metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

METRO VANCOUVER REGIONAL DISTRICT
REGIONAL PLANNING COMMITTEE

REGULAR MEETING

Friday, March 9, 2018
9:00 a.m.
28th Floor Boardroom, 4730 Kingsway, Burnaby, British Columbia

REVISED AGENDA[1]

1. ADOPTION OF THE AGENDA

1.1 March 9, 2018 Regular Meeting Agenda

That the Regional Planning Committee adopt the agenda for its regular meeting scheduled for March 9, 2018 as circulated.

2. ADOPTION OF THE MINUTES

2.1 February 2, 2018 Regular Meeting Minutes

That the Regional Planning Committee adopt the minutes of its regular meeting held February 2, 2018 as circulated.

3. DELEGATIONS

4. INVITED PRESENTATIONS

5. REPORTS FROM COMMITTEE OR STAFF

5.1 Agricultural Land Soil Investigation Results

Designated Speaker:
Theresa Duynstee, Regional Planner, Parks, Planning and Environment

That the MVRD Board:

a) send a letter to the BC Minister of Agriculture requesting that the 11 recommendations, as noted in the report dated February 26, 2018 titled "Agricultural Land Soil Investigation Results", be considered as part of the review to revitalize the Agricultural Land Reserve and the Agricultural Land Commission; and

b) forward the report dated February 26, 2018, titled "Agricultural Land Soil Investigation Results" to Metro Vancouver member local jurisdictions.

[1] *Note: Recommendation is shown under each item, where applicable.*

5.2 Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission
Designated Speaker:
Theresa Duynstee, Regional Planner, Parks, Planning and Environment
That the Regional Planning Committee receive for information the report dated February 20, 2018, titled, "Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission".

5.3 Transit-Oriented Affordable Housing Study Phase 2: Exploring New Supportive Tools
Designated Speaker:
Raymond Kan, Senior Regional Planner, Parks, Planning and Environment Department
That the MVRD Board receive for information the report dated February 19, 2018, titled "Transit-Oriented Affordable Housing Study Phase 2: Exploring New Supportive Tools".

Revised **5.4 Centres and Corridors Literature Review and Case Studies – Urban Centres and Frequent Transit Development Areas Policy Review**
Designated Speaker:
Erin Rennie, Senior Regional Planner, Parks, Planning, and Environment
That the MVRD Board receive for information the report dated February 13, 2018, titled, "Centres and Corridors Literature Review and Case Studies – Urban Centres and FTDA Policy Review"

5.4 Implementation of the Regional Food System Action Plan
Designated Speaker:
Jaspal Marwah, Regional Planner, Parks, Planning and Environment
That the MVRD Board receive for information the report dated February 19, 2018, titled "Update on the Implementation of the Regional Food System Action Plan".

5.5 Manager's Report
Designated Speaker:
Heather McNell, Director, Regional Planning and Electoral Area Services
That the Regional Planning Committee receive for information the report dated March 2, 2018, titled "Manager's Report".

6. INFORMATION ITEMS

7. OTHER BUSINESS

8. BUSINESS ARISING FROM DELEGATIONS

9. RESOLUTION TO CLOSE MEETING

10. ADJOURNMENT/CONCLUSION

That the Regional Planning Committee adjourn/conclude its regular meeting of March 9, 2018.

Membership:

Stewart, Richard (C) – Coquitlam
Coté, Jonathan (VC) – New Westminster
Corrigan, Derek – Burnaby
Froese, Jack – Langley Township
Harris, Maria – Electoral Area A
McDonald, Bruce - Delta
Mussatto, Darrell – North Vancouver City
Penner, Darrell – Port Coquitlam
Read, Nicole – Maple Ridge
Reimer, Andrea – Vancouver
Smith, Michael – West Vancouver
Steele, Barbara – Surrey
Steves, Harold – Richmond

METRO VANCOUVER REGIONAL DISTRICT
REGIONAL PLANNING COMMITTEE

Minutes of the Regular Meeting of the Metro Vancouver Regional District (MVRD) Regional Planning Committee held at 9:00 a.m. on Friday, February 2, 2018 in the 28th Floor Committee Room, 4730 Kingsway, Burnaby, British Columbia.

MEMBERS PRESENT:
Chair, Mayor Richard Stewart, Coquitlam
Vice Chair, Mayor Jonathan Coté, New Westminster
Mayor Derek Corrigan, Burnaby
Mayor Jack Froese, Langley Township
Director Maria Harris, Electoral Area A
Councillor Bruce McDonald, Delta
Mayor John McEwen, Anmore
Mayor Darrell Mussatto, North Vancouver City
Councillor Darrell Penner, Port Coquitlam
Councillor Andrea Reimer, Vancouver
Mayor Michael Smith, West Vancouver
Councillor Barbara Steele, Surrey (arrived at 9:01 a.m.)
Councillor Harold Steves, Richmond

MEMBERS ABSENT:
Mayor Nicole Read, Maple Ridge

STAFF PRESENT:
Heather McNell, Regional Planning and Electoral Area Services Director, Parks, Planning and Environment
Carol Mason, Chief Administrative Officer
Genevieve Lanz, Legislative Services Coordinator, Board and Information Services

1. ADOPTION OF THE AGENDA

1.1 February 2, 2018 Regular Meeting Agenda

It was MOVED and SECONDED
That the Regional Planning Committee:
a) amend the agenda for its regular meeting scheduled for February 2, 2018 by:
   i. adding Item 3.5 Myles Lamont, TerraFauna Wildlife Consulting, Inc.;
   ii. varying the order of the agenda to consider Items 5.2 and 5.3 prior to Item 5.1; and
b) adopt the agenda as amended.

CARRIED

9:01 a.m. Councillor Steele arrived at the meeting.

2. ADOPTION OF THE MINUTES

2.1 November 3, 2017 Regular Meeting Minutes

It was MOVED and SECONDED
That the Regional Planning Committee adopt the minutes of its regular meeting held November 3, 2017 as circulated.

CARRIED

3. DELEGATIONS

3.1 Mike Clay, Mayor, and Tim Savoie, City Manager, City of Port Moody

Mike Clay, Mayor, and Tim Savoie, City Manager, City of Port Moody, spoke to members in support of the City of Port Moody's request to amend *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* for the Flavelle Oceanfront District Site by changing the regional land use designation from Industrial to General Urban, asserting the land does not function as an industrial site, highlighting the proposed community vision, proximity to transit, and reclamation ecosystem values as regional benefits, and requesting the that MVRD Board initiate the amendment process for *Metro Vancouver 2040: Shaping Our Future*.

In response to questions, members were informed of the industrial land supply in Port Moody.

Presentation material titled "City of Port Moody Oceanfront District Request to Amend Metro Vancouver 2040: Shaping our Future" is retained with the February 2, 2018 Regional Planning Committee agenda.

3.2 Gary Pooni, BrookPooni on behalf of Mill & Timber Products Ltd.

Gary Pooni, President, and Blaire Chisholm, Vice President, BrookPooni on behalf of Mill & Timber Products Ltd. spoke to members in support of the City of Port Moody's application to amend *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* to change the regional land use designation for the Flavelle Oceanfront District site from Industrial to General Urban, highlighting the comprehensive site studies and public consultation undertaken over the past ten years, and requesting that the MVRD Board initiate the amendment process for *Metro Vancouver 2040: Shaping Our Future*.

Presentation material titled "Flavelle Oceanfront Development" is retained with the February 2, 2018 Regional Planning Committee agenda.

3.3 Robin Silvester, President and CEO, Port of Vancouver

Robin Silvester, President and CEO, Port of Vancouver spoke to members in opposition to the City of Port Moody's application to amend *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* asserting the importance of protecting industrial land as a regional issue, and of the importance of this site from a trade-enabling perspective, and requesting that the MVRD Board not change the regional land use designation from Industrial to General Urban until a regional approach for the protection and management of industrial land is established.

In response to questions, members were informed of the Port of Vancouver's unsuccessful attempt to purchase the Flavelle Oceanfront District site lands.

Presentation material titled "The Importance of Industrial Land" is retained with the February 2, 2018 Regional Planning Committee agenda.

3.4 Maggie Koka, Branch Manager, Aplin Martin

Maggie Koka, Branch Manager, Aplin Martin and Chief Harley Chappell, Semiahmoo First Nation, spoke to members in support of the City of Surrey's request to amend *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* to accommodate a development proposal of a single-family residential community for the Hazelmere site, asserting the development would complete the community, provide business opportunities, and add diversity to the Hazelmere Valley, and requested that the MVRD Board initiate the amendment process for *Metro 2040*.

In response to questions, members were informed of the intent to partner with the Young Agrarians to provide access to farmland and the status of the Agricultural Land Reserve (ALR) application.

