



**City of Richmond**

**Report to Committee**

**To:** Public Works and Transportation Committee      **Date:** March 29, 2004  
**From:** Robert Gonzalez, P.Eng.  
Director, Engineering      **File:** 10-6360-07-01/2004-Vol  
01  
**Re:** Lane Standards

**Staff Recommendations**

1. That the Grass Swale Lane option, as discussed in the attached report, be implemented as a pilot projects; and
2. That staff report back to Council with an assessment of the pilot project together with final recommendations for Richmond's lane standards.

Robert Gonzalez, P.Eng.  
Director, Engineering  
(4150)

Terry Crowe  
Manager, Policy Planning  
(4139)

Victor Wei, P. Eng.  
Manager, Transportation Planning  
(4131)

Att. 1

| FOR ORIGINATING DIVISION USE ONLY |                                                                  |                                |
|-----------------------------------|------------------------------------------------------------------|--------------------------------|
| ROUTED TO:                        | CONCURRENCE                                                      | CONCURRENCE OF GENERAL MANAGER |
| Development Applications .....    | Y <input checked="" type="checkbox"/> N <input type="checkbox"/> |                                |
| Chief Administrative Officer..... | Y <input checked="" type="checkbox"/> N <input type="checkbox"/> |                                |

## Staff Report

### Origin

At the December 17, 2003 Public Works and Transportation Committee meeting, staff brought forward a discussion paper on the City's current lane policy and standards. A copy of the report is included in Appendix A. Upon conclusion of the meeting, Committee resolved:

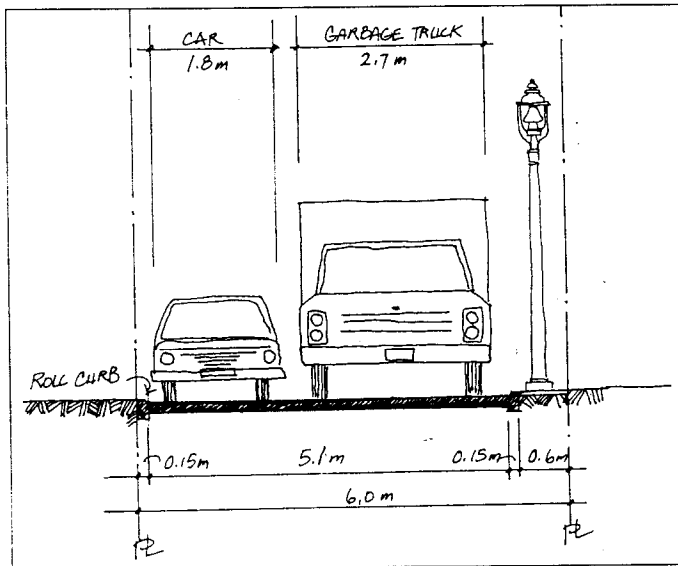
*“That the report dated December 4, 2003, from the Manager of Policy Planning, the Manager, Engineering Design; and the Manager, Transportation Planning, be referred to staff in order that a joint meeting of the Public Works and Transportation and Planning Committees be held in January 2004, that would include presentations from the Urban Development Institute, the Greater Vancouver Home Builders Association, and the University of British Columbia, on various lane standards.”*

During the discussion, Committee made reference to incorporating sustainability principles into the lane standards. The purpose of this report is to advise Council of the results of the lane standards meeting with members from the Urban Development Institute (UDI), Greater Vancouver Home Builders (GVHB), University of British Columbia's James Taylor School of Landscape Architecture and Richmond staff.

### Background

#### Current City of Richmond Lane Standard

The City's current lane standard includes a 6 metre right of way, 5.1 metres of asphalt pavement, curbs, streetlights and drainage. The following cross section illustrates the City's current lane standard:



On March 11, 2004 staff held a meeting with UDI, GVHB and UBC representatives. A list of meeting attendees and the respective agenda is included in Appendix B. The purpose of the meeting was to generate alternative lane standards which may reduce costs and environmental impacts, .

After an introductory presentation by Patrick Condon, UBC James Taylor Chair in Landscape and Liveable Environments, meeting attendees discussed the functions of lanes and subsequently developed the following list of the most important characteristics of a lane:

- Cost effectiveness to build.
- Fit into neighbourhood's character.
- Handle own drainage.
- Reliable surface for moving cars.
- Reduce amount of land dedication.
- Safety/crime prevention/CPTED.
- Low maintenance.

