



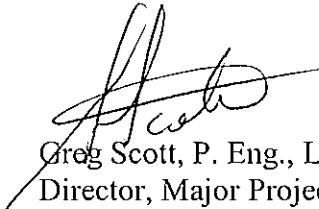
To: Public Works and Transportation Committee      Date: May 23, 2007  
 From: Greg Scott, P. Eng., LEED A.P.                      File: 10-6525-07-10/Vol 01  
        Director, Major Projects

Re: RESTORATION OF NO. 3 ROAD – PRELIMINARY DESIGN & COST ESTIMATE

**Recommendations:**

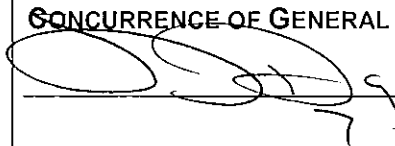
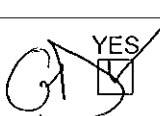
It is recommended that:

1. The No. 3 Road Restoration - Preliminary Design as described in the attached report be endorsed subject to staff reporting back with an acceptable budget for Council approval;
2. Staff consult with the owners of two retail developments regarding the proposed elimination of southbound, mid-block left turns along No. 3 Road and that staff report back to Council on the results; and
3. Staff report back to Council with any funding concerns and if necessary any scope reductions, once there is clarification on all issues that have an influence on the total cost for the restoration of No. 3 Road.



Greg Scott, P. Eng., LEED A.P.  
 Director, Major Projects  
 (4372)

Attachment 1 – No. 3 Road Restoration – Preliminary Design Report dated February 13, 2007  
 Attachment 2 – Generic Perspective Images of Supplemental Streetscape Enhancements

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Parks Design, Construction & Programs..	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Development Applications .....	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Transportation .....	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
Richmond Fire Rescue .....	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
RCMP .....	Y <input checked="" type="checkbox"/>	N <input type="checkbox"/>	
<b>REVIEWED BY TAG</b>	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	<b>REVIEWED BY CAO</b>
			 YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

## Origin

The City retained the services of IBI Group (with sub-consultants Delcan and BTY Group) to undertake the Preliminary Design for the restoration of No. 3 Road in August 2006. IBI together with a comprehensive staff team including RCMP, Richmond Fire Rescue, Engineering & Public Works, Parks, Planning and Transportation took part in the development of the Preliminary Design. The consultant(s) were engaged to advance the streetscape design for No. 3 Road from Concept Design to the conclusion of Preliminary Design with particular attention to pedestrian and cyclist enhancements along the corridor. The proposed Preliminary Design reflects that objective with grade-separated cycle lanes, raised intersections and improved amenities for pedestrians.

## Analysis

### 1. Preliminary Design

The proposed restoration of No. 3 Road as outlined in the Preliminary Design Report is consistent with the City Centre Area Plan update that is currently underway with exception of the proposal to eliminate the left-turn lane at Alderbridge Way. (see Attachment 1 – also posted on Richmond’s website)

The Preliminary Design identifies the preferred horizontal roadway design for the reconfiguration of Richmond’s main street from Granville Avenue to Bridgeport Road including the general scope and intent of the proposed streetscape improvements. Some of the key design features included in the Preliminary Design are as follows:

- **Raised Cycle Lanes** with the exception of southbound between Sea Island Way and Alderbridge Way. The cycle lanes are grade-separated from both the roadway and sidewalk providing increased spatial definition of the cycle lanes and a modest increase in safety for cyclists adjacent to the vehicle lanes;
- **Raised Intersections** with these exceptions, Granville Avenue, Sea Island Way and Bridgeport Road. The approach and depart ramps extend over sufficient distance that the 50 kph design speed is maintained along No. 3 Road and on cross-streets;
- **Continuous Centre Median** throughout with the some exceptions. The width of centre median is sufficient for street lights and street trees;
- **Ornamental Lighting** which features new double-davit streetlights in the centre medians with complementary pedestrian lighting on the boulevards;
- **Boulevards Enhancements** that focus on pedestrian improvements (lighting, paving and street furniture) predominantly on the east side on No. 3 Road.

### 2. Design Issues

#### a) Left-Turns and Driveway Access

The No. 3 Road right-of-way width north of the Alderbridge Way is insufficient to accommodate all the elements proposed as part the No. 3 Road restoration. Although the Preliminary Design shows the elimination of the southbound left-turn lane at Alderbridge Way, staff do not recommend its removal. CLCO has acquired the maximum amount of land from the adjacent property owner without impacting businesses. However, there is insufficient land to accommodate all the streetscape design elements within the remaining road right-of-way. Staff will continue to work in the Detailed Design phase to resolve this issue.

The Preliminary Design includes the elimination of the left turn lane from No. 3 Road southbound to eastbound on Anderson Road. Staff will proceed with a traffic impact assessment and work with Transportation staff to ensure that any impacts are minimal.