Presentation material titled "Subject Site – Hazelmere Valley of South Surrey" is retained with the February 2, 2018 Regional Planning Committee agenda.

3.5 Myles Lamont, TerraFauna Wildlife Consulting, Inc.

Myles Lamont, TerraFauna Wildlife Consulting, Inc. spoke to members in opposition of the City of Surrey's request to amend *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* for the development of a suburban single-family residential community at the Hazelmere site asserting the development is not consistent with the OCP, the regional growth strategy and the regional food strategy, and would compromise valuable agricultural land, water quality and access to existing residents.

On-table executive summary is retained with the February 2, 2018 Regional Planning Committee agenda.

4. INVITED PRESENTATIONS

No items presented.

5. REPORTS FROM COMMITTEE OR STAFF

Agenda Order Varied
Pursuant to Section 1 Adoption of the Agenda, the order of the agenda was varied to consider Item 5.2 at this point.

5.2 *Metro Vancouver 2040: Shaping our Future* Land Use Designation Amendment Request from the City of Port Moody – Flavelle Mill Site

Report dated January 23, 2018 from Jaspal Marwah, Regional Planner, Parks, Planning and Environment, seeking the MVRD Board rejection of the City of Port Moody's request to amend *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* to change the regional land use designation for the Flavelle Mill site from Industrial to General Urban and removing the Special Study Area overlay for the site.

Members were provided with a presentation on the City of Port Moody's request to amend the regional land use designation for the Flavelle Mill Site, highlighting staff concerns that the proposal did not address the regional objectives of protecting industrial land, or the potential impact of the proposed site on the planned growth of Moody Centre.

Discussion ensued on the regional impacts of converting Industrial land to General Urban, the linkage between land use and transit, and the coordination of development growth across the region rather than site specific considerations. Members considered the benefits and risks of initiating the amendment process which seeks to change the regional land use designation.

Presentation material titled "*Metro 2040* Proposed Amendment: Flavelle Site, Port Moody" is retained with the February 2, 2018 Regional Planning Committee agenda.

It was MOVED and SECONDED
That the MVRD Board initiate the *Metro 2040* minor amendment process and direct staff to prepare a bylaw to amend *Metro 2040*, in response to the City of Port Moody's request, to amend the regional land use designation for the Flavelle Mill site from Industrial to General Urban and remove the Special Study Area overlay for the site.

CARRIED
Mayor Corrigan, Director Harris and Councillor Steves voted in the negative.

5.3 *Metro Vancouver 2040: Shaping our Future* Land Use Designation Amendment Request from the City of Surrey – Hazelmere

Report dated January 10, 2018 from Terry Hoff, Senior Regional Planner, Parks, Planning and Environment, seeking MVRD Board consideration of the City of Surrey's requested amendment to *Metro Vancouver 2040: Shaping Our Future (Metro 2040)* to accommodate a development proposal for the Hazelmere site.

Members were provided with a presentation on the *Metro 2040* amendment request from the City of Surrey, highlighting staff concerns regarding the impacts to *Metro 2040*, including urban containment objectives, pressure to convert adjacent lands, and inconsistency with complete community development, and impacts on agricultural land protection.

Presentation material titled "Proposed Metro 2040 Land Use Amendment: City of Surrey - Hazelmere" is retained with the February 2, 2018 Regional Planning Committee agenda.

It was MOVED and SECONDED
That the MVRD Board decline the City of Surrey's requested amendment to *Metro 2040* for the Hazelmere site and not proceed with a Regional Growth Strategy Amendment Bylaw.

CARRIED
Mayor Froese, Councillor McDonald, Mayor McEwen, Mayor Mussatto, and Councillor Steele voted in the negative.

Agenda Order Resumed
The order of the agenda resumed with Item 5.1 being before the Committee.

5.1 2018 Regional Planning Committee Priorities and Work Plan
Report dated January 22, 2018 from Heather McNell, Director, Regional Planning and Electoral Area Services, Parks, Planning and Environment, providing the Regional Planning Committee with the priorities and work plan for the year 2018.

It was MOVED and SECONDED
That the Regional Planning Committee endorse the work plan as presented in the report dated January 22, 2018 titled "2018 Regional Planning Committee Priorities and Work Plan".

CARRIED

5.2 *Metro Vancouver 2040: Shaping our Future* Land Use Designation Amendment Request from the City of Port Moody – Flavelle Mill Site
This item was previously considered.

5.3 *Metro Vancouver 2040: Shaping our Future* Land Use Designation Amendment Request from the City of Surrey – Hazelmere
This item was previously considered.

5.4 Follow Up to the Final Report on the North Shore Corridor Study Pilot: Marine-Main Frequent Transit Corridor
Report dated January 10, 2018 from Erin Rennie, Senior Regional Planner, Parks, Planning, and Environment, providing the MVRD Board with information on the suitability of a Bus Rapid Transit-Light (BRT-Light) transit service on the North Shore.

Members were provided with a presentation on the follow-up to the final report on the North Shore Frequent Transit Corridor Study, highlighting key evaluation criteria, differences between B-Line Plus and BRT-Light service levels, and implementation considerations.

Presentation material titled "North Shore Frequent Transit Corridor Study: Follow Up to the Final Report" is retained with the February 2, 2018 Regional Planning Committee agenda.

It was MOVED and SECONDED
That the MVRD Board:

a) receive for information the report dated January 10, 2018, titled "Follow Up to the Final Report on the North Shore Corridor Study Pilot: Marine-Main Frequent Transit Corridor," and
b) send a letter to North Shore municipalities, TransLink, and the Squamish First Nation encouraging continued collaboration and consideration of early opportunities to phase in elements of a Bus Rapid Transit-Light service level along the Marine-Main corridor through B-Line implementation.

CARRIED

5.5 Shaping our Communities Engagement Initiative: Attitudes towards Agricultural and Industrial Land Use Survey Results

Report Dated January 15, 2018 from Erin Rennie, Senior Regional Planner, Parks, Planning, and Environment, providing the MVRD Board with the results of the "Attitudes towards Agricultural and Industrial Land Use Survey" and additional analysis conducted on the results of the "Shaping our Communities Engagement Initiative – Results of the Regional Survey on Residents Perspectives on What Makes Neighbourhoods Great".

Members were provided with a presentation on the "Attitudes Towards Agricultural and Industrial Lands" survey, highlighting public opinions on industrial and agricultural land use.

Presentation material titled "Attitudes towards Agricultural and Industrial Lands: Shaping Our Communities – Survey Results" is retained with the February 2, 2018 Regional Planning Committee agenda.

It was MOVED and SECONDED
That the MVRD Board receive for information the report titled "Shaping our Communities Engagement Initiative: Attitudes towards Agricultural and Industrial Land Use Survey Results", dated January 15, 2018.

CARRIED
Mayor Corrigan and Councillor Steele absent at the vote.

5.6 Agricultural Advisory Committee Terms of Reference – 2018 Update

Report dated January 17, 2018 from Theresa Duynstee, Regional Planner, Parks, Planning and Environment, seeking MVRD Board endorsement of the Agricultural Advisory Committee's updated Terms of Reference.

It was MOVED and SECONDED

That the MVRD Board endorse the updates to the Agricultural Advisory Committee Terms of Reference as described in the report dated January 17, 2018, titled "Agricultural Advisory Committee Terms of Reference - 2018 Update".

CARRIED

Mayor Corrigan and Councillor Steele absent at the vote.

5.7 Manager's Report

Report dated January 8, 2018 from Heather McNell, Director, Regional Planning and Electoral Area Services, Parks, Planning and Environment, providing the Regional Planning Committee with the 2018 Leadership and Engagement events.

It was MOVED and SECONDED

That the Regional Planning Committee receive for information the report dated January 8, 2018, titled "Manager's Report".

CARRIED

Mayor Corrigan and Councillor Steele absent at the vote.

6. INFORMATION ITEMS

It was MOVED and SECONDED

That the Regional Planning Committee receive for information the following Information Item:

6.1 Correspondence re: A Food Policy for Canada from Ministry of Agriculture and Agri-Food, dated December 15, 2017

CARRIED

7. OTHER BUSINESS

No items presented.

8. BUSINESS ARISING FROM DELEGATIONS

No items presented.

9. RESOLUTION TO CLOSE MEETING

No items presented.

10. ADJOURNMENT/CONCLUSION

It was MOVED and SECONDED
That the Regional Planning Committee conclude its regular meeting of February 2, 2018.

CARRIED

(Time: 11:42 a.m.)

