

AGENDA

COUNCIL WORKSHOP

Tuesday, September 18, 2012

5:00 p.m.

Committee Room, Municipal Hall

355 West Queens Road,

North Vancouver, BC

Council Members:

Mayor Richard Walton

Councillor Roger Bassam

Councillor Robin Hicks

Councillor Mike Little

Councillor Doug MacKay-Dunn

Councillor Lisa Muri

Councillor Alan Nixon



NORTH VANCOUVER
DISTRICT

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COUNCIL WORKSHOP

5:00 p.m.
Tuesday, September 18, 2012
Committee Room, Municipal Hall
355 West Queens Road, North Vancouver

AGENDA

1. **Opening by the Mayor**

2. **Transportation Priorities**
File No. 16.8620.01/000.000

p. 5 - 31

Presentation: Mr. Steve Ono, Manager of Engineering Services/Deputy GM Engineering,
Parks, and Facilities

3. **Adjournment**

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2.

Memo

September 6, 2012
File: 16.8620.01/000.000

TO: Mayor and Members of Council

FROM: Steve Ono, Manager of Engineering Services/Deputy GM
Engineering, Parks and Facilities

SUBJECT: September 18th Workshop on Transportation Priorities

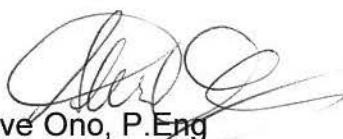
At the September 18th Council Workshop, Transportation staff will be seeking Council input on transportation improvements to be undertaken in the last months of 2012 as well as potential transportation investments for 2013.

Attached find:

- Details on transportation improvements included in the 2012 budget that are planned for the last months of this year and related map; and
- List of potential transportation improvements for consideration in 2013 budget deliberations and related map.

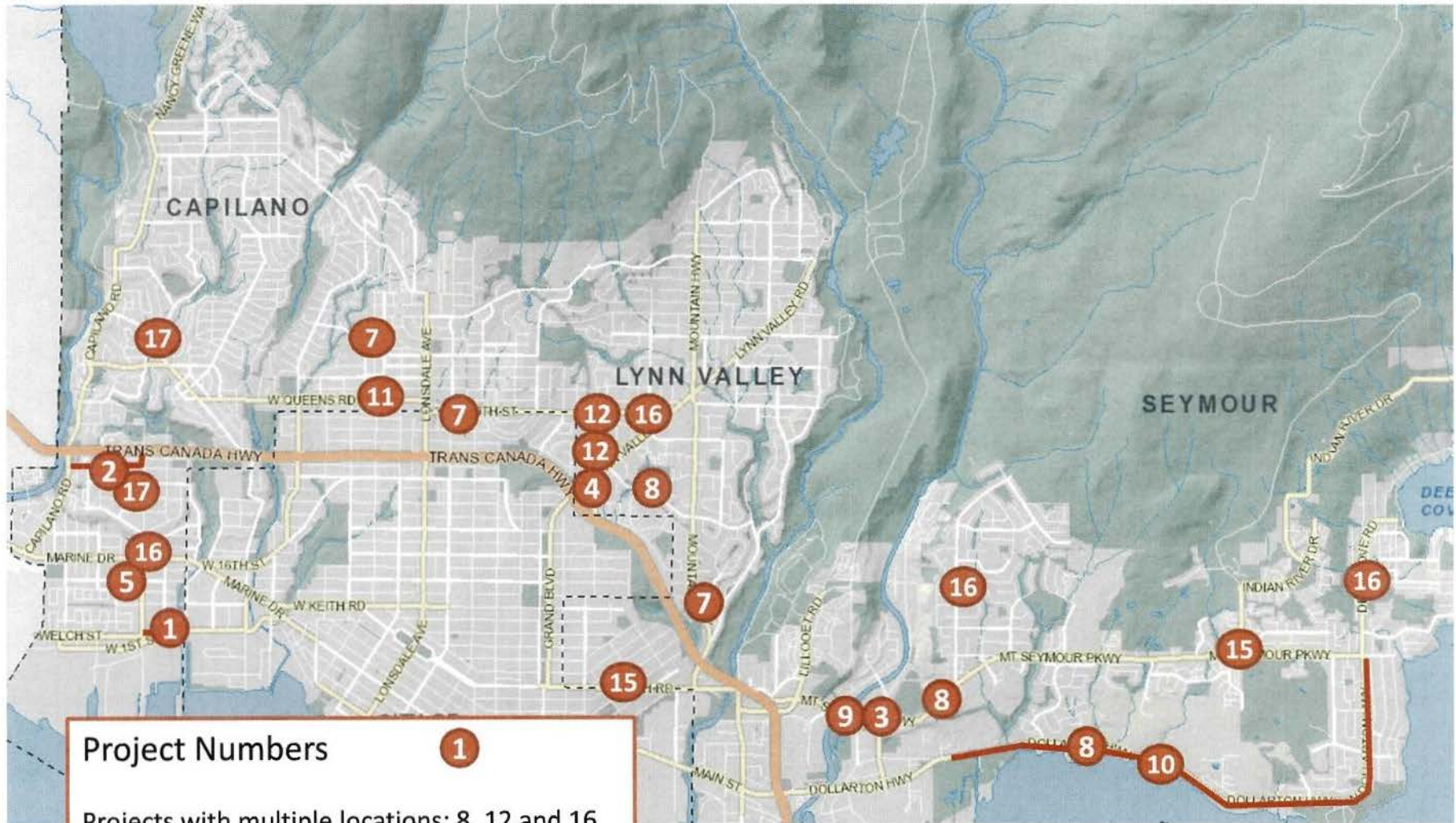
The list of potential improvements for 2013 has been compiled based on Council input as well as community priorities embedded in the District's approved Transportation Plan.