The current design shows the elimination of southbound, mid-block left-turn lanes on No. 3 Road at two retail developments, specifically Brighthouse Square (east side between Park Road and Cook Road) and Times Square (east side between Cook Road and Park Road). Elimination of these two mid-block left turns would be consistent with the remaining 3.5 km length of the No. 3 Road corridor from Granville Avenue to Bridgeport Road. Staff will proceed to consultation with the property owners and report back to Committee/Council regarding the removal of these mid-block left turns.

The design also proposes the elimination of left-turn movements at the No. 3 Road entrance to Richmond City Hall and staff will work with Richmond Fire Rescue and RCMP to ensure that emergency services are not impacted.

At the outset of the Canada Line Project there were 92 driveway access points along No. 3 Road between Granville Avenue and Bridgeport Road (36 east side driveways and 56 west side driveways). Many of the fronting properties along No. 3 Road have alternate access. The City Centre Transportation Plan calls for the elimination of all driveways along No. 3 Road between Granville Avenue and Bridgeport Road. Staff will work with owners/merchants to reduce the number of driveways access points along No. 3 Road within the City Centre Area wherever possible.

#### b) Streetlights and Traffic Signals

The Preliminary Design excluded the design of streetlights and traffic signals as City staff believe this is the responsibility of CLCO and SNC-Lavalin. However, as the streetlights are an integral component to the streetscape design envisaged for No. 3 Road, streetlight concepts were investigated which included:

- Relocation of existing streetlights on the eastside. However, due to the Canada Line alignment of the elevated guideway and stations along No. 3 Road, there are sections where the streetlights cannot be accommodated on the eastside namely at south and north of Ackroyd Road, south of Alderbridge Way to south of Browngate Road, north of Cambie Road to south of Cambie Road;
- Reuse of existing eastside streetlights in a new configuration through the relocation and reorientation of the eastside streetlights to the centre median. It is believed that these streetlights will provide a visual balance to the guideway structure. As the existing streetlights are staggered, supplemental street lighting may be required.
- Retrofitting of the existing streetlights to a double-davit for installation in the centre median.
- Replace existing streetlights with a new double-davit system for installation in the centre median. Existing streetlights are to be salvaged and reused elsewhere within Richmond.

In order to provide consistency in terms of streetlight placing along No. 3 Road, the Preliminary Design currently favours the new double-davit streetlights for installation in the centre median.

### 3. **Supplemental Streetscape Enhancement Options**

Although staff considers the current Preliminary Design to be a quality urban design, the Preliminary Design Report does include a number of additional streetscape enhancement options that if implemented would further improve the quality of urban design. It must be noted that these supplemental enhancements ( $\pm$ \$21M) are above and beyond the cost estimate provided in the Preliminary Design.

Based on the supplemental enhancement options identified in the Preliminary Design Report, staff directed the design consultant to provide two additional levels of enhancement options (i.e. over and above the Quality Base Plan) that could be implemented along a short section of No. 3 Road.

To assist in this process, the Consultant has produced a series of generic perspective images that illustrate a systematic build up of individual enhancement elements (see Attachment 2). A brief overview of the key streetscape elements that are proposed in the current base plan and two additional levels of enhancements are provided below.

a) Quality Base Plan (Current Preliminary Design)

The current Preliminary Design should be seen as a quality urban design that contains the design features listed below:

- **Station Plaza Design** – Quality, functional transit plaza design incorporating mainly poured in place concrete surface paving treatments with simple but well coordinated streetscape furnishings and special plaza features;
- **Street Design** – Utilitarian paving materials consisting primarily of asphalt and concrete with sturdy, practical streetscape furnishings and appointments (benches, bicycle racks, etc.)
- **Street Lighting** – New moderate-quality decorative double-davit lighting system (as opposed to retro-fitting the fragmented existing system with various standards and different colour schemes);
- **Signage Program** – Modest allowance has been made for wayfinding signage; and
- **Landscape Treatments** – Small to medium sized plant material at the time of planting including trees with a calliper size ranging between 5 to 7.5 cm (2” to 3”).

The Consultant estimates the Quality Base Plan to be ±\$24M (i.e. including contingencies).

b) Level 1 – Intermediate Enhancements (Optional)

- Add narrow tactile strips along sidewalks to improve universal accessibility,
- Substitute some granite paving on boulevards at intersection instead of concrete paving,
- Add more directional and informational wayfinding signs,
- Add enhanced pedestrian lighting under the guideway between columns,
- Add a double row of trees on the west boulevard (i.e. providing space is available),
- Substitute larger street trees on medians and boulevards (i.e. providing space is available),
- Add selective illumination of guideway columns,
- Add festive decorations,
- Add bus shelters.