_____ _____

Genevieve Lanz,
Legislative Services Coordinator

Richard Stewart, Chair

To: Regional Planning Committee

From: Theresa Duynstee, Regional Planner, Parks, Planning and Environment

Date: February 26, 2018 Meeting Date: March 9, 2018

Subject: **Agricultural Land Soil Investigation Results**

RECOMMENDATION

That the MVRD Board:

a) send a letter to the BC Minister of Agriculture requesting that the 11 recommendations, as noted in the report dated February 26, 2018 titled "Agricultural Land Soil Investigation Results", be considered as part of the review to revitalize the Agricultural Land Reserve and the Agricultural Land Commission; and

b) forward the report dated February 26, 2018, titled "Agricultural Land Soil Investigation Results" to Metro Vancouver member local jurisdictions.

PURPOSE

This report conveys the results of the Agricultural Land Soil Investigation, a project that assessed the land use outcomes of Agricultural Land Commission (ALC) applications for the placement of fill in the Agricultural Land Reserve (ALR) throughout Metro Vancouver.

BACKGROUND

Metro Vancouver's involvement in addressing illegal fill on agricultural land began in December 2013 at the request of the Agricultural Advisory Committee (AAC). A regional approach was seen as desirable to prevent the disposal of fill excavated from construction sites on agricultural land, as concerns were raised that fill was being used inappropriately. The AAC believed that addressing the issue at the source was the best way to prevent poor fill practices, but this is approach proved difficult to implement. Despite municipal engagement and a proposed solution to develop a web-based permit registry to track soil removal and deposit permits, creation of the registry proved too onerous.

In 2017, a new direction was pursued involving a partnership between Metro Vancouver and the Agricultural Land Commission (ALC). The two agencies initiated a study to investigate the land use outcomes of ALC applications for the placement of fill in the ALR. A qualified soil professional was hired to investigate fill ALC applications in the Metro Vancouver region from 2006-2016, and to determine how to better manage fill placement in the ALR. The results of the investigation led to 11 recommendations that describe the most important changes necessary to improve the outcomes of the ALC application process.

FILL PLACEMENT ON AGRICULTURAL LAND

Requests to place soil on ALR land require approval from the ALC or are exempted for farm improvement as defined in the *Agriculture Land Reserve Use, Subdivision and Procedure Regulation*. Landowners who want to deposit soil/fill on ALR land for non-farm purposes must submit an Application for a Non-Farm Use to place fill under the *ALC Act*. The reasons given for using fill on

agricultural land in Metro Vancouver vary, but mostly pertain to improving poor drainage (i.e., high water table) or addressing land capability issues that are adversely affecting crop growth. There are also situations where fill is illegally deposited on agricultural land, without approval or beyond the conditions defined in the ALC application process.

Scope of the Agricultural Land Soil Investigation

The purpose of the Agricultural Land Soil Investigation was to determine if current fill practices that are approved through the ALC application process are benefiting the long-term agricultural viability of land in the ALR. The objectives of the investigation were to:

- evaluate the outcomes of previously approved ALC applications for soil deposition;
- identify the factors that contributed to the positive and negative outcomes of soil deposition in the ALR; and
- recommend management practices that should be required to ensure soil applications in the ALR provide benefits to the agricultural capability of the land.

While there are several regulatory avenues for the placement of fill, this investigation only focused on the ALC applications to place fill at volumes greater than 2,000 m^3 and/or covered more than 2% of the farm parcel in the ALR. These fill applications are also subject to the bylaw provisions of the municipal government. A total of 107 ALC applications were reviewed: 77 had received either approval or approval with conditions. The remaining 30 files were refused by the Commission, but 8 of these were subsequently approved.

The study did not include unauthorized or illegal fill sites in the ALR that are under investigation. There are currently over 80 fill sites in Metro Vancouver that are under compliance and enforcement actions by the ALC. Other enforcement actions underway may be related to municipal permits in the ALR that are below the 2,000 m^3 threshold or are outside the ALR.

Key Findings from the Investigation

The results of the Agricultural Land Soil Investigation are provided in a report prepared by Geoff Hughes-Games, Soil Specialist (see Attachment). The work was carried out in three parts: compilation of an ALC application database; evaluation of the application sites using qualitative observational tools; and a review of ALC legislation and policies as well as selected municipal soil bylaws.

A visual rating system was developed to separate the fill applications sites into groups based on the result of the filling activity observed through remote sensing or field surveys. Sites rated as 'Good' had farming activity, healthy crops and blended well into the landscape, while 'Poor' sites had no farm use or extremely poor production indicators such as continued poor drainage or drought conditions.

The investigation revealed that only 17% of the approved fill sites were ranked as Good, 22% as Fair and 25% were Poor. Nearly 25% of the approved sites were not being used for farming. The remaining applications were either refused or outcomes could not be determined. A comparison of the visual rating versus 'reason for fill' revealed that applications indicating a desire to address drainage or capability issues often failed to meet those objectives. Only 38% of the applications (11 out of 29 applications) claiming the reason to use fill was to improve drainage and land capability in the ALC application process had resulted in a Good rating.

During the investigation, numerous issues were also identified on fill sites, including:

- the over-application of fill;
- multiple sites were domed, showing no improvement in production capacity and/or were creating impacts to adjacent land;
- a small number of sites were not being used for the future use proposed in the application;
- the fill materials used were of poor quality (i.e., high coarse fragments); and
- a significant number of the sites (41%) that had indicated drainage issues or improved capability prior to fill placement continued to have issues after completion of the fill project.

Recommendations Arising from the Investigation

The consultant identified the following 11 recommendations as the most important changes necessary to improve the outcomes of the ALC application process. The potential revisions relate to legislation, policy, bonding and monitoring, as well as suggestions to improve the ALC application process and the regional management of fill.

1. Carefully consider if, and when, the placement of fill is the appropriate way to address drainage and irrigation issues on agricultural land. For example, instead of raising the elevation of land use traditional drainage practices or growing suitable crops.
2. Fill placement as pad for farm or residential buildings is appropriate, but this approval has been abused creating a much large footprint than necessary. Consider embedding the home plate concept into regulatory requirements for fill.
3. Consider legislation and policy changes to prohibit the placement of fill for farm activities if it results in the alteration of widespread floodplain elevation.
4. Improve the effective use of bonding to assist in managing the financial incentive for better use and management of fill.
5. Prepare templates and update requirements for monitoring the progress of fill projects including when to proceed with enforcement activities if the situation arises.
6. Strive for better consistency in wording and procedures in municipal soil bylaws or the development of a Ministers bylaw standard for fill.
7. Strive for better coordination between municipal and ALC staff on the appropriate regulatory tool for managing fill.
8. Create an ALC fill bylaw to clarify the regulatory procedures and administrative control over fill applications and use in the ALR.
9. Create best management practice guidelines for the placement of fill in the ALR.
10. Consider single agency oversight to direct fill to specific uses such as the construction of dikes.
11. Promote the management of fill at the construction site where the fill originated.

Metro Vancouver Staff Assessment

Addressing fill placement on agricultural land is a challenging problem. Farmers need to use fill in some circumstances, but abuse of fill practices by some landowners continues to degrade soil bound crop production in the ALR. Fortunately, some of this degraded land can still be used for farm buildings, barns and greenhouses and is not justification for ALR exclusion.

An Advisory Committee comprised of ALC, regional, municipal and provincial staff provided guidance and input to the consultant during the investigation. This staff input was important for defining the critical areas of fill policy and management to address and resulted in both a comprehensive and technically sound report.

Staff supports the recommendations provided by the consultant in the Agricultural Land Soil Investigation and these recommendations were also endorsed by the Metro Vancouver Agricultural Advisory Committee on February 16, 2018. Not only did the investigation provide evidence that the existing ALC application process for approving fill placement in the ALR is flawed, but it also identified steps to be taken to improve outcomes. A stronger regulatory regime, more prescriptive requirements, guidance on management practices, and better coordination with municipal permitting, compliance and enforcement activities can significantly improve the current situation. The results of the investigation will be particularly pertinent to Langley, Delta, Surrey, Pitt Meadows, Richmond, Maple Ridge and Burnaby, which protect 95% of the agricultural land on behalf of the regional federation.

As joint leads on the project, Agricultural Land Commission staff have started to implement some of recommendations in the report. Yet, the imperative remains to pursue a multiple agency approach to address the inappropriate placement of fill in the ALR, and maintain the crop production capacity of agricultural land for the benefit of future generations.

ALTERNATIVES

1. That the MVRD Board:
   a) send a letter to the BC Minister of Agriculture requesting that the 11 recommendations, as noted in the report dated February 26, 2018 titled "Agricultural Land Soil Investigation Results", be considered as part of the review to revitalize the Agricultural Land Reserve and the Agricultural Land Commission; and
   b) forward the report dated February 26, 2018, titled "Agricultural Land Soil Investigation Results" to Metro Vancouver member local jurisdictions.

