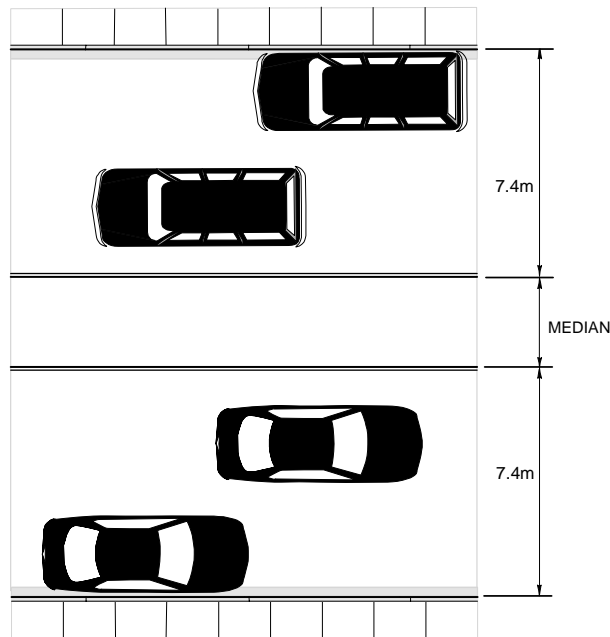


Figure 1: Existing Rupert Street Configuration

The existing width permits each direction of the road to accommodate a general purpose lane, a bike lane, and a parking lane. A 1.7 m bike lane will be used to accommodate cyclists comfortably, as shown in Figure 2.

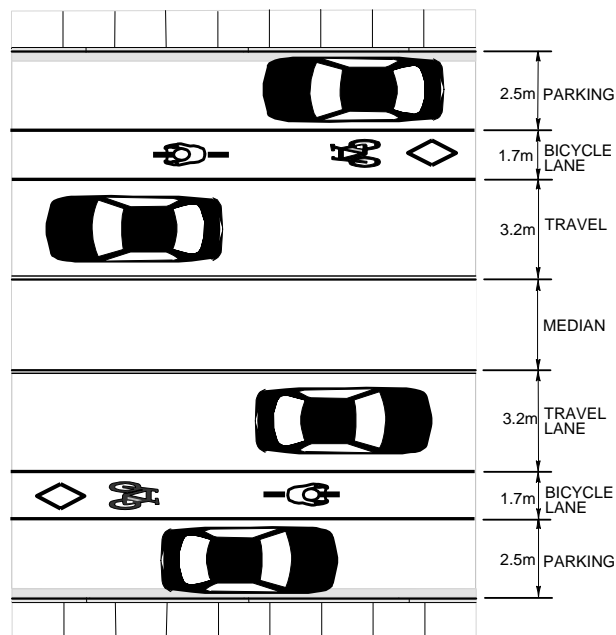


Figure 2: Rupert Street Bike Lanes - Typical Configuration

Land use adjacent to this section of Rupert Street is a mix of single-family residential, multi-family residential, commercial, and educational. This section of Rupert accommodates transit route 27.

Rupert bike lanes will also improve access to the existing E 29th Ave Bikeway and provide the surrounding community with improved bicycle access to Falaise Park, Renfrew Elementary School, Windermere High School, and Sir Winfred Grenfell School.

Dunbar Bike Lanes

Dunbar Street is a north-south primary arterial serving Southlands, Dunbar and Point Grey. The proposed section on Dunbar Street is bounded by, and connects to, existing bike lane facilities on W 16th Ave and SW Marine Drive. The street is 15.2 m wide between W 16th Ave and W 41st Ave and the street is 11.8 m between W 41st Ave and SW Marine Drive.

For most of its length, Dunbar Street accommodates one travel lane and one parking lane in each direction. Parking is permitted on both sides except at locations in close proximity to bus stops and at intersections crossing other arterial streets.

Changes to the existing road will be defined in two separate sections: W 16th Ave to W 41st Ave and W 41st Ave to SW Marine Drive.

W 16th Ave to W 41st Ave

Between W 16th Ave and W 41st Ave, the existing street has one travel lane and one parking lane in each direction with an overall road width of 15.2 m. This road width permits a re-configuration to accommodate a general purpose lane, a bike lane, and a parking lane in each direction, as shown in Figure 3.