Upon conclusion of the meeting, the group suggested a lane having:

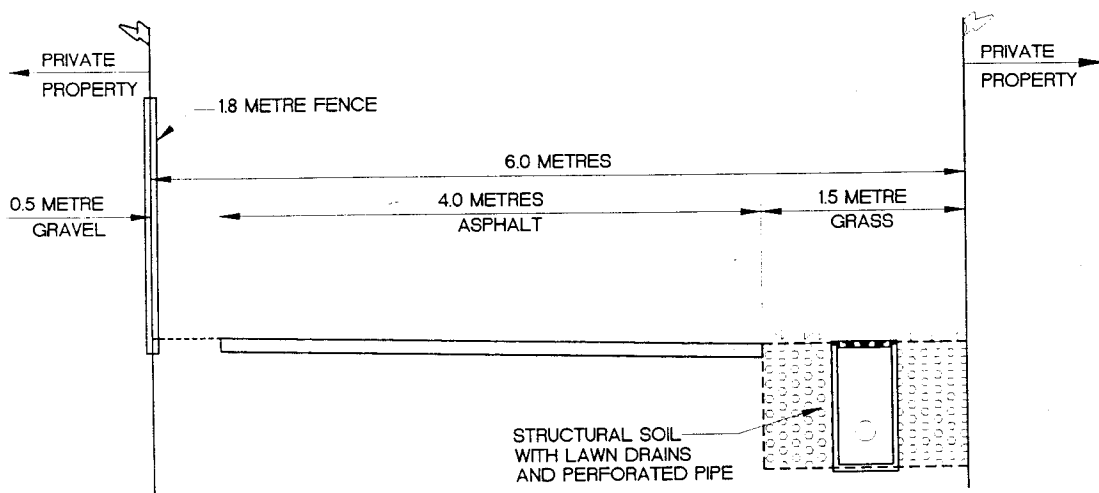
- 3.5 to 4.0 metres of pavement.
- Structural soil to allow vehicles to drive on a grass surface.
- Fencing (1.8 m) on the opposite side of the new development.
- Lawn drains within the grass areas to drain rainwater. It was suggested that the lawn drain pipes run through rights of way across private property, to the existing storm sewer fronting the property.

### Analysis

Based upon the meeting outcomes, staff developed two options as alternatives to our current lane standard:

#### 1. Grass Swale Option

In keeping with the above criteria, staff subsequently developed a lane option which reflects our goals of providing safe vehicular access, is cost effective, appealing, minimizes environmental impact and ultimately provides the community with the best value.



### Pavement

The minimum recommended pavement width is 4.0 metres. This width allows two passenger cars to pass each other slowly without encouraging cars to drive on the grass area.

### Grass Area and Drainage

The compacted structural soil grass area allows for larger vehicles to drive on the grass to pass each other. In addition, most properties along arterial roads have concrete pads constructed adjacent to garages for visitor parking. Visitors will be able to drive across the continuous grassed area to access the parking and garages. Because the structural soil is compacted to support vehicles, a perforated pipe is required to provide water and air for the grass to take. As a result, the pipe in the landscape area can also serve to drain the lane, rather than having additional pipes as suggested under the meeting outcomes. Under this scenario, rainwater collected on private properties will have to drain to the arterial road whereas under the current standard, properties can drain either to the lane or the arterial road.

### Environmental Impacts

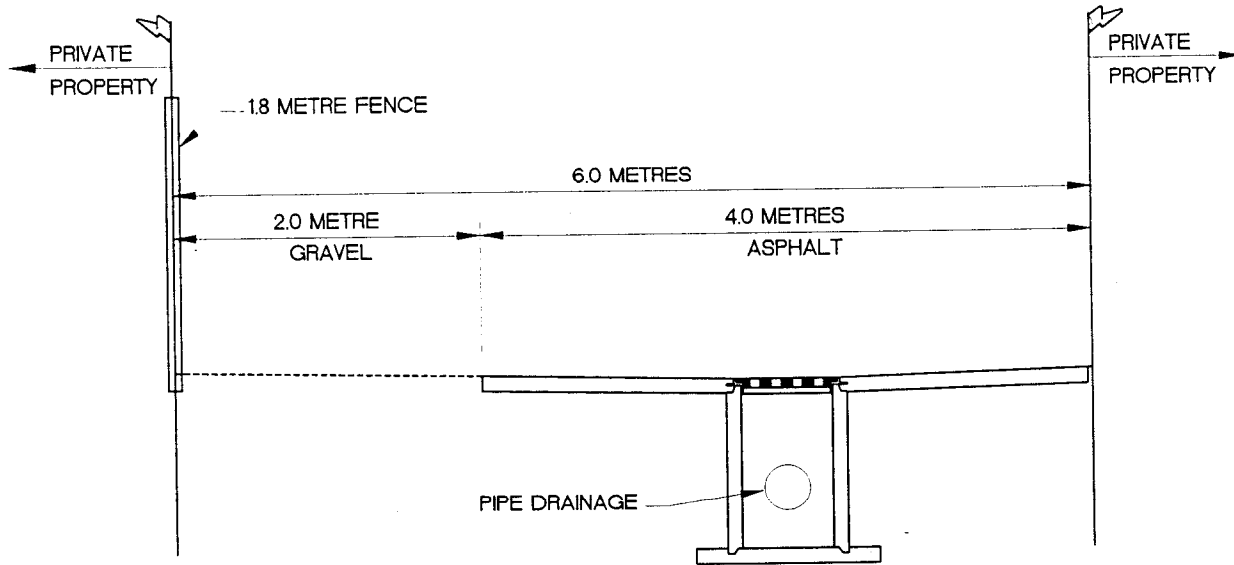
The Grass Swale lane option will have limited environmental benefits should it proceed on its own as a single initiative. In order to enhance the environmental benefits realized from this lane option, staff will investigate enhancing the environmental benefits which may be realized by having additional controls within private property such as:

- Limiting the hard surface area outside of the driveway.
- Investigating the feasibility of visitor parking in the laneway.
- Providing perimeter drainage along all four sides of properties.
- Dis-connecting roof leader from perimeter drains.
- Adding landscaping.

## **2. Gravel Shoulder Option**

While developing lane options, staff also recognized the opportunity for a basic gravel shoulder lane option having no sustainable lane features, but being the most basic and inexpensive option. This lane would include:

- 4.0 metres of asphalt with 1.0 metres of gravel on either side
- Drainage system in the middle of the lane similar to our current standard.



A summary of the benefits and costs of each of the lane options is included in Appendix C.

Next Steps and Implementation

1. Status Quo Situation

On any block where a particular lane standard has already been established, it would be most appropriate to continue with the same standard. This would ensure that the lane's function and appearance are consistent and can easily be maintained.

2. Grass Swale and Gravel Shoulder Alternatives

In assessing the long term viability and success of the Grass Swale lane standard, staff will seek a developer who would be willing to apply this new standard in a particular development as a pilot project in lieu of the current lane standard requirements. Furthermore, staff would investigate the feasibility of the potential environmental enhancements offered through the related opportunities noted previously.

Provided that a willing developer can be found with a project that can be completed in 2004, staff will report back to Council in mid to late 2005 with feedback on the Grass Swale standard. In the meantime, the current lane standard will remain intact so as not to delay other developments.

Because the Gravel Shoulder option is similar to the City's older lane standards, a pilot project is not required for evaluation.

3. Final Recommendations

Based upon the assessment results staff will provide recommendations to Council in mid to late 2005 on the new lane standards, including where each of the different standards should be applied.

4. Follow Up

Undertake an amendment of Subdivision Control and Regulation Bylaw No.6530 to reflect the new lane standards.

**Financial Impact**

The following table summarizes the capital cost of the different lane options, including maintenance costs for which the City will be responsible upon completion.

|                               | <b>Developer's Capital Cost per metre</b> | <b>Annual City Maintenance Cost per 400 metre lane</b> |
|-------------------------------|-------------------------------------------|--------------------------------------------------------|
| Current Lane Standard         | \$838                                     | \$2,355                                                |
| Grass Swale Lane Standard     | \$712                                     | \$2,200                                                |
| Gravel Shoulder Lane Standard | \$616                                     | \$2,200                                                |

Costing Details for each option are included in Appendix C.

**Conclusion**

Staff conducted a meeting with UDI, GVHB and UBC representatives to develop a more environmentally sustainable lane standard.

In addition, staff developed a second more basic gravel shoulder lane standard option. Staff recommends that these standards be assessed by implementing them as pilot projects and report back to Council with the results and final recommendations for adoption in mid to late 2005.



Robert Gonzalez, P.Eng.  
 Director, Engineering  
 (4150)

RG:rg

## **Appendix A**

### **Review of Lane Standards Staff Report - December 4, 2003**



**City of Richmond**  
Urban Development Division

**Report to Committee**


**To:** Public Works and Transportation Committee      **Date:** December 4, 2003  
**From:** Terry Crowe, Manager, Policy Planning      **File:**  
**Re:** **Review Of Lane Standards**

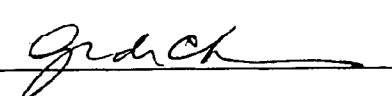
**Staff Recommendation**

That, as per the report dated December 4, 2003, from the Manager of Policy Planning; Manager, Engineering Design; and Manager, Transportation Planning, Option1 - Quick Review of Lane Standards, be approved.

  
Terry Crowe, Manager,  
Policy Planning

  
Robert Gonzalez, Manager  
Engineering Design

for   
Victor Wei, Manager  
Transportation Planning

| FOR ORIGINATING DIVISION USE ONLY |                                                                  |                                                                                      |
|-----------------------------------|------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| ROUTED TO:                        | CONCURRENCE                                                      | CONCURRENCE OF GENERAL MANAGER                                                       |
| Development Applications.....     | Y <input checked="" type="checkbox"/> N <input type="checkbox"/> |  |
| Finance .....                     | Y <input checked="" type="checkbox"/> N <input type="checkbox"/> |                                                                                      |



## Staff Report

### Origin

On November 19, 2003, the General Purposes Committee directed staff as follows:

1. That staff report to the Public Works & Transportation Committee with respect to the feasibility of holding a design charette with various community groups to determine if there was a different way of dealing with lanes.
2. The question on the motion was not called, as discussion continued on the issue of sustainability and the negative impact to the environment which was created by lane construction.
3. Staff were further directed to develop a stakeholders' list (to participate in a design charette) for review by the Committee, and
4. to report to the December 17<sup>th</sup>, 2003 meeting of the Committee with a timeframe which would provide a work plan to address the lane issue with respect to sustainability and environmental issues.