2. That the MVRD Board receive for information the report dated February 26, 2018, titled "Agricultural Land Soil Investigation Results".

FINANCIAL IMPLICATIONS

There are no financial implications to this report.

SUMMARY / CONCLUSION

Metro Vancouver and the Agricultural Land Commission initiated a study to investigate the land use outcomes of ALC applications for the placement of fill in the Agricultural Land Reserve. All fill ALC applications in the Metro Vancouver region from 2006-2016 were reviewed and evaluated by a soil consultant. The 11 recommendations that emerged from the investigation are considered the most important changes that are necessary to improve the land use outcomes of the ALC application process. A stronger regulatory regime, more prescriptive requirements, guidance on management practices, and better coordination with municipal permitting, compliance and enforcement activities can significantly improve the placement of fill practices in the ALR. Staff recommends Alternative 1.

Attachment: Report titled **"**Agricultural Land Soil Investigation" dated January 31, 2017.
(Orbit Doc 24621176)

AGRICULTURAL LAND SOIL INVESTIGATION

Project No. NG24838

PREPARED FOR:

metrovancouver
SERVICES AND SOLUTIONS FOR A LIVABLE REGION

And,

ALC
Agricultural Land Commission

PREPARED BY:

Geoff Hughes-Games, P. Ag.
Soil Specialist

1 EXECUTIVE SUMMARY

INTRODUCTION

Placement of fill in the Agricultural Land Reserve (ALR) is regulated to varying degrees depending on the end use of the land. In recent years concerns have been raised on how effective fill placement has been both within the regulatory regime and at the onsite management level. These concerns are partly fueled by the perception that significant financial incentives (tipping fees upwards of $200 per truck) are driving fill applications on agricultural land. The issue has generated discussions between the Agricultural Land Commission (ALC), Metro Vancouver Regional District (MVRD), local governments, provincial agencies, and the agriculture industry on how to better manage fill placement such that its use is beneficial.

The key objectives of this investigation were to evaluate the outcomes of previously approved ALC applications for placement of fill within the MVRD; identify the factors that contributed to the positive and negative outcomes of placement of fill in the ALR; and, recommend management practices and policy development/legislative changes that could be adopted to ensure that placement of fill in the ALR provides benefits to the agricultural capability of the land.

The investigation was carried out in three parts.

- Part one was a review of a database that included information on 107 applications for the placement of fill within MVRD that were submitted to the ALC between 2006 and 2016. The database was comprised of information gleaned from the original applications as well as ALC application decisions and fill project monitoring reports. As part of the review, additional information was collected from various sources including significant use of qualitative observations of both on line imagery and road side observations.
- Part two was an evaluation of the application sites using various qualitative observational tools. Results of the database review were used to rank the sites for more detailed evaluation.
- Part three was a review of ALC legislation and policies as well as local government soil bylaws within the MVRD. The review focussed on critical sections that dealt with fill and how those sections could be strengthened.

The key guiding principle to the review of any fill placement proposal is that it must be a positive improvement to the agricultural potential of the land. The activity must also not cause harm to the land or to any adjacent land.

KEY FINDINGS

The initial database contained 107 files. Of those, 77 had received either approval or approval with conditions. Another 22 files were refused by the Commission. Some of the original applications were reconsidered (as per Section 51 of the *Act)* and eight of the previously refused applications were included as approved. This meant the final database for analysis contained 99 fill applications. The initial review of the approved sites was carried out solely as a desktop exercise to determine if further examination, either on site or by roadside survey, was required.

There are many reasons why fill was required by applicants and ranged from improving capability to the construction of buildings. The majority of the applications (68%) were to improve drainage and/or overall capability. This situation was expected considering the wet coastal climate and abundance of low land or flood plain soils. Of the 68%, two thirds of the applicants indicated a desire to improve drainage or proposed a soil-bound agricultural (crop) production end use. Approximately 20% of the application sites for placement of fill were for uses that were clearly not related to agriculture (i.e., commercial development recreational or housing).

As a method of distinguishing the sites, a visual rating system was established. The sites were ranked as **Good, Fair or Poor,** in terms of the agricultural capability of the site post fill. An additional separation was made for sites with no farming activity. These ratings were based on several factors that ultimately contributed to either positive or negative outcomes of the placement of fill:

- level of agricultural activity of the site;
- the appearance of the crop health or farm productivity (e.g., livestock);
- evidence of continued drainage or drought conditions;
- soil quality; and,
- site configuration (e.g., topography of fields after fill placement).

The results of the visual rating indicated that 17% of the fill sites were ranked as Good while 22% were ranked as Fair with an additional 25% ranked as Poor. Nearly 25% of the approved fill sites were not being used for farming purposes. In general, properties that were larger in size with lower fill volumes and percentage of area covered tended to be ranked as Good, whereas sites that were ranked Poor tended to be smaller properties with greater fill volumes or percentage of area covered.

Numerous issues were also identified on fill sites, including:

- the over application of fill (i.e., substantially above surrounding grade, abrupt sidewalls) creating "landing pads" often for some future activity.
- multiple sites were domed, seemingly to shed water. There was evidence that this was creating impacts to adjacent land and in several instances the crops planted in these domed sites were not performing any better than surrounding unfilled lands.
- a small, but identifiable number of sites were not being used for the future use proposed in the application (e.g., were now vacant or in non-farm use).
- instances where it was clear that the fill materials were of poor quality (i.e., high coarse fragments or texture/structure substandard for cropping use).
- a significant number of the sites (41%) that had indicated drainage issues or improved capability prior to fill placement continued to have issues after completion of the fill project.

RECOMMENDATIONS

Fill deposition in the ALR is regulated under the *Agricultural Land Commission Act* (*Act*) and *Agricultural Land Reserve Use, Subdivision and Procedure Regulation* (*Regulation*). This study only reviewed applications to place fill that fell within the Allowed Use provisions of that legislation. Throughout this investigation it became clear that the most important changes that are necessary to improve the outcomes of the ALC application process, must consider the legislation and ALC policy in relation to the following three uses.

1. The placement of fill on land in relation to drainage and irrigation infrastructure. There were several examples of excessive use of fill to raise the overall elevation of land under the guise of diking rather than using traditional on-farm drainage practices or growing suitable crops.

2. The placement of fill in relation to the "farm house" (Sec. 18 *Act*). Fill can be placed on 0.2 ha and 1 m above grade without a non-farm use application. There were numerous instances where fill pads placed on small (approximately 4 ha) parcels where almost double the allowed size (average 0.48 ha) and well above the 1 m elevation allowed. These pads were also often set well back (>60 m) from road frontages. The fill pad and its placement have created a larger footprint that cannot be farmed due to slope and location of the pad. Integration of the “home plate” concept is recommended.

3. The placement of fill in relation to "farm use" activities (activities that cannot be prohibited). The area that can be filled must be less than 2% of the property for the allowed use unless specific conditions are met. Many instances were noted where fill is being applied in greater volumes/depths than required for the foundations of farm buildings under the guise of a future use that is not consistent with the agricultural character of the land or surrounding properties. In addition to legislation and policy changes, a review of how consultation between the local government building approval process and ALC staff handle applications is recommended.

In addition to these findings, two specific administrative issues were identified: to the use of bonding and the monitoring reports.

1. The ALC’s system for collecting a financial security was not consistent either in terms of whether a bond was requested, or the amount of the bond in relation to fill volume or parcel size, or when the ALC released the bond upon completion of the fill project. Effective use of bonding may assist in managing the financial incentive and promoting better use and management of fill.
2. Monitoring reports were not submitted to the ALC as per the conditions of the approvals, with about 20% of the sites having no indication of reports on file. A standard template and expectations for reporting on the progress of fill projects will assist in better tracking and control of projects including when to proceed with enforcement activities if the situation arises.

The most critical changes for improving the process and success around the placement of fill in the ALR involve four additional items:

1. Consistency in wording and procedures related to local government soil bylaws needs to be improved. This could be assisted by the development of a minister’s bylaw standard for fill.

2. Coordination between local government and ALC staff in terms of sharing information on applications for fill whether they fall within the ALC ‘Non-farm Use’ or ‘Notice of Intent’ streams.

3. Possible creation of a ‘fill bylaw’ by the ALC to clarify the regulatory procedures and administrative control over fill applications and use in the ALR.

4. Creation of a ‘best practices for fill’ guidance document to supports the existing ALC Policy and Criteria documents as well as the potential fill bylaw. The guidance document would provide more in-depth information on topics such as site evaluation prior to potential fill application, fill soil quality, and site management throughout the filling process.

The final recommendations are around the regional management of fill. Consideration should be given to taking the approach of highest and best use from strategic approach in the region rather than simple site by site applications.