Subsequent to hearing Council's input at the workshop session, staff intend to seek Council approval of a proposed list of transportation investments for consideration in the 2013 budget deliberations.



Steve Ono, P.Eng
Manager of Engineering Services/Deputy GM
Engineering, Parks and Facilities

Locations of 2012 Transportation Projects



Project Numbers

1

Projects with multiple locations: 8, 12 and 16
 District-wide projects: 6, 12, 13

2012 Transportation Projects

Update September 2012

Completed Projects

1 Spirit Trail Western Section Phase 2

Spirit Trail Phase 2, between Pemberton Avenue and Mackay Road was completed in 2012. As part of this project, a new pedestrian and cyclist signal was installed at the intersection of Welch Street and Pemberton Avenue. The Spirit Trail is now continuous from West Vancouver through the District to Capilano Mall and Harbourside waterfront in the City of North Vancouver.

Project Cost = \$2,636,876

Partner Contribution = 1,410,876

DNV Net Cost = \$1,226,000



2 23rd Street Bike Route

As a key link between the Westview multiuse pathway, Pemberton Overpass, Capilano Road, Lions Gate Bridge, and West Vancouver, 23rd Street between Lloyd Avenue and Keith Road was formalized as a bike route. Signs were installed along the route and the path between Philip Avenue and Keith Road was improved.

Project Cost = \$3500

Partner Contribution = \$0

DNV Net Cost = \$3500



3 Mount Seymour Parkway at Riverside Drive Safety Improvement

The existing right-turn lane from northbound Riverside Drive on to eastbound Mount Seymour Parkway was modified to have a less acute angle to mitigate rear-end collision risk. Green paint and bike stencils were also added to improve safety for cyclists.

Project Cost = \$105,000

Partner Contribution = \$36,000

DNV Net Cost = \$69,000



4 Lynn Valley Road at William Avenue Bike Signal

Traffic signal modifications were completed at this intersection to allow cyclists to actuate the southbound signal phase via a new cyclist push button.

Project Cost = \$3000
Partner Contribution = \$0
DNV Net Cost = \$3000



5 15th Street at Philip Avenue Curb Bulges

Curb bulges were constructed at all four corners at the intersection of 15th Street and Philip Avenue as an effort to reduce speeding and improve pedestrian safety.

Project Cost = \$57,000
Partner Contribution = \$0
DNV Net Cost = \$57,000



6 Traffic Signal Upgrade Program

Davit poles and signal controllers were upgraded at various locations across the District as part of the annual traffic signal upgrade program. This is part of the ongoing management of our traffic signal assets.

Project Cost = \$243,000
Partner Contribution = \$0
DNV Net Cost = \$243,000



7 Evergreen Sidewalk

A sidewalk was constructed on the north side of Evergreen Place between Everglade Place and Mahon Avenue to improve pedestrian safety, particularly for school children.

Project Cost = \$16,000
Partner Contribution = \$0
DNV Net Cost = \$ 16,000



Remaining Projects to be Completed in 2012

8 Speed Reader Boards

ICBC is partnering with the District to install five speed reader boards in Fall 2012 and conduct an evaluation of their effectiveness in reducing speeds. The speed reader boards will be installed on the following roads: Dollarton Highway, Mount Seymour Parkway (2), Upper Capilano Road, and Lillooet Road.

Project Cost = \$60,000

Partner Contribution = \$20,000

DNV Net Cost = \$40,000



9 Mount Seymour Parkway Bridge Widening and Bike Lanes

In partnership with TransLink and the Province of British Columbia, the District is undertaking improvement of the Mount Seymour Parkway Bridge over Seymour River. This involves a seismic retrofit to reduce the risk of earthquake damage and widening of the bridge to accommodate wider sidewalks and bike lanes.

Project Cost = \$2,206,000

Partner Contribution = \$1,499,800

DNV Net Cost = \$706,200



10 Dollarton Highway/Deep Cove Road Shared Bike Lanes

Shared bike lanes will be installed on Dollarton Highway and Deep Cove Road between McCartney Creek and Badger Road. This section of Dollarton Highway and Deep Cove Road was repaved in 2011 and 2012.