### Findings of Fact

#### Lane Policy

##### (1) Introduction

On August 27, 2001, Council approved a Lane Policy (see **Attachment 1**).

##### (2) Goal

- The purpose of the Lane Policy is to allow through traffic to move efficiently, in an unobstructed and safe manner, from one part of the City to another part, along arterial roadways by providing rear access to individual single properties thereby minimizing driveway conflicts.
- This is achieved by allowing smaller single family lot, as well as multi family development in the same block.

##### (3) Current Flexible Approach to Implementation of the Lane Policy

- Since the Lane Policy was adopted there have been two townhouse sites (10200 No.1 Road and 4191 Williams Road) that have developed without lanes as well as some smaller sites where a rear lane was not required. These were permitted because they still met all the principles of the Lane Policy.
- The current policy provides the main principles under which an alternative to a lane can be implemented, namely:
  - no additional access is to be created to an arterial road;
  - the access cannot impede the intended function of an arterial road; and
  - the access must be consistent with the anticipated form of development.
- Staff will continue to explore alternative options to the lane policy where possible.

### **Related Policies & Studies**

The Lane Policy works in conjunction with the Arterial Road Redevelopment Policy which permits redevelopment (e.g., single family, multi family) along arterial roads, especially close to major shopping centres.

### **Analysis**

#### **(1) The Problem**

The problem is that when single family lots subdivide along arterial roads they can create two or more lots and two or more driveways. If this occurs along both sides of an arterial road, the number of driveways can double. This result is not acceptable because traffic and safety objectives will be jeopardized due to:

- an increase in vehicles turning in and out, thereby increasing traffic and pedestrian conflicts
- traffic line back-ups on arterial road ways
- reduced pedestrian safety.

The City's considerations which led to the above referral include the:

- cost to developers
- cost to City
- need for alternatives to the existing lanes standards (e.g. width, pavement, curbs lighting)
- effect of lanes on sustainability
- location of lanes
- other.

### **Options**

#### **(1) Review Options**

There are three Lane review options, namely:

- Option 1 – Quick Review of Existing Lane Standards (see **Attachment 2**)
- Option 2 – Explore New Lane Standards (see **Attachment 3**)
- Option 3 – Review of The Lane Policy and Lane Standards (see **Attachment 4**).

#### **(2) Options Analysis**

Option 1 – Quick Review of Existing Lane Standards (Recommended) (Attachment 2)

- This option would retain the Lane Policy and review only the current lane standards (e.g., pavement, the porosity of pavement, curbs, lighting) to determine lane sustainability, safety, cost, efficiency and effectiveness measures for the City and developers.
- This review would include discussions with the Urban Development Institute - Richmond Chapter and the Greater Vancouver Home Builders Association.

#### **Pros**

- retains the Lane Policy and benefits
- may identify alternative lane sustainability, safety, cost, efficiency and effectiveness standards for the City and developers
- may result in savings for the City and developers
- involves less City review time and review cost, relative to both other options
- no extra cost

## Cons

- may jeopardized the goal and objective of the Lane Policy
- review will take time, (the least time of the 3 Options)
- will delay rezoning, engineering, transportation and policy work.

Option 2 – Explore New Lane Standards (Attachment 3)

- This option would retain the Lane Policy and review the current lane standards (e.g., pavement, the porosity of pavement, curbs, lighting) to determine lane sustainability, safety, cost, efficiency and effectiveness measures for the City and developers.
- This option would involve a review of other municipal standards as well as a design charette to explore other lane options that could incorporate sustainability principles.

## Pros

- retains the Lane Policy and benefits
- may identify alternative lane sustainability, safety, cost, efficiency and effectiveness standards for the City and developers
- may result in savings for the City and developers
- involves less City review time and review cost, relative to Option 3.

## Cons

- may jeopardized the goal and objective of the Lane Policy
- review will take time
- will delay rezoning, engineering, transportation and policy work.
- will cost money.

Option 3 – Review of The Lane Policy and Lane Standards (Attachment 4)

This option would review:

- the current Lane Policy to determine if it should apply and where it should apply, and
- the Lanes standards (e.g., pavement, the porosity of pavement, curbs, lighting) to determine possible lane sustainability, safety, cost, efficiency and effectiveness measures for the City and developers.