1. Single agency oversight is recommended to direct fill to specific uses such as the construction of dikes in light of impending climate change impacts on sea level and river flow. Or the use of structural fill only for construction and backfilling of aggregate extraction sites.
2. Management of fill at the site development plan and construction approvals level to direct separated materials to appropriate use and disposal sites as part of the construction approval process. This would allow for the planned and approved use of clean topsoil for soil bound production purposes, structural subsoils for construction, and disposal of mixed or contaminated materials at separate and appropriate locations.

TABLE OF CONTENTS

1 Executive Summary 1
2 Purpose of the Investigation 8
2.1 Objectives 8
2.2 Background 8
3 Methodology 9
3.1 Part 1) Database Review 10
3.2 Part 2) Site Investigation 11
3.3 Part 3) Legislation, Policy and Bylaw Review 11
4 Results of Part 1 Database Review 12
4.1 Application Status and End-Use 12
4.2 Reasons for Placement of Fill 16
4.3 Acceptable Reasons for Fill 17
5 Results of Part 2 Site Investigation 20
5.1 Imagery of Selected Sites to Illustrate Visual Ratings 22
5.2 Visual Rating Results 28
6 Recommendations resulting from Database and Site Reviews 31
6.1 Capability vs Suitability 31
6.2 Site Specific Approval and Management considerations 32
6.3 other Recommendations 33
7 Part Three: Review of Current Legislation, Regulation and Policy 35
7.1 Agricultural Land Commission Act 35
7.2 Agricultural Land Reserve Use, Subdivision and Procedure Regulation 35
7.3 Options to revise the ALC *Act* and *Regulation* 36
7.4 Review of ALC Policies and Report Criteria 38
7.5 Bylaws 41
Appendix 1 Draft concepts for a "best practices guide for the placement of fill in the ALR" 44
Appendix 2 Additional Visual Rating Tables 49
Appendix 3 ALC *Act* and *Regulations* 50

List of Figures

Figure 1: Regulating Fill Deposits in the Agricultural Land Reserve 9
Figure 2: Spatial Distribution of Approved Fill Applications and Compliance and Enforcement Sites 15
Figure 3: Good rating: land used for blueberries 22
Figure 4: Fair rating: land to be used for blueberries 23
Figure 5: Good rating: non-soil bound agriculture 24
Figure 6: Fair rating: non-soil bound agriculture 25
Figure 7: X rating: residential fill pads 26
Figure 8: Poor rating: proposed for blueberries 27
Figure 9: Database Query Results Bonds Vs Fill Volume or Property Size 47

List of Tables

Table 1: Fill Application Status by Municipal Government 13
Table 2: Intended End Use of land following Application of Fill 13
Table 3: Reasons for Fill Application 16
Table 4: Reason for Fill Application Versus Actual Use of Site 17
Table 5: Visual Rating Criteria for Fill Sites 21
Table 6: Visual Rating versus Approval Status 28
Table 7: Visual Rating versus Reason for Fill 29
Table 8: Visual Rating compared to Property Size and Fill Amounts 30
Table 9: Municipal Government Soil Deposit and Removal Bylaws 41
Table 10: Query Results - Fill Depth and Volumes for Approved Applications 45
Table 11: Visual Rating Versus Operation Type 49
Table 12: Visual Rating Versus Municipal Government 49

Abbreviations or Acronyms Commonly Used in this Report

Act	*Agricultural Land Commission Act*
ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
MWRD	Metro Vancouver Regional District
NOI	Notice of Intention
OMRR	*Organic Matter Recycling Regulation*
QP	Qualified Professional
Regulation	*Agricultural Land Reserve Use, Subdivision and Procedure Regulation*
WSA	*Water Sustainability Act*

2 PURPOSE OF THE INVESTIGATION

2.1 OBJECTIVES

The purpose of this study was to document how the current Agricultural Land Commission (ALC) application process, which allows for the placement of fill on agricultural land, is impacting soils and crop production on sites in the ALR.

The ALC is interested in knowing if current fill practices that are approved through the fill placement application process are benefiting the long-term agricultural viability of land in the ALR. The results of this study will help to guide policies related to fill deposition in the ALR. Additionally, MVRD is seeking empirical evidence of poor fill practices to help communicate the value proposition of addressing the use of fill on agricultural land.

MVRD, in partnership with the ALC, retained the services of a professional agrologist with expertise in soils, reclamation, and, drainage to investigate fill practices and determine if they are improving agricultural capability and viability of ALR lands.

The key objectives of this investigation were to:

- evaluate the outcomes of previously approved ALC applications for placement of fill by reviewing file data and making site observations;
- identify the factors that contributed to the positive and negative outcomes of placement of fill in the ALR; and
- provide recommendations of management practices and policy development/legislative changes that could be adopted to ensure that placement of fill in the ALR provides benefits to the agricultural capability of the land.

2.2 BACKGROUND

Fill deposition in the ALR is regulated under *Act* and the *Regulation*.

There are multiple regulatory pathways by which fill moves to land within the ALR as shown in Figure 1. Some of these pathways are authorized by the ALC or a municipal government while other pathways are the result of illegal filling activity. The primary regulatory agencies are municipal governments, which use 'soil removal and deposition bylaws, and the ALC, which uses provisions for the *Act* and *Regulation*. This project was directed to investigate only the ALC application process and how it might better align with the municipal bylaw process.

For the most part, placement of soil in the ALR is considered a non-farm use (*Act* S. 20 (2)) and as such requires an application to the ALC. If the landowner intends to use the land for a prescribed use (*Act* 2. 20 (4) and *Regulation* S. 4) they must submit a Notice of Intent (NOI) to the ALC prior to engaging in that intended use. Uses of fill associated with a designated farm use (*Regulation* S. 2) and permitted uses for

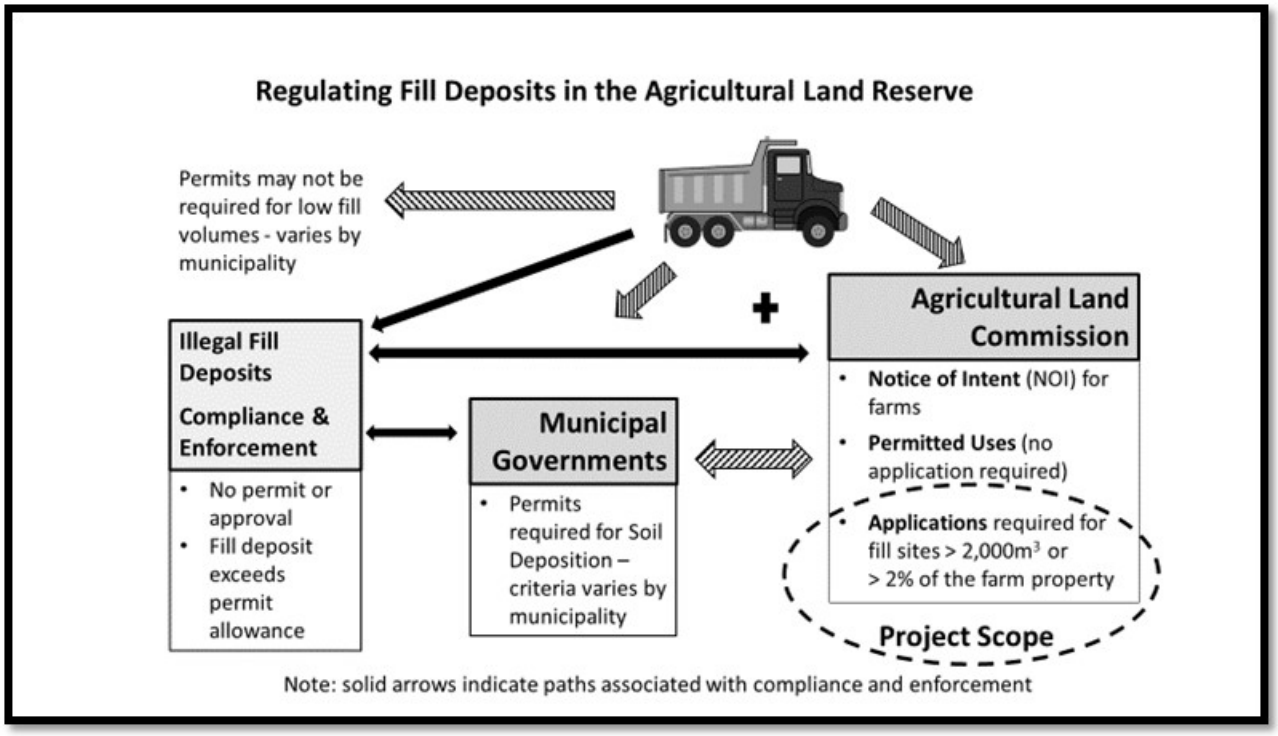
land in an ALR (*Regulation* S. 3) do not require notification to the ALC. For all other uses of fill in the ALR an ALC application is required.