The Consultant estimates the additional cost of Level 1 supplemental streetscape enhancements to be ±\$2.5M (i.e. \$2.5M above the \$24M Quality Base Plan).

c) Level 2 – Full Enhancements (Optional)

- Referral: On May 22/07 General Purposes Committee requested “That staff investigate the viability of lighting the underside of the Canada Line” and staff have proposed special effect illumination of the elevated guideway as part of the optional full streetscape enhancements.
- Substitute raised ‘concrete’ intersections instead of the raised ‘asphalt’ intersections;
- Substitute a custom ‘granite’ curb instead of the coloured, concrete Richmond Urban Curb;
- Add granite bollards/plinths mounted along the granite Richmond Urban Curb;
- Add in-ground up-lights on the boulevard in the sidewalk concentrated at intersections;
- Increase the amount of shrub and groundcover planting in medians and boulevards;
- Add special effect lights under the guideway illuminating the east boulevard ground plane;
- Add permanent retail kiosks (i.e. coffee/magazine stands);
- Add temporary street vending stalls (i.e. open air leaseable spaces for buskers/street market)

The Consultant estimates the additional cost of Level 2 supplemental streetscape enhancements to be ±\$5M (i.e. \$5M above the \$24M Quality Base Plan).

The Consultant suggests that there are two alternative locations to demonstrate the above supplemental streetscape enhancements as identified below:

Location 1: Extending from the north side of Saba Road to the north side of Lansdowne Road on both sides of No. 3 Road. The rationale for this recommendation is as follows:

- East and west boulevards are wide enough to implement streetscape improvements;
- Partially defined by street fronting retail/commercial development;
- Connects the existing centre of the Core Area to the future heart of the City; and
- Close to the Lansdowne Station, anticipated to be an important route to access the Oval.

Location 2: Extending from the north side of the Lansdowne Station to the south side of Aberdeen Station only on the east side of No. 3 Road. The rationale for this recommendation is as follows:

- Only the east boulevard is wide enough to implement streetscape improvements;
- Represents the 'International District' building on Aberdeen Station area improvements; and
- Creates a walkable 'stroll' between two pedestrian destinations along No. 3 Road; and
- Connects two Canada Line stations that could provide pedestrian access to the Oval;

It does not seem necessary to decide on the specific location to demonstrate the supplemental streetscape enhancements until such time as additional funding is made available for this purpose.

#### 4. Next Steps

Following the conclusion of the Preliminary Design the next steps in the process are as follows:

- Continue to negotiate the scope split with CLCO and report to Council with the outcome.
- Complete the Detailed Design for the restoration of No. 3 Road including the design development of streetscape enhancements that can be achieved within the final budget.

#### Financial Impacts

The No. 3 Road Restoration Project - Preliminary Design Report includes a Class 'C' cost estimate for the complete Works, totalling ±\$24M. However, it must be noted that several factors will affect the final cost for the restoration of No. 3 Road that are not yet resolved including the following:

- Existing Conditions: The Preliminary Design (and above cost estimate) is based on ground conditions existing prior to construction of the Canada Line along No. 3 Road. These ground conditions are constantly changing as construction of the Canada Line unfolds including changes to medians, paving, curbs, utilities, streetlights, traffic signals, etc.
- Scope Split Responsibilities: The current available funding for the No. 3 Road Restoration Project is ±\$11.6M which comprises of ±\$5.6M from the City (of which \$4M is tied to the MRN Agreement), \$4M from TransLink (received in three annual instalments from MRN funding) and \$2M from CLCO. As a result, there is a funding shortfall of ±\$12.4M (±\$24M - ±\$11.6M) for the overall Project. The scope split responsibilities for this ±\$12.4M funding shortfall are unclear and currently under negotiation with CLCO.
- Current Development Applications: There are also a number of land development applications adjacent to No. 3 Road that are in progress, which may result in the construction and/or funding of some components of the No. 3 Road restoration such as at the Aberdeen Station plaza. In the absence of a detailed design, the frontage improvement funding and/or work done through current development applications is according to the City Centre 'Kit of Parts'.

- Supplemental Funding for Increased Project Scope (Bike Lanes on No. 3 Road): Richmond staff have or will apply for additional funding from the following sources to address the increased scope in the restoration of No. 3 Road resulting from the introduction of bike lanes.
  - TransLink through its 2007 Major Road Network (MRN) Minor Capital Program and the 2008 Bicycle Infrastructure Capital Cost Sharing (BICCS) Program for a combined  $\pm\$2.7M$  (50% Richmond and 50% TransLink funding) to support construction of the raised bike lanes.
  - Union of British Columbia Municipalities (UBCM) through the Innovations Fund for a further  $\pm\$2M$  (100% grant) for new pedestrian sidewalks, bicycle lanes and raised intersections.

Although the cost estimate provided in the Preliminary Design is conservative, staff believe that the total estimate of  $\pm\$24M$  is appropriate for establishing the overall budget for the No. 3 Road Restoration Project considering the stage of design and current status of the Canada Line construction.

### Conclusion

The Preliminary Design for the No. 3 Road Restoration is complete with the exception of Council endorsement of the design. Further design refinement will continue in the Detailed Design phase, which following public consultation and traffic analysis may include the elimination of certain left turning movements. The total estimated project cost is  $\pm\$24M$ . Given the current funding available ( $\pm\$11.6M$ ), this results in a current budget shortfall of  $\pm\$12.4M$ .