## Pros

- may identify alternative ways to protect arterial roads
- may identify alternative lane sustainability, safety, cost, efficiency and effectiveness standards for the City and developers
- may result in savings for the City and developers
- involves more City review time and review cost, relative to Options 1 & 2.

## Cons

- may jeopardized the goal and objective of the Lane Policy
- review will take more time
- will delay rezoning, engineering, transportation and policy work.
- will cost more money.
- may create uncertainties among developers as the Lane Policy was adopted and amended only recently

## (3) List of Participants

All options would involve UDI and the Greater Vancouver Home Builders Association. Options 2 and 3 would also include universities, consultants and the community.

## (4) Review Time and Cost

Staff recommend that the work identified in Options 2 and 3 be done with the assistance of a consultant to minimize delays to rezoning, engineering, transportation and policy work, to include additional expertise and to provide results more quickly.

| Review Option                                | Time to Review        | Cost of Review |
|----------------------------------------------|-----------------------|----------------|
| Option 1 - Quick Review of Lane              | Jan - Feb.            | \$0            |
| Option 2 - Detailed Review of Lane Standards | March - August 2004   | \$30,000       |
| Option 3 - Review Lane Policy and Standards  | March - October 2004. | \$45,000       |

## (5) Continuance of Service

The existing Lane Policy and standards will apply until they are changed by Council.

**Financial Impact**

For 2003 there are no available consulting dollars.

For 2004:

- to implement Options 2 or 3, proposed 2004 consulting work would need modification;
- any available consulting dollars will be known in March 2004
- if Council approves the dollars for this work Options 2 or 3 could begin in March 2004.

**Conclusion**

Staff have been directed to identify the implications for reviewing the City's Lane Policy and lane standards.

Staff recommend Option 1 - Quick Review of Lane Standards because this work can be done quickly with no extra cost.



Terry Crowe, Manager,  
Policy Planning

## Attachment 1

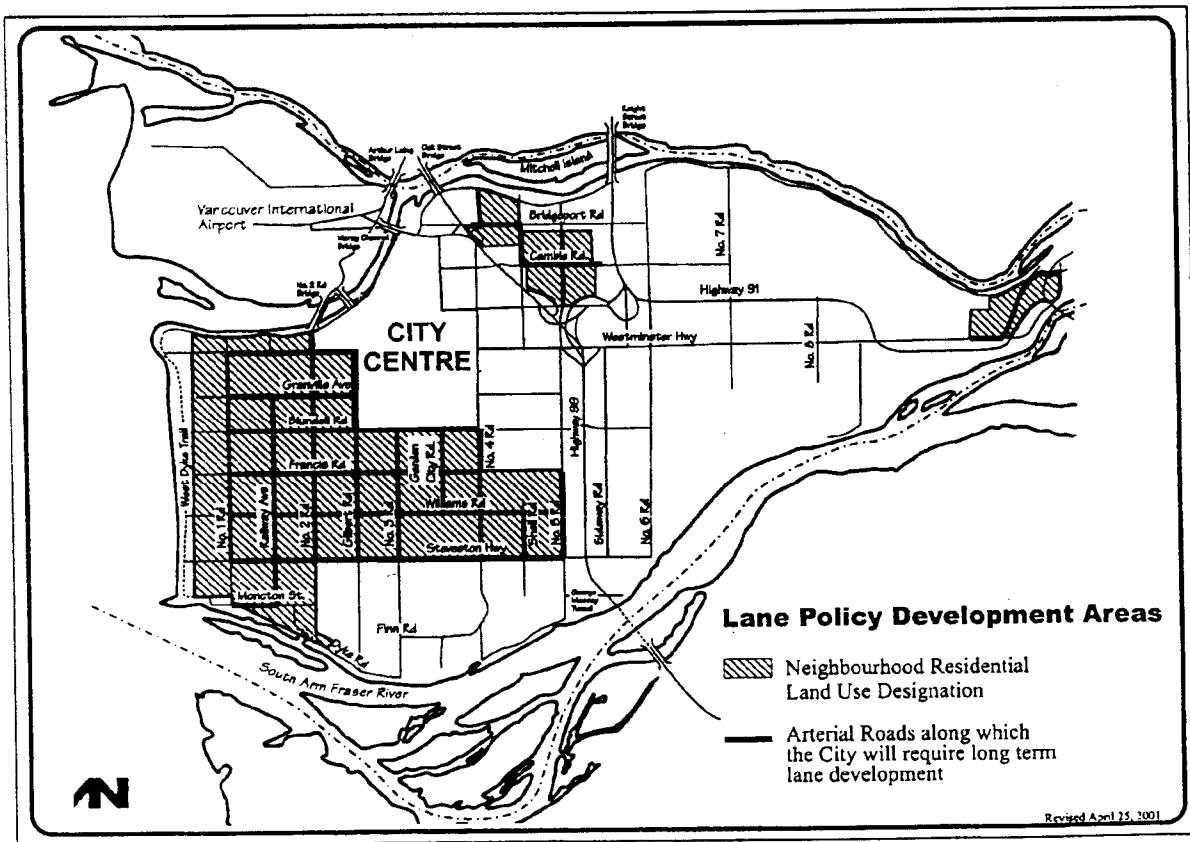
## Lane Policy

### POLICY 5038:

It is Council policy that:

1. Where the City approves Rezoning, Development Permit and/or Subdivision applications for properties which:
  - a) are outside the City Centre;
  - b) are designated by the Official Community Plan as "Neighbourhood Residential";
  - c) front a major arterial road, or local arterial road that is part of the Bike Network or Francis Road between No.1 and No.4 Roads; and
  - d) are illustrated generally on the attached map, "Lane Establishment Policy Development Areas";the City requires the applicant to:
  - e) provide land (eg, dedicate) at the rear and/or side of the properties for a lane and/or mid-block lane access; and
  - f) pay for construction, to City standards, of such lane and/or mid-block lane access.
2. A lane required under Section 1 must not exit directly onto a major arterial road, unless:
  - a) a mid-block vehicular access is approved by the City and constructed to current standards; or
  - b) land is dedicated and funding provided for the future construction of a lane and in the interim a temporary, single-width, shared access driveway is provided for use by vehicles accessing only those parcels located directly adjacent to the driveway on the understanding that any garage(s) is to be located at the rear of such property, to ensure that the access to the arterial road can be closed when the lane is operational.
3. In order to implement the provisions of Section 1, restrictive covenants may be required as part of a rezoning application in order to:
  - a) increase rear-yard setbacks;
  - b) ensure that where fill is added to raise the property, vehicular access to the lane is maintained;
  - c) ensure that garages, if any, are located at the rear of the property in question; and/or
  - d) ensure that when the lane is operational, access to the arterial road is closed.
4. Exceptions to the policy, which would be determined with each application, include where:
  - a) there is a lane already built to City standards;
  - b) the property is less than 30m in depth;
  - c) there is, or the City approves, an alternate access, such as a frontage road, shared access, or internal road;

- d) Council authorizes an exemption through the rezoning or development permit process; or
  - e) the Subdivision Approving Officer authorizes an exemption through the subdivision process.
5. The main principles used by staff to determine the suitability of an alternate access referred to in clause c) of section 4 are that:
- (i) there are to be no additional accesses created to residential lots along arterial roads;
  - (ii) the proposed access will not impede the intended function of the arterial road; and
  - (iii) the type of access is consistent with the existing and/or anticipated form of development.
6. Notwithstanding the provisions of this policy, the City will continue to examine development applications in terms of meeting OCP objectives, Lot Size Policies, the Residential Lot Vehicular Access Regulation Bylaw and other requirements, standards and factors.



## Attachment 2

## OPTION 1 – QUICK REVIEW OF EXISTING LANE STANDARDS

**Purpose**

To review alternatives to the existing lane standards

**Participants**

- City staff
- representatives from UDI, CHBA,

**Work Program**

| Date     | Work                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <b>Getting Ready</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Jan 2004 | <input type="checkbox"/> work authorized<br><input type="checkbox"/> establish a City Staff Team<br><input type="checkbox"/> review the lane standards problems and opportunities<br><input type="checkbox"/> establish lane standards review criteria<br><input type="checkbox"/> draft preliminary alternatives<br><input type="checkbox"/> prepare information for meeting with UDI and GVHBA to discuss issues and alternatives<br><input type="checkbox"/> hold meeting |
|          | <b>Review Lane Standards</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Feb      | <input type="checkbox"/> synthesize information from meeting<br><input type="checkbox"/> draft report outlining alternative lane standards                                                                                                                                                                                                                                                                                                                                   |
| March    | <input type="checkbox"/> present report to Committee and Council                                                                                                                                                                                                                                                                                                                                                                                                             |

Cost - \$0

**Attachment 3**

**OPTION 2 – EXPLORE NEW LANE STANDARDS**

**Purpose**

Explore new lane standards

**Participants**

- City staff
- A consultant (with community planning, engineering urban design and economic analysis skills)
- university representatives – (e.g., sustainability)
- representatives from UDI, CHBA, construction industry, other sectors.
- community open houses