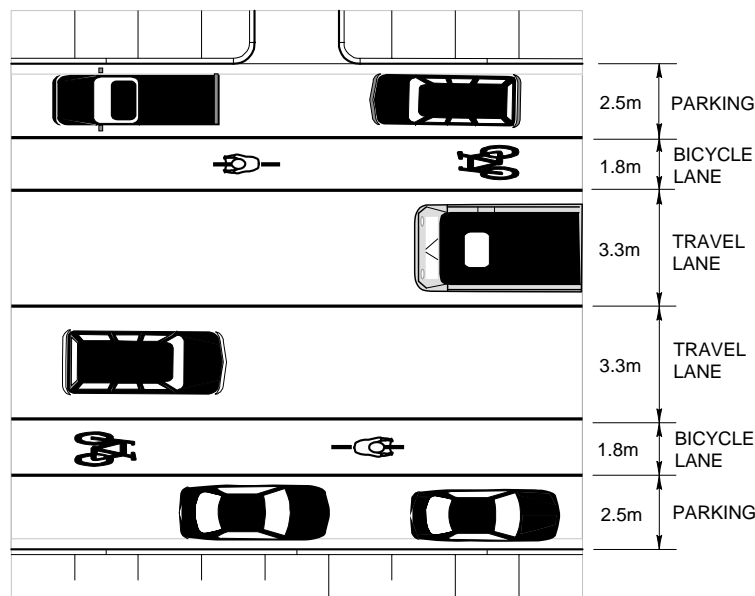


Figure 3: Dunbar Street Bike Lanes, W 16th Ave to W 41st Ave - Typical Configuration

W 41st Ave to SW Marine Drive

The section south of W 41st Ave to SW Marine Drive has a road width of 11.8 m and is not wide enough to accommodate bike lanes; therefore, shared-use lane markings (sharrows) will be installed along its length, as shown in Figure 4.

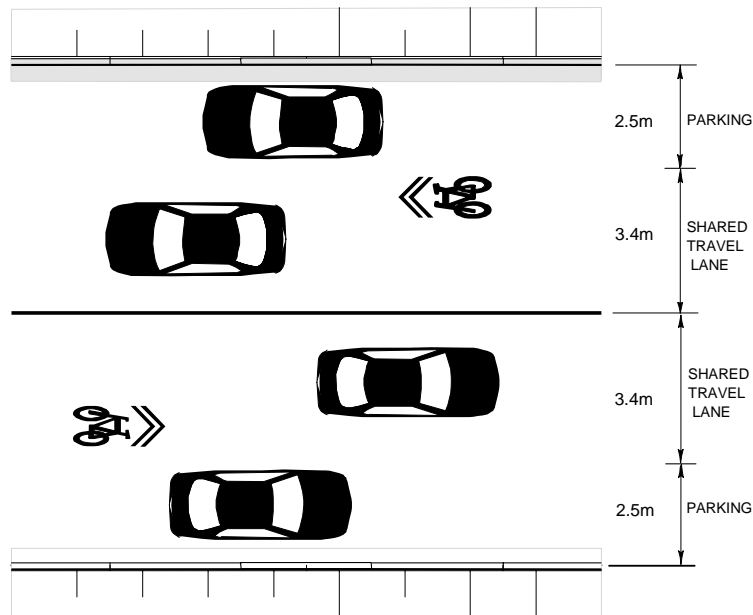


Figure 4: Dunbar Street Bike Lanes, W 41st Ave to SW Marine Drive - Typical Configuration

Land use adjacent to Dunbar Street is a mix of single-family residential, multi-family residential, commercial, and recreational. This section of Dunbar Street from W 16th Ave to SW Marine Drive accommodates transit routes 7, 25, 32, 49, and N22 and provides access to the Dunbar Loop.

Dunbar bike lanes will also improve access to existing east-west bikeways: Ridgeway, Midtown Bikeway, SW Marine lanes, and W 16th Ave lanes. It will also provide the surrounding community with improved bicycle access to Lord Kitchener School, Memorial Park West, Dunbar Community Centre, and to the many commercial establishments in the Dunbar community.

The installation of Dunbar bike lanes will be subject to further public consultation to clarify Dunbar Community Vision Directions (see Appendix B).

This plan has been reviewed and endorsed by the Bicycle Advisory Committee.

FINANCIAL IMPLICATIONS

The estimated capital cost of installing bike lanes, as specified in this report, is \$150,000 for the installation of painted facilities on Rupert, Dunbar, and one or more arterial streets. Included in this cost are paint markings, including lane lines and stencilling, traffic monitoring

and potential public consultation. Funding for this project is available from the approved 2007 Streets Basic Capital Budget for the Bicycle Network (CC2EA2EX1). The estimated costs of the components of the work for Rupert and Dunbar are as follows:

Rupert Street

Lane lines and other pavement markings	23,000
Signage	7,000
Traffic monitoring	5,000
Total	\$ 35,000

Dunbar Street

Lane lines and other pavement markings	40,000
Signage	15,000
Traffic monitoring	5,000
Total	\$ 60,000

The remaining \$55,000 will allow for the installation of bike lanes on approximately 2 km of roadway.