Project Cost = \$58,000

Partner Contribution = \$29,000

DNV Net Cost = \$29,000



11 Queens Road at Mahon Avenue Pedestrian Safety Upgrade

The existing special crosswalk on Queens Road at Mahon Avenue is slated for safety upgrades in Fall 2012, including: curb bulges, new LED lights, and additional signal beacons. The curb bulge would be similar to the existing one on Queens Road at William Griffin Recreation Centre. The benefits of curb bulges are to reduce crossing distance for pedestrians and reduce risk of “multiple threat” pedestrian collisions.

Project Cost = \$58,000
Partner Contribution = \$29,000
DNV Net Cost = \$29,000



12 Boundary Kirkstone Traffic Calming – William Avenue Intersections

As part of the Boundary Kirkstone Traffic Calming project, temporary curb extensions were installed on William Avenue at 29th Street and at 26th Street in 2012 on a trial basis. Permanent curb bulges are planned to be constructed in 2012. The benefits of curb bulges are to reduce crossing distance for pedestrians and reduce risk of “multiple threat” pedestrian collisions.

Project Cost = \$40,000
Partner Contribution = \$0
DNV Net Cost = \$40,000



13 LED Replacement Program

In partnership with ICBC, the District is upgrading several signals with LED lamps and installing pedestrian countdown timers and upgrading to larger secondary traffic signal heads. Expected completion of phase 2 is Fall 2012. Phase 3, the final phase, is planned for 2013.

Project Cost = \$140,000
Partner Contribution = \$30,000
DNV Net Cost = \$ 110,000



14 Stop Sign Replacement Program

In partnership with ICBC, the District is undertaking a stop sign replacement program to replace existing stop signs with new highly reflective "diamond grade" ones. Expected completion is Fall 2012.



Further work is planned in 2013.

Project Cost = \$80,000
Partner Contribution = \$40,000
DNV Net Cost = \$40,000

15 Keith Road Sidewalk

A sidewalk will be installed on the north side of Keith Road between Calverhall Street and Adderley Street in Fall 2012 to improve conditions for walking along East Keith Road, including access to the transit stops.



Project Cost = \$90,000
Partner Contribution = \$0
DNV Net Cost = \$90,000

16 2012 TRRIP (Transit Road Related Improvement Program) Projects

In partnership with Coast Mountain Bus Company, the District will be upgrading wheelchair pads and sidewalks for enhanced transit accessibility at the following locations:

- Marine Drive at Pemberton Avenue
- Berkley Road at Shelley Road
- Mount Seymour Road at Mount Seymour Parkway
- 29th Street at Fromme Road
- Edgemont Boulevard at Sunset Boulevard
- Deep Cove Road at Cliffmont Road through ongoing consultation with local community



Project Cost = \$40,000
Partner Contribution = \$20,000
DNV Net Cost = \$20,000

17 Pemberton Heights Traffic Calming

The District has been working with the Pemberton Heights Community Association to identify feasible measures to reduce speeds and short-cutting. Construction of ten speed tables and raised crosswalks is planned for Fall 2012.

Project Cost = \$48,000

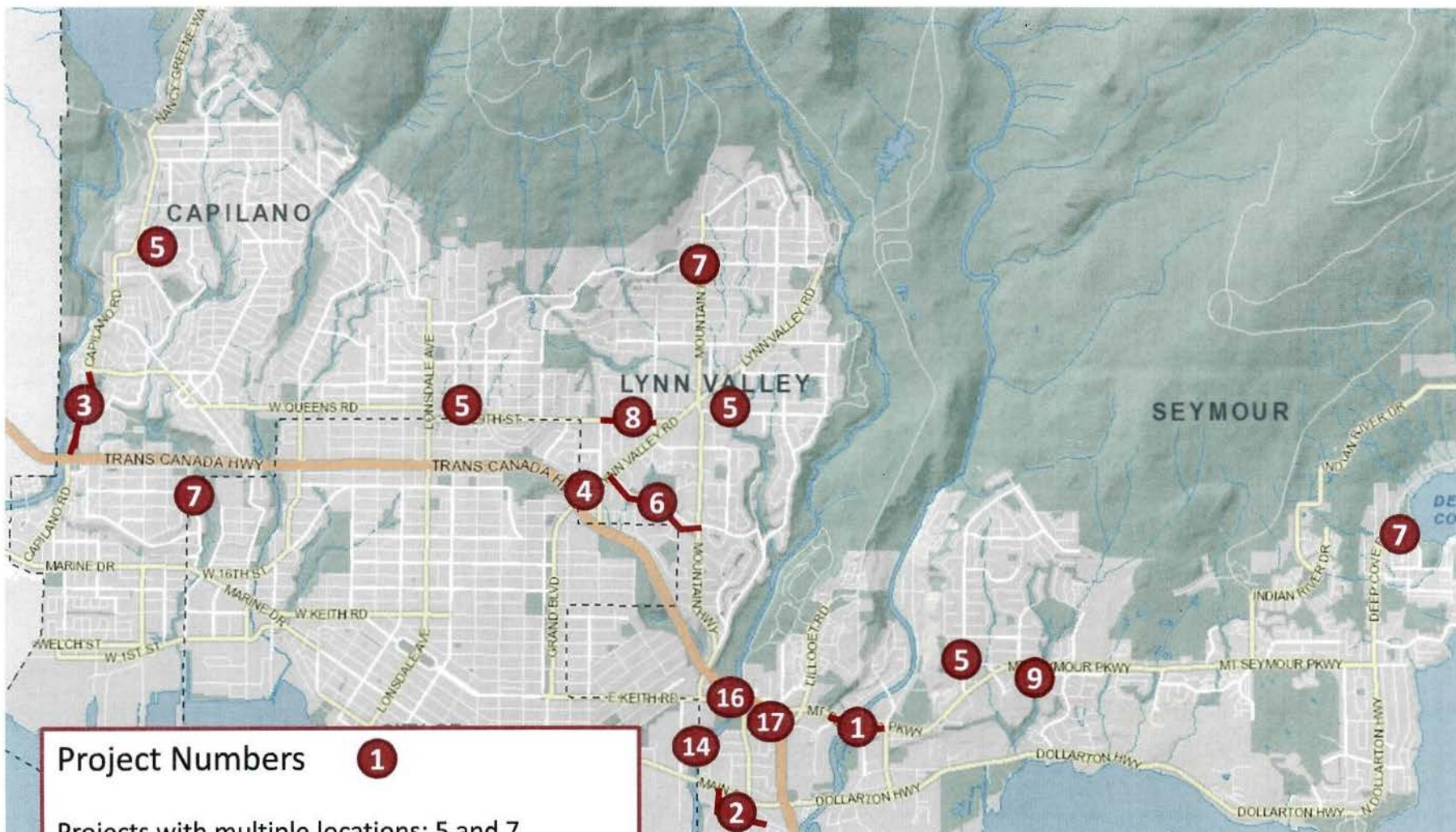
Partner Contribution = \$0 (any additional traffic calming costs would be paid by residents or by donations)