**Work Program**

| Date                         | Work                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Getting Ready</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| March 2004                   | <ul style="list-style-type: none"> <li><input type="checkbox"/> work authorized</li> <li><input type="checkbox"/> dollars made available</li> <li><input type="checkbox"/> establish a City Staff Team</li> <li><input type="checkbox"/> prepare consultant proposal call</li> <li><input type="checkbox"/> hire consultant</li> </ul>                                                                                                                         |
| <b>Review Lane Standards</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| April                        | <ul style="list-style-type: none"> <li><input type="checkbox"/> review the lane standards problems and opportunities</li> <li><input type="checkbox"/> establish lane standards review criteria</li> <li><input type="checkbox"/> gather comparative lane policies from other municipalities</li> <li><input type="checkbox"/> identify best practices for lane standards</li> <li><input type="checkbox"/> prepare information for design charette</li> </ul> |
| May                          | <ul style="list-style-type: none"> <li><input type="checkbox"/> hold design charette                             <ul style="list-style-type: none"> <li>- identify alternative lane standards</li> <li>- cost findings</li> </ul> </li> <li><input type="checkbox"/> synthesize all information from charette, best practices and other municipalities</li> <li><input type="checkbox"/> draft report – lane standards</li> </ul>                              |
| <b>Consultation</b>          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| June                         | <ul style="list-style-type: none"> <li><input type="checkbox"/> consult with development community - meetings</li> <li><input type="checkbox"/> consult with community – open houses</li> </ul>                                                                                                                                                                                                                                                                |
| July                         | <ul style="list-style-type: none"> <li><input type="checkbox"/> finalize report</li> <li><input type="checkbox"/> present report to Committee</li> <li><input type="checkbox"/> present report to Council</li> </ul>                                                                                                                                                                                                                                           |
| August                       | <ul style="list-style-type: none"> <li><input type="checkbox"/> public hearing if necessary</li> </ul>                                                                                                                                                                                                                                                                                                                                                         |

**Cost - \$30,000**



**Attachment 4**

**OPTION 3 – REVIEW THE LANE POLICY AND LANE STANDARDS**

**Purpose**

To review alternatives to:

- the Lane Policy, and
- lane standards

**Participants**

- City staff
- a consultant (with community planning, engineering urban design and economic analysis skills)
- university representatives – (e.g., sustainability)
- representatives from UDI, CHBA, construction industry, other sectors.
- community open houses

**Work Program**

| Date       | Work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | <b>Getting Ready</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| March 2004 | <input type="checkbox"/> work authorized<br><input type="checkbox"/> dollars made available<br><input type="checkbox"/> establish a City Staff Team<br><input type="checkbox"/> prepare consultant proposal call<br><input type="checkbox"/> hire consultant                                                                                                                                                                                                                                                                                                          |
|            | <b>Review Lane Policy and Standards</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| April      | <input type="checkbox"/> review the Richmond development, arterial road and lane issues, problems and opportunities<br><input type="checkbox"/> establish for the review of the Lane Policy and standards, goals, objectives and criteria<br><input type="checkbox"/> gather and compare other municipalities' lane policies and standards<br><input type="checkbox"/> identify current best practices: <ul style="list-style-type: none"> <li>- with lanes, and</li> <li>- without lanes</li> </ul> <input type="checkbox"/> prepare information for design charette |
|            | <b>Design Charrette</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| May        | <input type="checkbox"/> hold design charette <ul style="list-style-type: none"> <li>- lane policy option</li> <li>- lane standard alternative</li> <li>- cost findings</li> </ul> <input type="checkbox"/> synthesize all information from charette, best practices and other municipalities                                                                                                                                                                                                                                                                         |
| June       | Identify possible Lane Policy and Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|            | Where in Richmond                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|            | Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|            | <input type="checkbox"/> With lanes<br><input type="checkbox"/> Without lanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|            | <b>Consultation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| July       | <input type="checkbox"/> draft report<br><input type="checkbox"/> Planning / Public Works Committee review<br><input type="checkbox"/> Council reviews draft report                                                                                                                                                                                                                                                                                                                                                                                                   |
| August     | <input type="checkbox"/> consult with development community - meetings<br><input type="checkbox"/> consult with community – open houses                                                                                                                                                                                                                                                                                                                                                                                                                               |
| September  | <input type="checkbox"/> finalize report<br><input type="checkbox"/> present report to Committee<br><input type="checkbox"/> present report to Council                                                                                                                                                                                                                                                                                                                                                                                                                |
| October    | <input type="checkbox"/> public hearing if necessary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Cost - \$45,000**

## **Appendix B**

### **March 11, 2004 Meeting Agenda and Attendees**

City of Richmond

Robert Gonzalez  
Jenny Beran  
Holger Burke  
Joe Erceg  
Emy Lai  
Tony Hillan  
Siu Tse  
Jeff Day  
Terry Crowe  
Carol DeLaFranier  
Donna Chan  
Suzanne Carter-Huffman  
Gordon Chan  
Victor Wei  
Mayor Malcolm Brodie  
Councillor Rob Howard  
Erland Carlson  
Margot Daykin

GVHB

Steve Kurrein, Progressive Construction  
Peter Simpson  
Jay Minhas, Elegant Development  
Lakhbir S. Khangura, S.K.M.B. Construction  
Amar Sandhu, J.A.B. Enterprises Limited

UBC

Patrick Condon, James Taylor Chair in Landscape and Liveable Environments

UDI

Cameron Thorn  
Bob Ransford, Counterpoint Communications



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**“How to Build Sustainable Lanes”  
Workshop**