Typical Arterial Bike Lane Installation (1 km & bi-directional)

Lane lines and other pavement markings	20,000
Signage	5,000
Total	\$ 25,000

Commencing in 2009, additional annual funding in the amount of \$19,000 will be required for maintenance of signage and lane markings; funding to be added to the Traffic Operating Budget without offset, subject to annual budget review.

CONCLUSION

This report recommends that Council approve funding to increase the Operating Budget, for maintenance of signage and paint markings, relating to bike lanes on arterial streets.

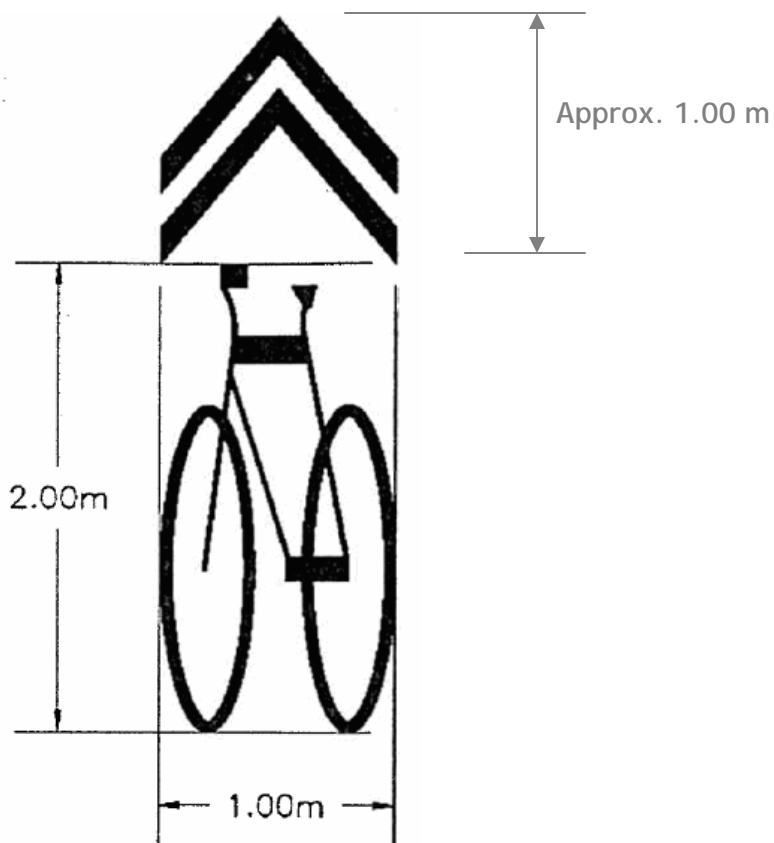
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Shared-Use Lane Markings (Sharrows)

Shared-use lane markings are symbols placed on the pavement surface in the intended area of bicycle travel. The symbols raise awareness to both cyclists and motorists of the correct cyclist positioning in the lane.

The use of the marking is considered primarily on routes with high cyclist volumes or potentially high volumes considering latent demand. Shared-use lane markings may be used in the following applications, on roadways that form part of a cycling route:

- side-by-side bicycle and car operation on roads which are not wide enough for a dedicated bicycle lane with cyclists adjacent the curb or edge of road, on roads with no on-street parking
- side-by-side bicycle and car operation on roadways with full-time on-street parking, to position cyclists to ride outside the door zone of parked vehicles.



Dunbar Community Vision

The Dunbar Community Vision included public consultation regarding several subjects to improve the community. Below are the sections that apply to bike lanes on Dunbar Street.

Approved Vision Direction¹

10.2 *Street Width*

Dunbar Street should continue to have only two lanes of moving traffic, with parking on each side at all times. The wide right-of-way should not be used to add traffic lanes; instead, extra space should be created for pedestrians, cyclists, and transit users, with some, or all, of the following changes:

- Corner bulges at key intersections, and/or median refuge islands, to increase crossing safety
- More areas with trees and plantings
- A dedicated bike lane
- Improvement for buses

Support %: 84/7/9²

Other Vision Direction

Considered but not approved

Section 13.2 *Bike Lane on Dunbar Street*

A bike lane should be considered for Dunbar Street, as part of more detailed planning for improvements along street.

Uncertain %: 50/17/33

Comment: This direction did not receive the majority agreement in both surveys. However, it received many more agree votes than disagree, and was especially favoured by younger adult survey respondents. ...this idea remains on the table, for more detailed community discussion of impacts and trade-offs, as part of any work to provide extra space on Dunbar Street for pedestrians, cyclists, and/or transit users, as described in 10.2

¹Vision Direction:

The Vision directions for each topic are in two groups: "Approved Vision Directions" and "Other Vision Directions considered but not approved."

²Survey Results:

After each Vision direction, the community survey results are shown, as a percentage of the total vote. (This is the combined total from both the general and random portions of the survey.) The percentages are always in the following order: agree/neutral/disagree