An application for the placement of fill outside of the permitted uses as identified in Sections 2 and 3 of the *Regulation* are typically made by landowners wishing to deposit fill on their land to improve poor drainage (i.e., alleviate high water table issues) or change topography that adversely affects agricultural production. Under the *Regulation*, landowners can submit a non-farm use application to place fill on their property in the ALR. These applications are first reviewed by the applicable local government and require a resolution from council prior to being forwarded to the ALC.

If an application to deposit fill is approved by the ALC, the applicant is permitted to deposit a specified volume of fill according to the terms and conditions outlined in the ALC decision. In general, all approved fill sites must be overseen by a qualified professional who is required to prepare an operational plan and reclamation plan to guide work on the site, monitor all site activities, and provide regular status updates to the ALC.

The scope of this project was to review only the portion of the pathways related to non-farm use applications for the placement of fill requiring approval by the ALC and that were greater than 2,000 m^3 and/or covered more than 2% of the parcel (circled in Figure 1).

Figure 1: Regulating Fill Deposits in the Agricultural Land Reserve



3 METHODOLOGY

The Agricultural Land Soil Investigation was completed in three parts: 1) a database review; 2) a site review; and 3) a review of legislation, policy and bylaws. Over the duration of the investigation a project

management team consisting of one staff member from each MVRD and ALC provided support to the contractor through regular meetings and review of data and draft reports. The project was also supported by a project Advisory Committee that included the two aforementioned organizations as well as representatives for local municipalities and the BC Ministry of Agriculture. The Advisory Committee met initially to provide guidance on approaches, information of specific sites, and a review on the initial breakdown of sites to be reviewed. The Advisory Committee also participated in a discussion of the preliminary project results.

3.1 PART 1) DATABASE REVIEW

A review of a database compiled by the ALC and MVRD was conducted. The initial database included information on over 100 soil fill deposition applications within the Metro Vancouver region that were submitted to the ALC between 2006 and 2016 (the "study area") and contained information gleaned from the original applications, ALC application decisions and fill project monitoring reports. The database included:

- ALC application file number
- location and applicant identification
- reason for fill placement
- volume of fill
- fill area
- decision (approved or refused)
- amount of financial security for approved fill sites
- current status (i.e., active/complete)

As part of the review, additional information was collected from various sources. This included current land use of the sites (agricultural or non-agricultural), cropping and/or current site condition, comments from monitoring reports, and visual observations.

Results of the initial database review were used to rank the sites for more detailed evaluation. The rankings were: a) "consider an on–site inspection"; b) "review by drive-by"; or c) "no on-site inspection or drive-by". Originally the detailed evaluation was to include physical on-site inspections of between 5 and 10 sites. However, early in the project it was decided that access to individual properties would be a challenge, so a variety of remote sensing methods were used instead of detailed soil capability investigations.

3.2 Part 2) Site Investigation

An evaluation of the application sites using various qualitative observational tools was completed using the following information sources:

- satellite or other imagery:
    - Google Earth Pro including Google Street View and historical imagery
    - Municipal web mapping (images including recent and historical aerial photo imagery and/or LIDAR and/or contour mapping when available), zoning, property reports
- file information: ALC/MVRD database, ALC decision files (on-line and hard copy)
- Soil Survey Mapping and Agriculture Capability Mapping accessed via BC Soil Information Finder Tool for the study area
    - https://www2.gov.bc.ca/gov/content/environment/air-land-water/land/soil-information-finder
- drive-by surveys conducted on various dates between July and November 2017
- personal communication with individuals including agency/municipal staff

The qualitative observations made included a review of any on-site or off-site water management concerns such as indications of drought or flooding and restrictions to flow of regional drainage. Observations were made of land slope, elevation to adjacent properties and of site stability concerns (i.e., erosion, settling or slumping) were present. Where possible, observations were made of soil physical conditions such as apparent levels of organic matter, coarse fragments and texture. Cropping and crop health was observed from a generalized perspective (e.g., was a crop present, was it uniform, did it compare favourably to nearby crops, or were there obvious signs of poor growth).

3.3 Part 3) Legislation, Policy and Bylaw Review

The third component of the investigation was to complete a review of the *Act* and *the* Regulation and current policies related to fill. In addition, local government "soil removal and soil deposit bylaws" for municipalities within the MVRD were reviewed. The review of these regulatory materials focussed on sections that dealt with fill, and whether those sections could be strengthened.

4 RESULTS OF PART 1 DATABASE REVIEW

4.1 APPLICATION STATUS AND END-USE

The final compilation of the database included 107 applications. During the review it was determined that 77 of these applications were either initially approved or approved with conditions. Thirty (30) applications in the database were refused upon initial application to the ALC. Under Section 51 of the *Act* applicants can request reconsidered. On reconsideration by the ALC, 8 of those applications were subsequently approved with conditions, and as such they are represented only as approved sites within the results.

Through review of the data base and ALC files it was determined 37 of the applications were denoted as "Approved" based on the straight forward decisions by the ALC. No additional conditions were appended to theses approvals. An additional 40 applications were denoted as "Approved with Conditions". These sites had a range of additional conditions added to the approval conditions such as fill quality, soil movement, temperature, and moisture conditions under which soil should be managed, installation of drainage system, reclamation, irrevocable letter of credit[1], phasing of the project, additional monitoring/reporting, and the active participation of a Qualified Professional. The remaining 22 of the applications were refused by the ALC (Table 1).

The initial review of these 77 approved sites was carried out solely as a desktop exercise to determine which applications required further examination, either on site visit or by roadside survey. The initial separation resulted in 13 possible sites for further on-site investigation, 19 for roadside survey and the remainder to be reviewed using available database or aerial imagery. However, as a result of challenges related to site access, it was determined that the review would consist of intensive use of available imagery, data base, application files and more roadside investigation for all 77 sites. For the purposes of reviewing applications, including reason for fill, proposed volumes and end use of the site the 22 refused sites were included as part of the database analyses.

Table 1 also reveals that there are more applications in some municipalities, namely the Township of Langley, as compared to other municipalities. In discussions with municipal staff at the project Advisory Committee, two specific observations were made regarding this trend. The first was the proximity of potential fill sites in "rural" municipalities to development sites within the urban municipalities. This distance effects the travel time for hauling fill from the source site and can influence where the soil will be deposited. The second observation was during the study timeframe from 2006-2016, municipal soil bylaws and bylaw enforcement in some municipalities was increased reducing poor fill practices in some areas (i.e., Surrey and Delta).

[1] Also referred to as a bond or security for conditions of approval for a fill application

Table 1: Fill Application Status by Municipal Government

Municipal Government	Application Status			Grand Total
	Approved	Approved with Conditions	Refused	
City of Coquitlam	1	-	-	1
City of Pitt Meadows	2	5	1	8
City of Richmond	2	4	2	8
City of Surrey	3	4	2	9
Corporation of Delta	2	2	-	4
District of Maple Ridge	1	-	1	2
Township of Langley	26	25	16	67
Grand Total	**37**	**40**	**22**	**99**

As part of the initial review, consideration was given to the proposed and apparent "end use" of the site. Table 2 shows the distribution of the sites by local municipality and on the "end use" of the property. The determination of "end use" was based on either the fill application and/or the visual evidence of the current land use from online imagery. Note: the end use was confirmed for several sites during the second part of this project.