DNV Net Cost = \$ 48,000



Please Note: All costs are approximate and are for budget purposes only

Locations of Proposed 2013 Transportation Projects



1

WIDEN MOUNT SEYMOUR PARKWAY Seymour Boulevard to Riverside Drive

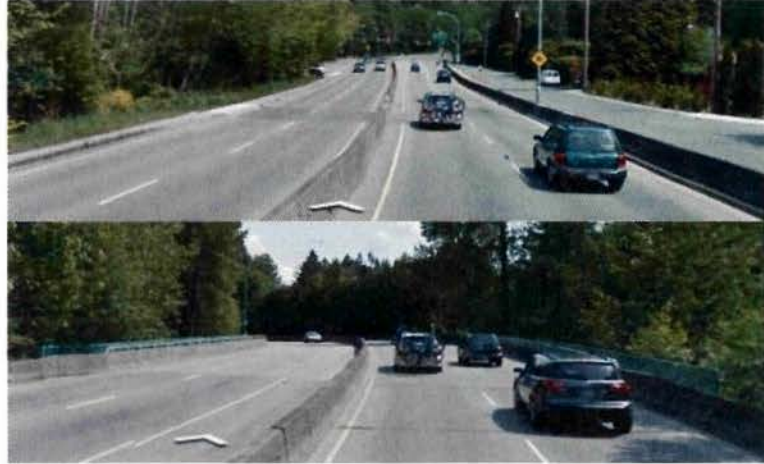
CYCLING

Description

This work would complete the widening of Mount Seymour Parkway to provide 1.8-meter wide bicycle lanes.

The bridge over Seymour River within this section of road is being widened in 2012 (Phase 1), and this project would complete the work in 2013 (Phase 2).

Enhancements would also be made at the two intersections to delineate the bike lanes.



Mount Seymour Parkway, facing east

Origin Bicycle Master Plan, Transportation Plan

Project Benefits

This project was identified in the 2006 Bicycle Master Plan and its need was highlighted again when the Bicycle Master Plan was updated. It provides the final link in the cycling infrastructure for Mount Seymour Parkway, which now terminates at Riverside Drive. When complete, this section will form part of the Seymour River Greenway and will provide access to the Lower Lynn and Maplewood centres.

This work is being done in two phases. Phase 1 involves widening the bridge and is in construction. Phase 2 involves widening the road.

It is expected that a TransLink grant for Phase 2 will be confirmed in October 2012, providing 50 percent of the funding. An additional contribution of approximately \$300,000 is expected from an adjacent development.

Estimated Cost

\$987,000 TOTAL (Phase 2 only)
DNV contribution: \$ \$193,500

Timing

Completion summer 2013

Corporate Goals

- Implementing the OCP
- Building strong foundations
- Improving the way we do business

2

BARROW STREET BIKE ROUTE Harbourside Drive to East of Mountain Highway

CYCLING

Description

This work involves improving one block of Harbourside Drive and two blocks of Barrow Street as a cycling route. This provides a bypass route, as Main Street is currently unsuitable as a cycling route and is unlikely to be a safe route until additional property is acquired.