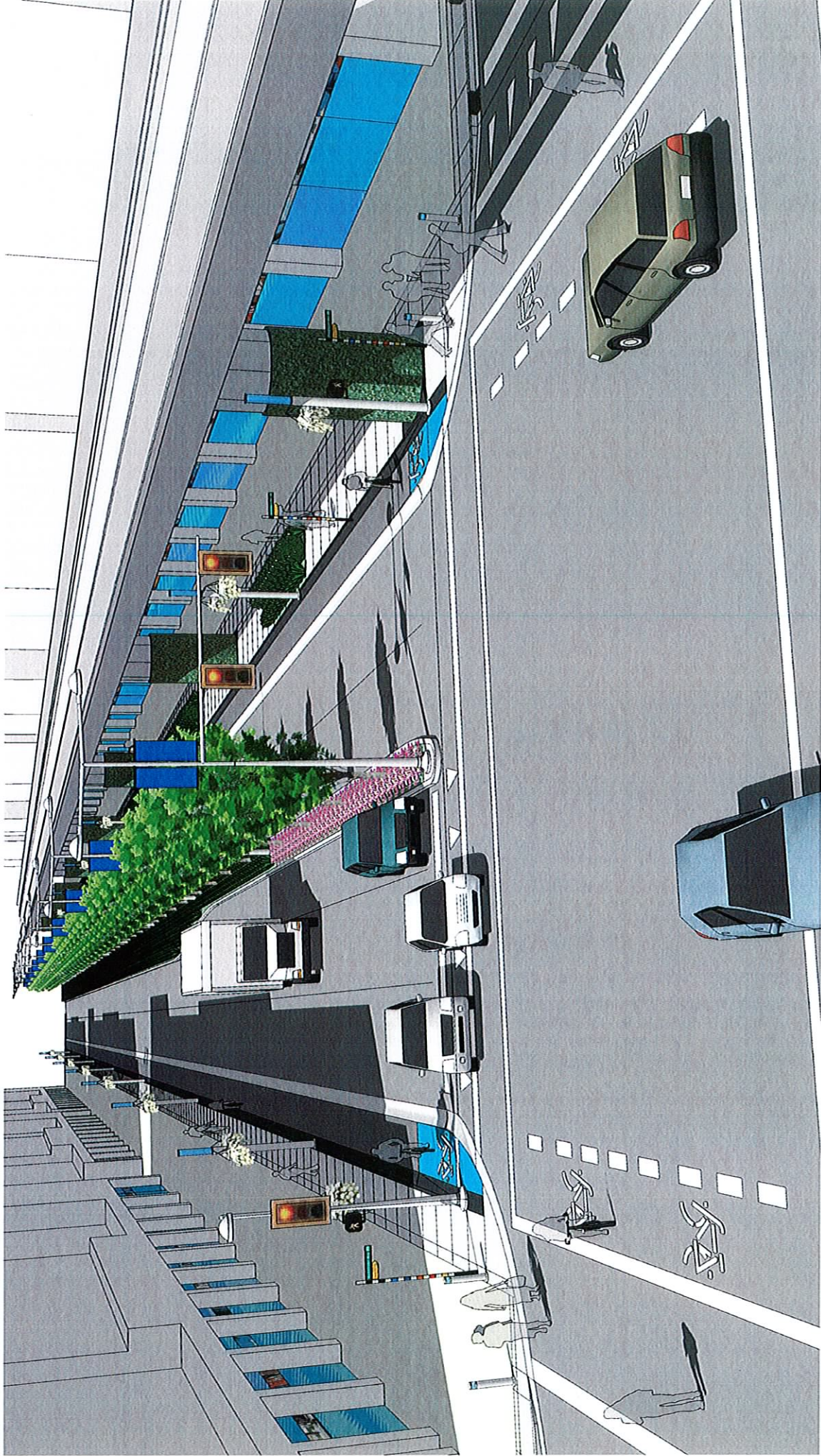
Staff will report back to Council with any funding concerns, once there is clarification on all issues that have an influence on the total cost for the restoration of No. 3 Road but prior to the preparation of the 2008 Capital Budget.



David Tyler, P. Eng.  
Senior Project Manager  
(4681)