Municipal Government	Projects: "Agriculture Use" (active or completed)	Projects: "Non-Farm Use"	Grand Total
City of Coquitlam	-	1	1
City of Pitt Meadows	2	6	8
City of Richmond	6 [a]	2	8
City of Surrey	8	1	9
Corporation of Delta	4	-	4
District of Maple Ridge	2	-	2
Township of Langley	53 [a]	14	67
Grand Total	**75**	**24**	**99**

a - final land use of 6 sites (**2** in Richmond and **4** in Township of Langley) remains undetermined – assumed to be "agricultural use"

Table 2: Intended End Use of land following Application of Fill

4.1.1 Locations of Approved Fill Sites

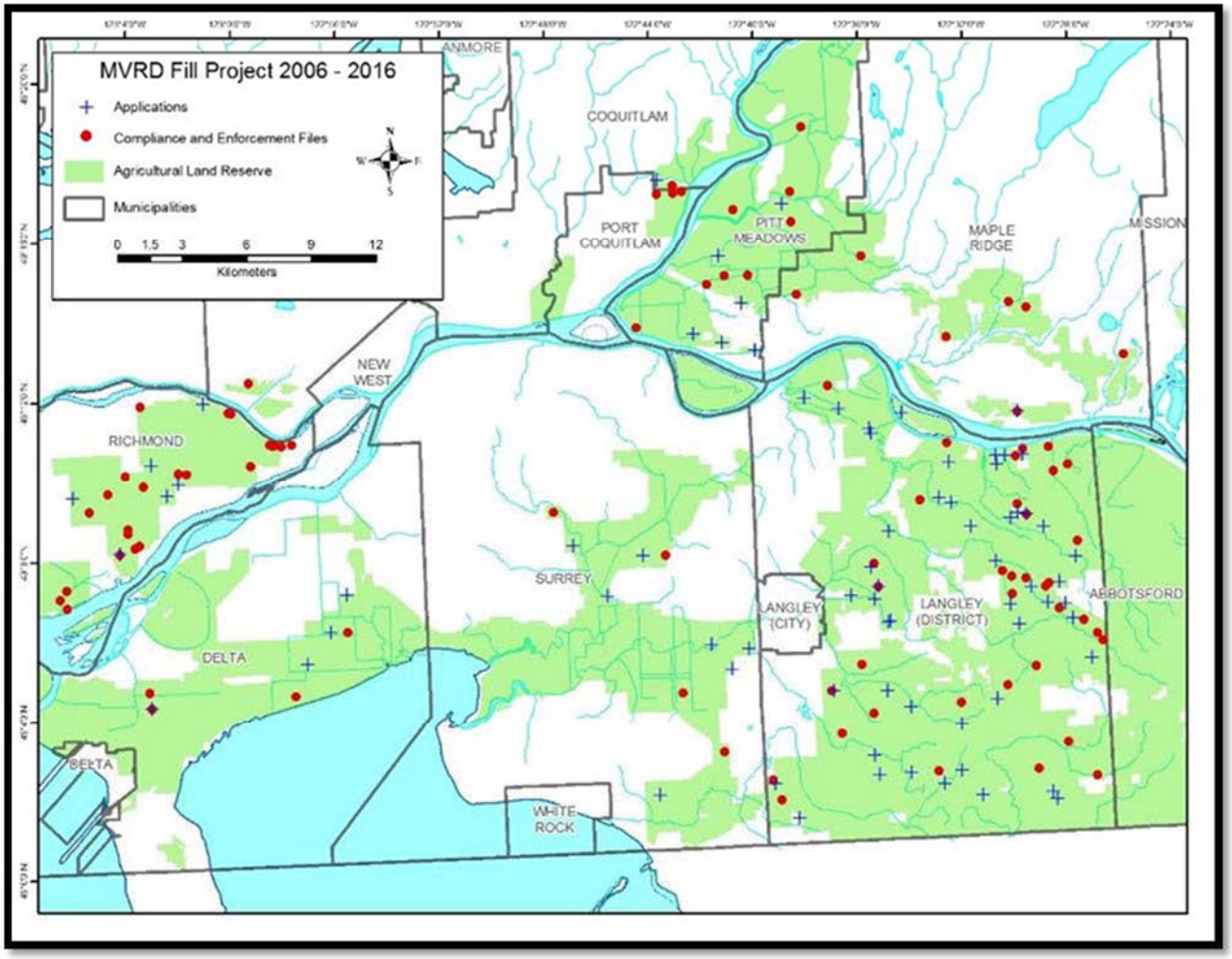
Figure 2 provides a visual image of the spatial distribution of the 77 fill application sites that were approved or approved with conditions on the ALR within the study area.

4.1.2 Compliance and Enforcement on Fill sites

ALC staff reported that during the 2006 - 2016 study period, in addition to the 99 applications reviewed in this investigation, compliance and enforcement actions were undertaken on over 80 fill sites in the Metro Vancouver area. Distribution of these sites within the study area is identified in Figure 2. These additional sites were not part of this review but indicate an additional significant level of fill activity within the study area.

Compliance and Enforcement (C&E) on the approved fill sites was noted within the ALC application database. Results of the database query indicated a small number of sites with any C&E activity. From the results of the visual rating of the sites (discussed in detail later in this report) there was an indication that more C&E actions could have possibly been justified. Several sites appeared to have larger volumes of fill, poor fill quality or site management issues as well as a configuration that may cause off site impacts (e.g., slope, or blocking of drainage).

Figure 2: Spatial Distribution of Approved Fill Applications and Compliance and Enforcement Sites



4.2 Reasons for Placement of Fill

Based on the ALC approved placement of fill applications, a host of reasons were presented for why the fill was required. These are represented in Table 3 below in relation to the approval status of the application. As would be anticipated in a region of high rainfall and floodplain or fine textured soils, the most common reason given for why fill is required was to alleviate drainage concerns (50%) or improve the capability (20%) of the land. Approximately 28 percent of the applications with the stated goal of improving drainage were refused. The reasons for refusal ranges from potential impacts on adjacent land to a determination that fill was not justified when the sites were compared to similar sites. Of the sites that indicated the fill application was to improved capability, about half had mapped agricultural capability limitations[2] of soil moisture deficiency "A" or adverse topography "T" while the other half had excess water "W" limitations. Sites with the intended goal of improving drainage were dominated by soils with an agricultural capability limitation of "W".

Table 3: Reasons for Fill Application

	Application Status			
Reason for application	**Approved**	**Approved with conditions**	**Refused**	**Grand Total**
buildings	4	4	3	11
drainage	17	17	13	**47**
drainage / recontour	2	1	-	3
filling pond	1	-	-	1
improve capability	5	8	5	**18**
landscaping	-	2	-	2
paddock	-	1	-	1
parking	1	-	-	1
ponds	1	-	-	1
privacy berms	1	-	-	1
public use	-	1	-	1
reclamation	1	2	-	3
recontour	3	3	1	7
improve capability & drainage	1	1	-	**2**
Grand Total	37	40	22	99

[2] Agriculture Capability Subclass - Limitations

Symbol	Limitation	Symbol	Limitation
W	Excess water (groundwater)	N	Salinity
T	Adverse topography	C	Adverse climate (excluding precipitation)
I	Inundation (flooding by streams, etc.)	R	Shallow soil over bedrock and/or bedrock outcroppings
A	Soil moisture deficiency	F	Low fertility
D	Undesirable soil structure	E	Erosion
P	Stoniness	X	Cumulative and minor adverse conditions

Although somewhat expected, approximately 20% of the applications stated that the reason for fill placement was not related to soil bound agricultural activity. The majority of these were for building construction, while some were agriculture related.

In the fill applications, proponents or their representatives often state the end use of the site. Table 4 provides a comparison of the observed actual use of the site versus the justification for fill given in the application for why fill is required. On sites that had limited evidence of agricultural activity, the proposed end use was used for this comparison. About half (51%) of the sites applying for fill placement to improve drainage or improve capability were sites where soil bound[3] agriculture activities such as berry or vegetable production was occurring.

Table 4: Reason for Fill Application Versus Actual Use of Site

General Site Use / Reason for Fill	aquaculture	berries	commercial	composting	farm yard	forage	gravel pit	greenhouse	industrial	livestock	mixed	nursery	pasture	recreational	residential	turf	vacant	vegetables	Grand Total
buildings		1	3		2			3							2				11
drainage		12	1			8				7		2	6	3	2	2	2	2	**47**
drainage / recontour						1		1								1			3
filling pond										1									1
improve capability		6				2		1	1	1	1	1	3		1		1		**18**
improve capability / drainage																	1	1	**2**
landscaping					1										1				2
paddock										1									1
parking										1									1
ponds	1																		1
privacy berms										1									1
public use														1					1
reclamation		1					1								1				3
recontour		3		1		1					1						1		7
Grand Total	1	**23**	4	1	3	**12**	1	5	1	12	3	3	**9**	4	7	**3**	5	**3**	99

4.3 Acceptable Reasons for Fill

Upon review of the database, application files, and collected visual observations for the sites, it was evident that the reasons for proposed fill applications were wide ranging. In some circumstances the

[3] "soil bound production" includes those land uses that on growing crops in soil on the site. In this study that includes cultivated land used for berry, forage, pasture, turf and vegetable production.

reasons were not clearly related to either the inherent site capability or in line with the stated final allowed use of the land within the ALR.

For a regulatory agency, either the ALC or a municipal government, to determine if a fill application is legitimate, they must rely on staff knowledge, information provided in the application or contracted expertise. To strengthen the quality and type of information provided by Qualified Professional (QP), there should be some reliance placed on professional reports provided with applications. The following section describes the specific aspects of an application that can be considered of acceptable reasons for the application of fill followed by a discussion on what is not concerned acceptable.