The majority of the project involves an upgrade to the existing traffic signal at the intersection of Mountain Highway and Barrow Street. Additional lights and push buttons would be provided to assist cyclists to cross Mountain Highway. Other work includes signs, pavement markings. Some intersection upgrades are to be done by an adjacent development (1515 Barrow Street – former Lynnwood).



Barrow Street, facing east

Origin Bicycle Master Plan, Transportation Plan

Project Benefits

Barrow Street currently provides an alternate to two blocks of Main Street. These improvements re designed to make the route more desirable and safer for cyclists.

This has also been identified as part of the Spirit Trail route through the Lower Lynn area. In the longer term, it is envisioned that the railway spur that currently serves Maplewood would be re-located out of the Barrow Street right-of-way and the vacated space would be used to build the Spirit Trail, eventually extending east over the Seymour River. This project provides an interim solution.

Estimated Cost \$185,000, with 50% grant from TransLink approved
DNV contribution: \$92,500

Timing
Needs to be largely completed December 2013 to retain TransLink grant

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

Description

A section of Capilano Road, north of Highway 1, is scheduled for re-paving, providing the opportunity to adjust the pavement markings at marginal cost. Improvements would be focussed on trying to reduce crashes, while eventually providing a marked cycling route if feasible.

While the design still remains to be done, changes could include adjustments to turn bays, slightly narrower vehicle lanes, and/or crosswalk improvements.



Capilano Road, facing north

Origin Pavement Management System, Bicycle Master Plan, speeding complaints, Road Safety Plan, water main replacement plans

Project Benefits

Repaving is expected to be in 2013, although the schedule may change subject to funding.

Pavement marking changes can be made at this time to provide safety benefits.

If feasible, attempts will be made to mark separated bike lanes or wider shared curb lanes to extend the existing bike route on Capilano Road further north. This may be challenging or infeasible through several sections and so other options may need to be explored such as a multi-use path or alternate routes.

No changes to the number of vehicle lanes are planned.

Estimated Cost

Requires estimate, cycling grant \$40,518 approved
DNV Contribution: negligible or within operating

Timing

2013 expected, but may be delayed to 2014

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

4

LYNN VALLEY ROAD BIKE ROUTE
Highway 1 to Mollie Nye Way

CYCLING

Description

The District has been working with the City of North Vancouver and the Ministry of Transportation and Infrastructure to provide a safer cycling route along Lynn Valley Road at the interchange with Highway 1.

Only one feasible alternative has been identified for the District's portion of the route that would involve providing bicycle lanes, with the vehicle lanes staying as is.



Lynn Valley Road, facing south

Origin Bicycle Master Plan, 2010 joint planning study with City and MOTI (*Pedestrian / Cyclist Highway 1 Crossing Improvement Study for the Lynn Valley /Loutet Area*)

Project Benefits

The travel lanes on Lynn Valley Road are currently too narrow to safely accommodate cyclists, given the vehicular volumes. Cyclists often resort to riding on the sidewalks.

Providing a safe link across Highway 1 has been identified as a priority on this busy cycling route, with a grade separated facility (bridge) in the longer term. This lower cost alternative in the interim would involve minor widening to Lynn Valley Road to provide marked bike lanes in both directions.

If District funding is approved, a request would be made for funding from TransLink's regional cycling funding program.

Estimated Cost

\$400,000, up to 50% grant funding expected
DNV Contribution: \$200,000

Timing

2013 desirable if City and MOTI improvement made, but could be deferred

Corporate Goals

- Implementing the OCP
- Building strong foundations
- Improving the way we do business

Description

This annual program involves improvements to marked crosswalks. In 2013, curb extensions are proposed at three crosswalks to improve visibility between pedestrians and drivers:

- Berkley Road at Carnation Street;
- 29th Street at St. Georges Avenue; and
- Ross Road at Allan Road.

Three raised crosswalks would also be installed on Eldon Road and Ruby Avenue.



Curb bulge example, New Westminster

Origin School Traffic and Safety Studies (Ross Road, Seymour Heights, and Cleveland Elementary Schools), City of North Vancouver request for St. Georges Avenue

Project Benefits

Curb extensions (aka bulges) can reduce both pedestrian and vehicle crashes at crosswalks. They allow the pedestrian to wait in a more visible location so that drivers can see them and they can see the drivers. The bulge and any signs on it also make the crosswalk more visible. Bulges can also eliminate the option for a following vehicle to pass on the right side of a vehicle stopped for the crosswalk. The curb extensions also reduce the crossing distance for the pedestrian.

On local roads, raised crosswalks can be an effective solution as they act as speed humps and reduce travel speeds.

Two of the proposed locations for curb extensions and the raised crosswalks were identified in school traffic and safety studies conducted jointly with the School District.

Estimated Cost

\$20,000, with ICBC contribution expected
DNV Contribution: \$15,000 to \$18,000

Timing

Summer 2013

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

Description

The Boundary/Kirkstone traffic calming study recommended three general actions:

- Adjust signal timing on Lynn Valley Road;
- Improve two intersections by installing curb bulges; and
- Install raised crosswalks and speed humps on Kirkstone Road.