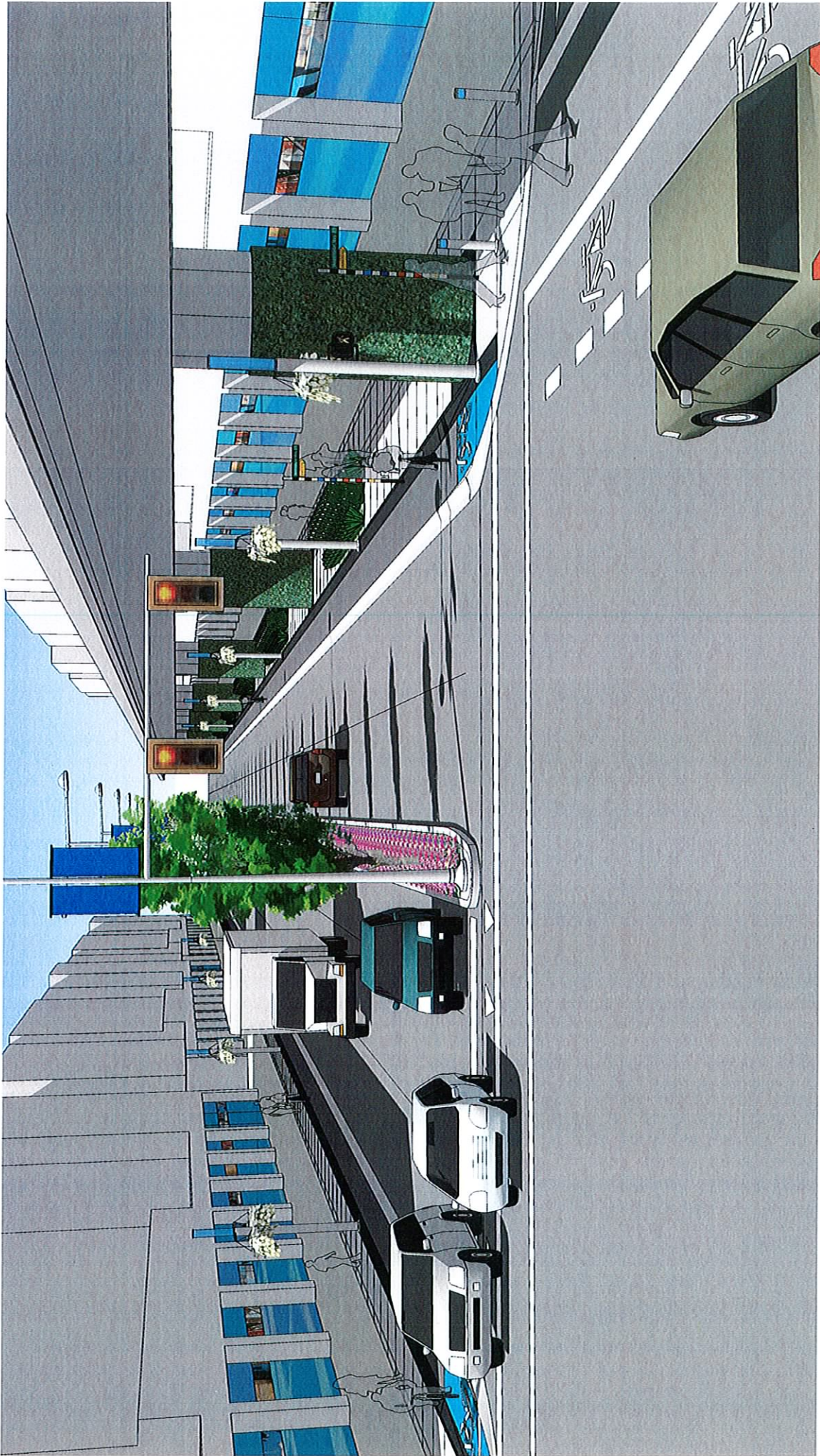
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Attachment 1 – No. 3 Road Restoration – Preliminary Design Report dated February 13, 2007  
(i.e. the Preliminary Design Report will be posted on the City website)  
Attachment 2 – Generic Perspective Images of Supplemental Streetscape Enhancements