Thursday March 11<sup>th</sup>, 2004  
Richmond City Hall, 8<sup>th</sup> floor  
12:30 – 1:00 lunch  
1:00 – 4:00 Workshop

1. **Introductions** - roundtable
  2. **Purpose of Workshop** – Jenny Beran (10 min)
    - opening remarks and problem description
  3. **Sustainable Lanes** - Patrick Condon (40 min)
    - presentation
  4. **Performance Standards and Criteria** – Bob Ransford (UDI) (40 min)
    - roundtable discussion on what do lanes need to do and how we measure their success
    - list measurement criteria & weight importance
- 2:30 – 2:45 Break
5. **Lane Design Options** – Robert Gonzales (15 min)
    - groups break out to design a lane
  6. **Measure Lane Options against Criteria** – Steve Kurrein (GVHBA) (35 min)
    - roundtable review of lane options measured against criteria
  7. **Final Lane Option(s)** – Victor Wei (15 min)
    - identification of preferred lane option(s) & discussion of tradeoffs
  8. **Conclusion** – Amar Sandhu (10 min)

## **Appendix C**

### **Lane Options, Costing Details, and Benefits and Costs**

| Options                                        | Benefits                                                                                                                                                                                                                                                                                                                                                                                                                                | Implications                                                                                                                                                                                                                                                                                                                                            | Cost                              |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| <i>Current</i>                                 | <ul style="list-style-type: none"> <li>• highest feel of safety (lighting)</li> <li>• highest certainty in performance</li> <li>• aesthetic appeal for many</li> <li>• minimized maintenance cost for the City</li> <li>• easy access for City services (fire, garbage &amp; recycling)</li> </ul>                                                                                                                                      | <ul style="list-style-type: none"> <li>• highest cost to development community</li> <li>• highest environmental impact                             <ul style="list-style-type: none"> <li>○ highest stormwater run-off</li> <li>○ least filtration of pollutants</li> <li>○ least green space</li> <li>○ most resources consumed</li> </ul> </li> </ul> | <p>Capital</p> <p>Maintenance</p> |
| <i>Gravel</i>                                  | <ul style="list-style-type: none"> <li>• reduced cost for development</li> <li>• some stormwater infiltration compared to current</li> </ul>                                                                                                                                                                                                                                                                                            | <ul style="list-style-type: none"> <li>• lower environmental impact than current</li> <li>• potential loss of gravel and tendency to result in paving over time</li> <li>• potential sedimentation issues</li> <li>• potential nuisance issues – dust, chips, unwanted vegetation</li> <li>• potentially the least aesthetically pleasing</li> </ul>    | <p>Capital</p> <p>Maintenance</p> |
| <i>Grass Swale (recommended pilot project)</i> | <ul style="list-style-type: none"> <li>• reduced cost for development</li> <li>• aesthetically pleasing (if well cared for)</li> <li>• reduced environmental impact                             <ul style="list-style-type: none"> <li>○ some stormwater run-off</li> <li>○ some filtration of pollutants</li> <li>○ some green space</li> <li>○ some reduced resources consumed (energy, concrete, water, etc.)</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• less certainty in performance</li> <li>• dependency on owners for care - potential for inadequate care and unsightliness</li> </ul>                                                                                                                                                                            | <p>Capital</p> <p>Maintenance</p> |

|                                  | Current Lane Standard  |                                        | Grass Swale Lane Standard |                                        | Gravel Shoulder Lane Standard |                                        |
|----------------------------------|------------------------|----------------------------------------|---------------------------|----------------------------------------|-------------------------------|----------------------------------------|
|                                  | Capital Cost per metre | Annual Maintenance cost per 400 metres | Capital Cost per metre    | Annual Maintenance cost per 400 metres | Capital Cost per metre        | Annual Maintenance cost per 400 metres |
| <b>Pavement</b>                  | \$348                  | \$185                                  | \$324                     | \$250                                  | \$324                         | \$250                                  |
| <b>Curbs</b>                     | \$138                  | \$0                                    | \$0                       | \$0                                    | \$0                           | \$0                                    |
| <b>Streetlights</b>              | \$100                  | \$470                                  | \$0                       | \$0                                    | \$0                           | \$0                                    |
| <b>Drainage</b>                  | \$252                  | \$1,700                                | \$188                     | \$1,700                                | \$252                         | \$1,700                                |
| <b>Grass</b>                     | \$0                    | \$0                                    | \$160                     | \$0                                    | \$0                           | \$0                                    |
| <b>Fence - 6 ft. on one side</b> | \$0                    | \$0                                    | \$40                      | \$250                                  | \$40                          | \$250                                  |
| <b>Total</b>                     | \$838                  | \$2,355                                | \$712                     | \$2,200                                | \$616                         | \$2,200                                |