The Kirkstone Road work remains unfunded. If approved this work would involve the installation of four raised crosswalk and/or speed humps to discourage excessive speeding.



Raised crosswalk example, Brockton Crescent

Origin Boundary-Kirkstone Traffic Safety & Calming Study (2009), Council approval May 2009

Project Benefits

The traffic calming study measured the 85th percentile speed as 64 kilometres per hour on Kirkstone, the highest speeds in the study area. Consultation found that the provision of raised crosswalks was the solution preferred by the neighbourhood.

In 2012, temporary speed reader boards were positioned on Kirkstone Road to provide feedback to drivers. During the times when volunteers manned the boards, a significant speed reduction was observed. Additional measurements will be conducted to determine whether there was a lasting effect from this initiative.

This location is also a candidate for a more permanent speed reader board installation. A final decision to install speed humps/raised crosswalk would only be made if other measures prove ineffective.

Estimated Cost

\$30,000 (may attract ICBC funding)
DNV Contribution: \$25,000 to \$28,000

Timing

Summer 2013

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

7 TRANSIT ROAD-RELATED IMPROVEMENTS
 Bus stop access improvements

SIDEWALK

Description

This annual transit road-related infrastructure program is a cost shared with Coast Mountain Bus Company. For 2013, projects would provide improved access to three bus stops by constructing the nearby sidewalk on:

- Mountain Highway at Dempsey Road;
- West 22nd Street at Lloyd Avenue; and
- Naughton Avenue at Panorama Drive.

Two other improvements would be:

- Curb drop on Mount Seymour Parkway at Seymour Boulevard; and
- Removal of curb bulge, Gallant Avenue at Banbury (CMBC request, completed in consultation with business owners).



Mountain Highway at Dempsey Road

Origin Public requests, requests from Coast Mountain Bus Company

Project Benefits

The three sidewalk projects improve the walking surface from an intersection to a bus stop. All three would include provision of a wheelchair pad so that the bus stop is made accessible. A secondary goal of the program is to encourage use of the transit system.

A curb drop on Mount Seymour Parkway, west of Seymour Boulevard, is being considered to allow cyclists to by-pass waiting bus passengers. If this proves infeasible when examined in detail, the stop may be re-positioned instead.

Coast Mountain Bus Company has requested removal of one curb bulge to minimize conflicts between vehicles turning in opposite directions. The centreline on Gallant Avenue will need to be shifted to accommodate the turning path of the transit vehicles.

Estimated Cost	Timing
\$40,000, with most projects 50% funded by CMBC DNV Contribution: \$20,000	Summer and Fall 2013

- Corporate Goals**
- Implementing the OCP
 - Building strong foundations
 - Improving the way we do business

SIDEWALK

Description

This project includes the construction of approximately 450 metres of new sidewalk along the north side of 29th Street, between William Avenue and Fromme Road.

Sidewalk is currently only provided along the south side of this arterial road and transit route.



West 29th Street, facing east

Origin Pedestrian Master Plan, Transportation Plan

Project Benefits

Typically the District provides sidewalks on both sides of busy arterial roads. This project would complete a missing block that also provides a walking link to the Lynn Valley Town Centre and to several nearby schools.

As West 29th Street is a transit route (and expected to accommodate increased transit service in the future), the sidewalk will facilitate access to the bus and from the bus stops.

Estimated Cost

\$208,000, grants not expected
DNV Contribution: \$208,000

Timing

Summer 2013

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

BROADVIEW TRAFFIC SIGNAL UPGRADE Intersection with Mount Seymour Parkway

TRAFFIC SIGNAL

Description

The crosswalk is currently provided across five travel lanes of Mount Seymour Parkway at Broadview Drive. Flashing lights are activated by pedestrians.

This project would involve upgrading this intersection to a full traffic signal. Additional poles would be needed to provide all of the signal heads.



Mount Seymour Parkway, facing east

Origin School traffic and safety study (Seymour Heights Elementary), Crosswalk review, traffic study done for Windsor Artificial Turf Field

Project Benefits

The intersection is used by students to access Windsor Secondary School, as well as students walking to Seymour Heights Elementary school. The crossing control is not adequate to ensure that drivers travelling on Mount Seymour Parkway stop when pedestrians are crossing. This project will increase the level of control provided, such that drivers will be facing a full red light when pedestrians cross.

The project will also reduce delays for drivers turning left out of Broadview Drive, as they will be able to trigger a green light. Delays can be considerable during school pick-up and drop-off times and during times of heavy field use.

Three engineering consultants have looked at this intersection and all have recommended an upgrade to a pedestrian signal or full signal.

Estimated Cost

\$150,000 (expect 50% from TransLink)
DNV Contribution: \$75,000

Timing

Design fall 2012, installation Spring 2013

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

TRAFFIC SIGNALS

Description

This project is the final year of a three-year program to replace the traffic signal lenses.

The District has LED lamps in all of its signals now, originally installed in 2002 and 2003. LED lights have a lower energy consumption and longer life than incandescent lamps.