BASE LEVEL TREATMENT — VIEW 1





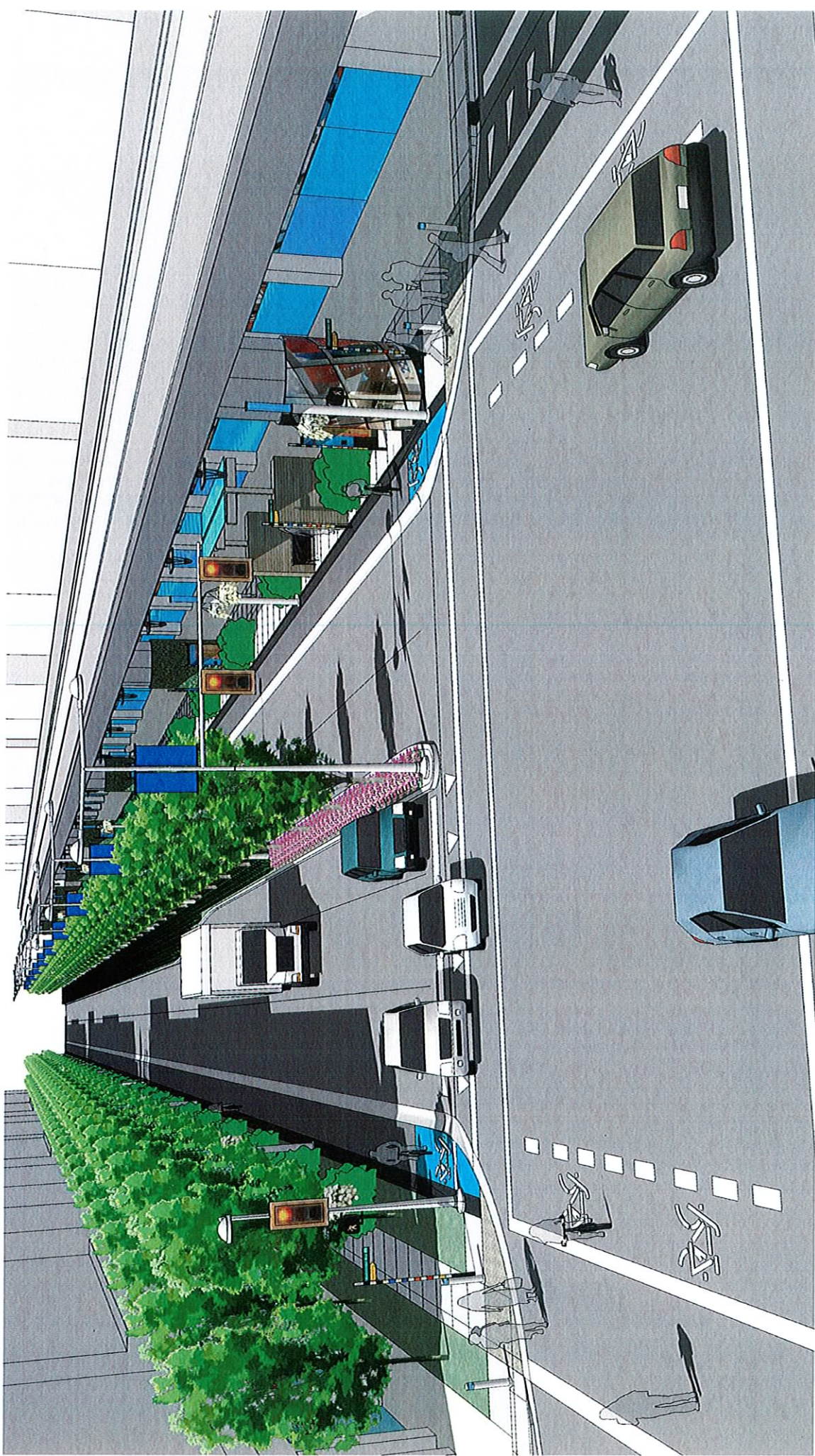
NO 3 ROAD RESTORATION  
March 7, 2007

BASE LEVEL TREATMENT — VIEW 2



RICHMOND  
Better in Every Way



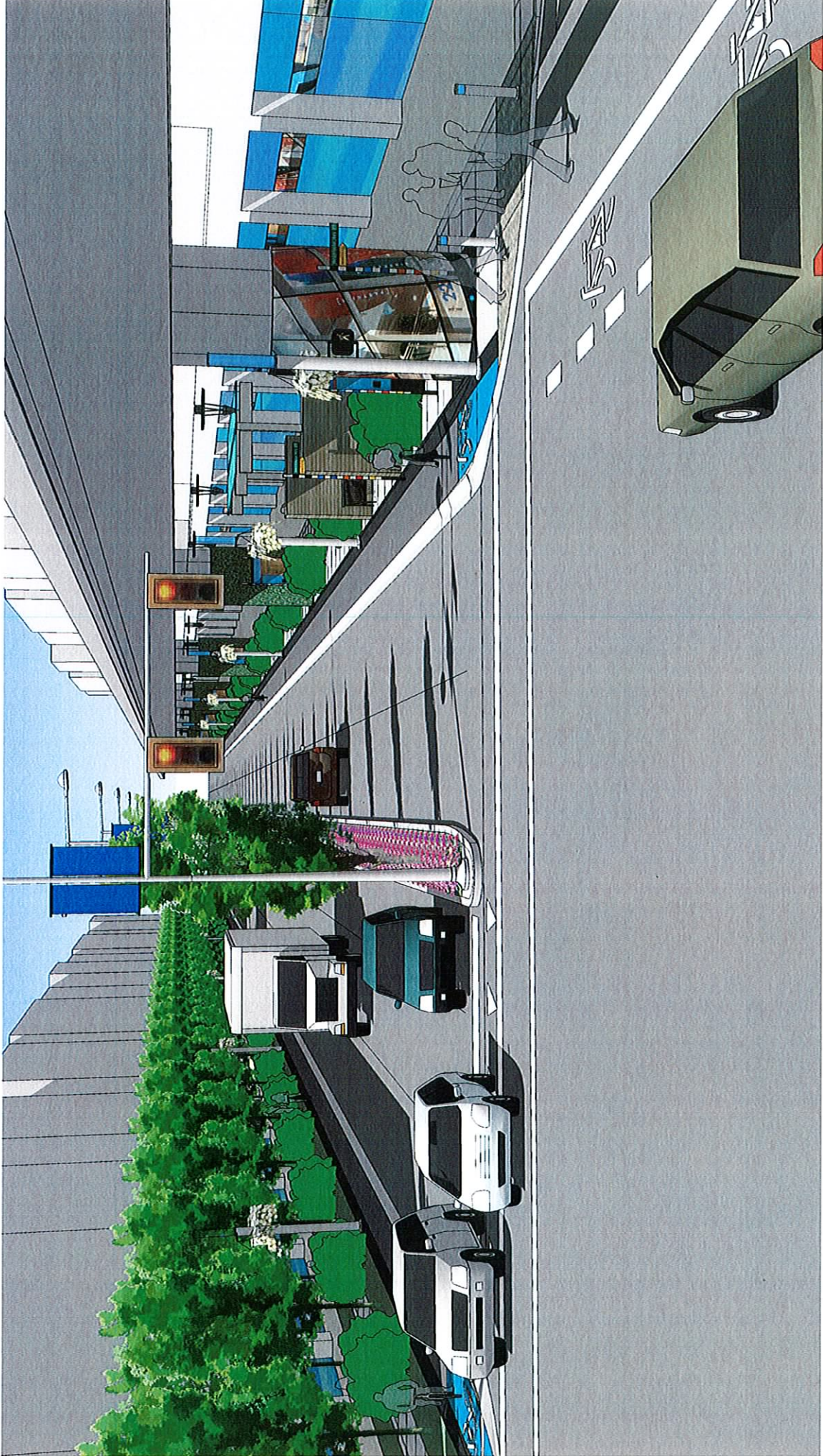


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ENHANCED LEVEL 1 TREATMENT — VIEW 1