In 2013, work will focus on 15 signalized intersections in the Lynn Valley and Lower Lynn areas.



Origin Sustainment capital project (replacing an existing asset).

Project Benefits

The District's current LED lights are reaching the end of their serviceable life and need to be replaced. Two-thirds have already been replaced and the final lamps would be done in 2013.

If not replaced, the signal lamps will not be as visible (which can increase collisions) or may fail.

Estimated Cost

\$140,000, expect some ICBC contribution
DNV Contribution: \$110,000

Timing

Year-long 2013. Last year of replacement program. Expect next replacement 2019+.

Corporate Goals

- Implementing the OCP Building strong foundations Improving the way we do business

11

TRAFFIC SIGNAL INFRASTRUCTURE
District-wide

TRAFFIC SIGNALS

Description

This project is an annual program to replace traffic signal infrastructure, including davit poles, wires, and controllers.

Replaced items include damaged or worn conductor wires, communications cables, service connections, and conduit. Traffic signal poles and bases are selected for replacement after inspection for rusting and stress-related problems and/or those struck by motor vehicles. Traffic controllers are replaced every 12 years.



Origin Sustainment capital project (replacing an existing asset).

Project Benefits

Replacing a portion of the infrastructure items each year through an ongoing program means minimizes costs and prevents catastrophic failures, something that could increase the District’s liability.

Estimated Cost

\$274,000

DNV Contribution: \$274,000

Timing

Year-long 2013

Corporate Goals

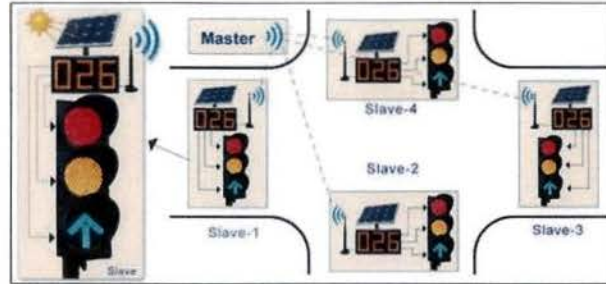
- Implementing the OCP
- Building strong foundations
- Improving the way we do business

TRAFFIC SIGNALS

Description

The District’s traffic signals are controlled by a software system (Aries) that is now almost 20 years old and is no longer supported by its developer.

This project proposes replacing the existing signal system with a new (Centracs) system.



Origin Staff recommendation.

Project Benefits

Significant changes in traffic signal software mean that our current system is no longer supported by its manufacturer. The new system will resolve compatibility issues with the District’s Windows 7 operating system. It will allow for:

- improved coordination along our major corridors,
- improved monitoring and alarm reporting and
- management of a growing number of surveillance and video detection cameras.

A feature will also allow the public and other agencies (such as the RCMP) to access live video feeds from some of our major intersections. A number of cities have or are in the process of converting to the Centracs system including Richmond, Kamloops, Langley, Coquitlam and Kelowna.

Estimated Cost

\$233,000
 DNV Contribution: \$233,000

Timing

Planning and pilot in 2013, installation targeted for 2014 or could be staged over several years

Corporate Goals

- Implementing the OCP Building strong foundations Improving the way we do business

TRAFFIC SIGNALS

Description

This project creates a specific project to paint approximately 60 traffic signal poles over a three-year period. Graffiti and posters would also be removed.

Current plans are to retain the existing paint colours, although this could change within town centres if new design guidelines are adopted.



Origin Council request.

Project Benefits

While painting can prevent and reduce rusting, the main benefit of this project is to improve the appearance of the signal poles.

Painting would be done one corridor or area at a time.

Estimated Cost

\$30,000
DNV Contribution: \$30,000

Timing

2013 to 2015

Corporate Goals

- Implementing the OCP
- Building strong foundations
- Improving the way we do business

Description

This project would design a new pedestrian and cycling bridge over Lynn Creek, on an alignment with Crown Street.

The bridge would serve as the next link in the North Shore Spirit Trail, connecting to the City of North Vancouver. The structure would be approximately four metres wide and 80 metres long, with lighting provided.

The bridge would be also designed to accommodate emergency vehicles.



Origin Spirit Trail Planning Report, Transportation Plan

Project Benefits

This bridge would provide a link from the City of North Vancouver's Spirit Trail, which has two legs in this area:

- north of the Park and Tilford shopping centre to 4th Street, and
- along the east side of Lynn Creek from Main Street.

On the District side, the Spirit Trail would continue east along Crown, then south to cross Main Street.

A new pedestrian and cycling link provides a safe and comfortable crossing for those uncomfortable with the alternatives (Keith Road and Main Street). It could also be open to ambulance or fire trucks so that they can by-pass any local congestion in emergencies. The cost of construction is estimated to be between \$2 and \$3 Million.

Estimated Cost

\$300,000, expect 50% funding
DNV Contribution: \$150,000

Timing

Design in 2013, construction targeted for 2014
subject to grant funding

Corporate Goals

Implementing the OCP Building strong foundations Improving the way we do business

ROADS

Description

This project would be the final year of a three-year STOP sign replacement program.