RICHMOND  
*Better in Every Way*

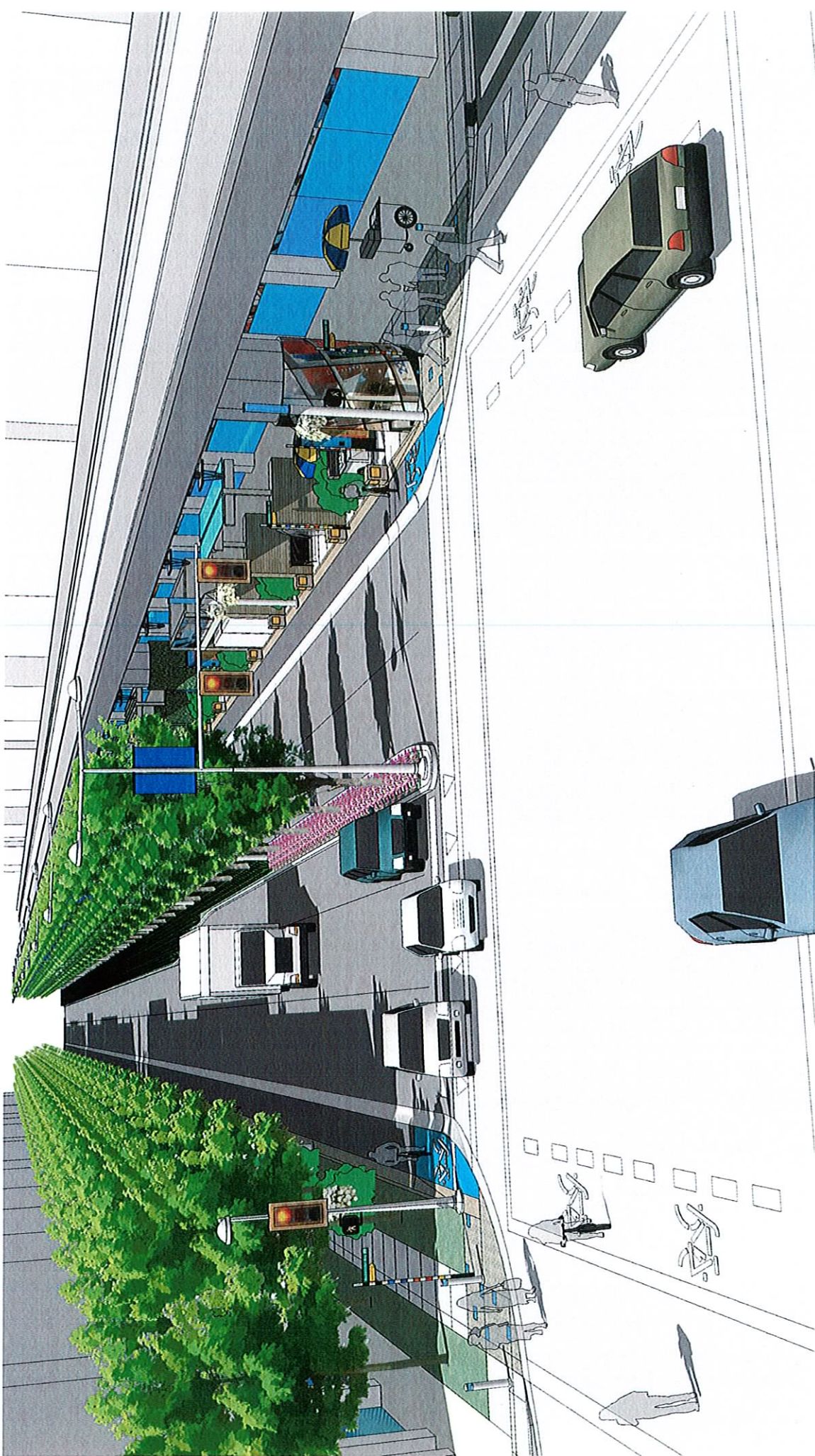


NO.3 ROAD RESTORATION  
March 7, 2007

ENHANCED LEVEL 1 TREATMENT — VIEW 2



RICHMOND  
Better in Every Way

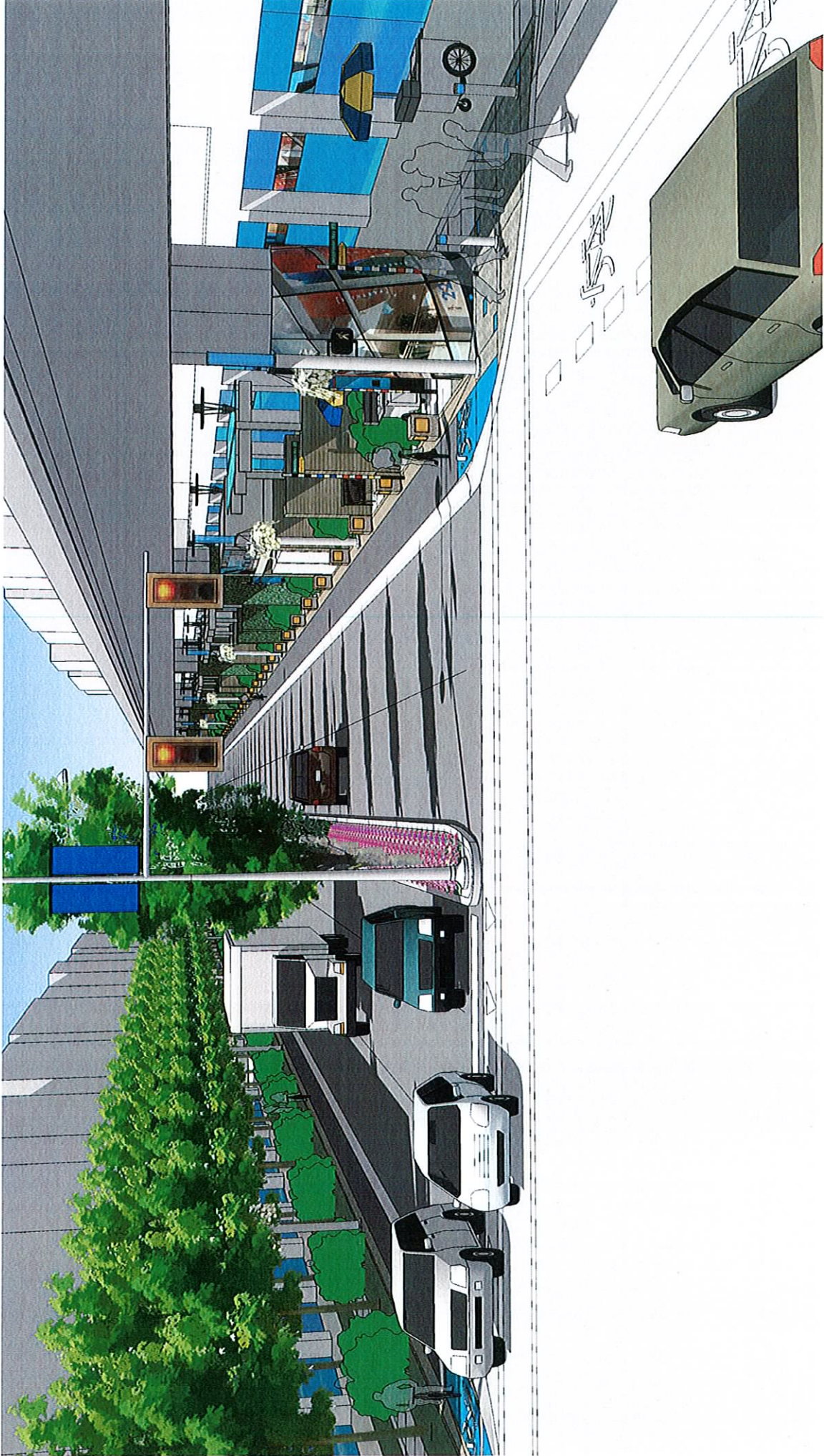


NO.3 ROAD RESTORATION  
March 7, 2007

ENHANCED LEVEL 2 TREATMENT — VIEW 1



RICHMOND  
*Better in Every Way*



NO. 3 ROAD RESTORATION  
March 7, 2007

ENHANCED LEVEL 2 TREATMENT — VIEW 2



RICHMOND  
Better in Every Way



NO. 3 ROAD RESTORATION  
March 7, 2007

ENHANCED LEVEL 2 TREATMENT — NIGHT SHOT



**RICHMOND**  
Better in Every Way