Signs have a typical life of 10 years and the signs have reached or exceeded this time frame. Labour for installation would be provided by District Street staff.



Origin Sustainment capital (maintain existing asset).

Project Benefits

Replacing STOP signs ensures that the signs are visible to motorists, particularly at night. Lack of visibility can result in motorists travelling through the STOP sign, resulting in crossing collisions.

Estimated Cost

\$72,000

DNV Contribution: \$72,000

Timing

Year-long 2013.

Corporate Goals

- Implementing the OCP Building strong foundations Improving the way we do business

Description

This project would develop the design for the replacement of the Keith Road Bridge. It will follow preliminary planning work to be done in the fall of 2012 to select the preferred bridge alignment.

The plan to extend East Keith Road (made possible if the Seylynn development rezoning application is approved) means that the bridge can be replaced on or near its existing alignment within the road right-of-way, although some infringement into the adjacent park may be unavoidable.



Origin Bridge assessment reports, Lower Lynn Transportation Strategy (2010)

Project Benefits

Benefits include:

- More clearance over the trails that run alongside Lynn Creek;
- Safe cycling route (none exists now);
- Pedestrian route on both sides;
- Safe passage for higher and/or heavier vehicles;
- Better clearance for flooding or debris flows; and
- Traffic improvements, particularly for vehicles accessing Highway 1.

If the Keith Road Bridge is not replaced in the five to eight-year period, a major rehabilitation will be required at an estimated cost of between \$2.1 and \$2.3 Million. Replacement with a four-lane bridge may be \$7 Million, to be confirmed after design complete.

Estimated Cost

\$300,000 for design

DNV Contribution: \$300,000

Timing

Spring and summer 2013

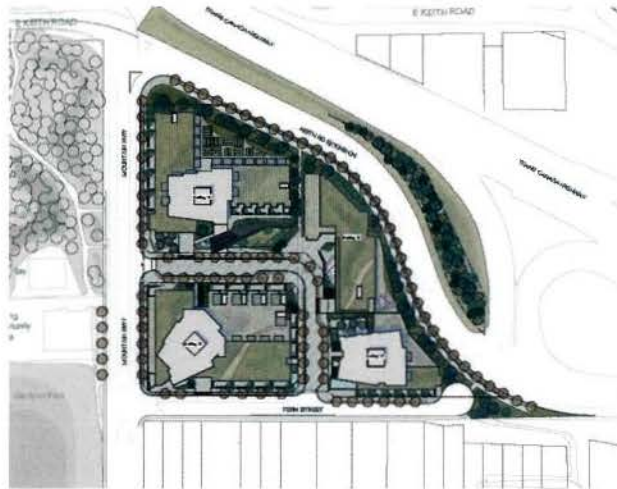
Corporate Goals

- Implementing the OCP Building strong foundations Improving the way we do business

Description

The Seylynn development re-zoning proposal includes provision to construct an extension of East Keith Road to replace Fern Street.

If approved, it is anticipated that the District will fund the construction of this road, between Mountain Highway and the Fern Street interchange with Highway 1. The current plan is a four-lane arterial road, with a pedestrians and cyclists accommodated on an adjacent multi-use path.



Origin Seylynn development proposal, Highway 1 Interchange planning

Project Benefits

An agreement was reached with the Seylynn developer to provide an extension of East Keith Road to improve the east-west connectivity in this area. Benefits to the development of the Lower Lynn town centre are expected, as the area would no longer be bisected by traffic accessing Highway 1 at Fern Street.

The new road alignment is not expected to reduce traffic congestion in the area. Significant traffic improvements are not expected until major changes are made to the highway configuration and/or the Keith Road Bridge is replaced with a four-lane structure.

This road configuration does permit the District to move ahead with planning and design for the replacement of the Keith Road bridge, as the bridge could be replaced within the existing road right-of-way.

Estimated Cost

\$2,917,000, developer may contribute engineering
 DNV Contribution: \$2,700,000

Timing

January to August 2013; complete before Fern Street closed and first Seylynn building completed

Corporate Goals

- Implementing the OCP
- Building strong foundations
- Improving the way we do business

Description

This project creates a specific capital program for re-painting pavement markings and replacing signs on an ongoing basis.

Focus would be on regulatory signs and centre lines, followed by those intended to protect vulnerable road users, i.e. pedestrians, with a focus on those crosswalks most used by children and seniors, and cyclists.



Origin Staff recommendation to accommodate public and Council requests.

Project Benefits

In addition to the aesthetic benefits, ensuring that District signs and pavement markings do not fade and are highly visible provides safety benefits by helping road users to understand and follow the traffic control.

Previously, attempts have been made to accommodate this work within operating budgets, but this has not been sufficient to provide the level of service requested by the public.

Estimated Cost

\$50,000
DNV Contribution: \$50,000

Timing

2013 year-long, expected to be annual program

Corporate Goals

- Implementing the OCP
- Building strong foundations
- Improving the way we do business

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