4.3.1 Change in Capability

A change in capability means to remove specific limitations. This change would include placing relatively small volumes of fill to adjust grade in swales (i.e., "W", "I" and possibly "T"), additions of finer textured materials or the removal of rock/stones to adjust texture or coarse fragment percentages (i.e., 'A', 'D', 'P'). As part of the application, evidence must be provided as to how the limitation is affecting the intended farm use of the sites. Such evidence could be that the site has been "farmed" prior to the fill proposal but production has not been optimized, or that on similar adjacent sites the limitation has a negative effect. If this evidence is not provided, the proponent has not sufficiently demonstrated that other options for management or removal of capability limitations have been attempted.

4.3.2 Change in Overall Land Configuration

A change of overall land configuration for a specific purpose can involve minor changes to the slope/orientation of the property (to relieve a "T" limitation). A limited number of situations may arise where topography limits the ability to configure fields or irrigation systems for efficient production. In this situation, the site needs to be graded in one direction to capture light/heat, graded for water management such as for cranberries or flood irrigation, or terraced for planting of vineyards/tree fruits. Both regrading and fill may be combined to adjust a "T" limitation.

4.3.3 Construction of a Foundation Pad for Farm Use

Construction of a foundation pad for a building for a designated farm use is an acceptable reason for fill. For example, fill would be used for a greenhouse or poultry barn (>2% parcel coverage) or livestock barn (< 2% parcel coverage). These structures are covered within the existing legislation. In contrast, when the majority of the surface area of a parcel is covered with fill to a depth greater than required for a stable foundation for the farm building, fill sites can have the potential to cause drainage concerns to adjoining parcels.

4.3.4 Creation of a Working Platform

Creation of a working platform for very specific aspects of a farming operation other than the main farm building can be acceptable. For example, a livestock holding area, storage or processing structures, access road, dike or water retention facility which allows the creation of more "utility" on site for the agricultural operation.

4.3.5 Unacceptable Reasons for fill

It is unacceptable to place construction overburden specifically for the purpose of disposal and not for the purpose of improving agricultural capability or suitability. Several applications within the database listed the reason for fill as the construction of a farm house, farm building or horse farm. In several

cases, the fill was placed in what appears to be a “landing pad” for future non-farm use and not the intended use indicated in the application. Many of these landing pads are more than one metre above existing site grade, have steep side slopes on the fill pad and appear to be interfering with local hydrology. They appeared to be disposal sites rather than improvements to agricultural capability.

5 RESULTS OF PART 2 SITE INVESTIGATION

A visual rating system was created to separate fill application sites into groups to report on the "results" of the filling activity or fill project. The ratings were based on the various qualitative observations collected on each site. These ratings categorize the project files into five broad classes. The first three classes, Good, Fair and Poor are based on agricultural or potential agricultural use, while the remaining two classes are generally based on either a non-agricultural use or ALC refusal of the fill application. Table 5 provides a more detailed description on each of the ratings. Within the database and from the collected observations, there was clear separation of the sites from the standpoint of "farmed" or "non-farm use". There was also clear separation of sites that showed the deposition of fill was effective or ineffective in terms of either improving or maintaining agricultural production on the site.

Separating sites that were considered a good use, or a poor use of fill was relatively straightforward. For the good sites there was clear indication of farming activity and healthy crops. In addition, the sites blended well into the landscape from a topographic standpoint. The most common indicators of poor sites were a lack of a change in use, no farm use or extremely poor production indicators such as continued poor drainage or drought conditions demonstrated by imagery or from roadside visual observations. Many poor rated sites had excessive amounts of fill (i.e., domed shape or steep side slopes) or evidence of poor quality materials (i.e., visible coarse fragments).

Section 5.1 provides examples, including photos, of the site ratings (Good, Fair, Poor) while Section 5.2 provides the overall visual ratings for the study area.

Table 5: Visual Rating Criteria for Fill Sites

Rating	Fill (i.e., quality/volume)	Land Use (i.e., agricultural activity, relationship to adjacent uses)
Good (G)	• no perceived quality issues • amount matches or appears to closely match application • volume/depth appropriate to use and adjacent uses	• agricultural activity taking place or could be reasonably expected to take place • no visible issues with crop growth and variability of crop cover less than prior to filling • agricultural activity not out of character with adjoining agricultural uses • no perceived impacts to adjacent land
Fair (F)	• some perceived quality issues (e.g., texture) • amount appears to be inconsistent with application • volume/depth not appropriate to use and adjacent uses	• land is not being actively farmed for soil bound agriculture crops • agricultural use may be reasonable but some noticeable issues • evidence of impacts on crop (e.g., poor growth or variability visible) • land configuration and/or water management infrastructure does, or has the potential to, impact adjacent users (e.g., land is domed, drainages are blocked) • some visual or file information indicating volume of fill placed potentially greater than initially proposed
Poor (P)	• clearly identifiable quality issues (e.g., stones) • amount greater than approved in application • volume/depth excessive in relation to adjacent uses	• land is definitely not being actively farmed for soil bound crops (although it may still have farming capability) • clear evidence of negative crop impacts (i.e., drought or flooding) or land is simply an abandoned fill pad • fill is definitely creating negative impacts on adjacent users (i.e., blocked drainage, steep side slopes) • visual or file information clearly indicating volume of fill placed greater than initially proposed
Not farmed (X)		• land is not being used for farm use or for an allowed non-farm use • land has been converted to commercial/industrial, recreational/park, or strictly residential use • enforcement action underway
Refused (R)		• applications refused by ALC • Note: sites originally removed and subsequently approved and/or sites where filling occurred after a refusal are not included
Unknown (?)		• use and condition in relation to fill proposal cannot be determined based on accessible information • proposed fill activity has not been initiated

5.1 Imagery of Selected Sites to Illustrate Visual Ratings

5.1.1 Example 1: Good Rating. Cropped land used for blueberries.

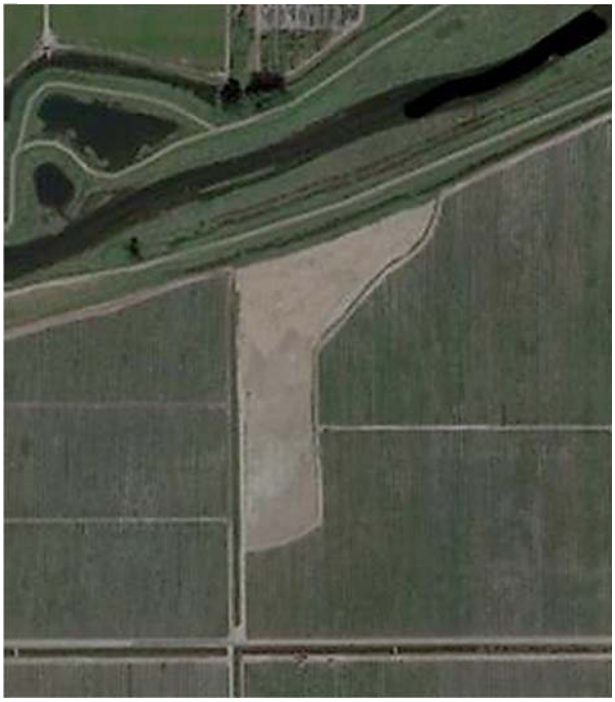
- Uniform crop cover, limited volume, soil fill quality like existing soils.
- First image aerial overview.
- Second image taken from road – area of view indicated by yellow arrows. Note small amount of fill forming berm adjacent to first crop row

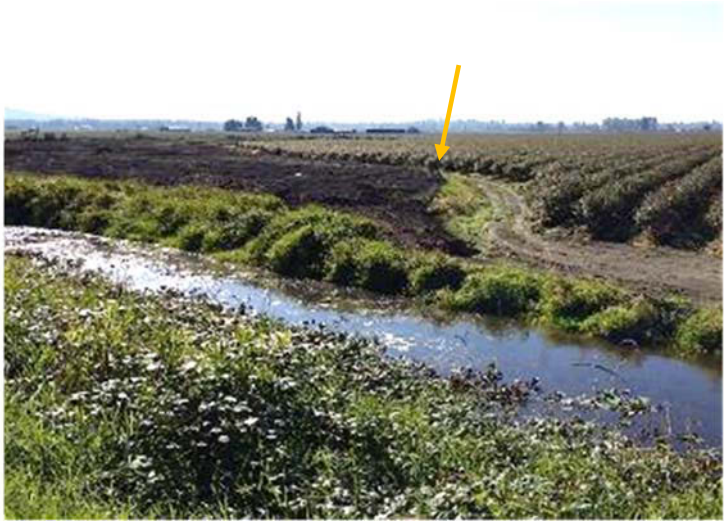
Figure 3: Good rating: land used for blueberries

5.1.2 Example 2: Fair Rating. Land to be cropped to blueberries.

- First image is aerial overview of fill area (light coloured soil with no crop)
- Second image shows how fill is domed with abrupt breaks to adjacent field
- Third image shows significant concentration of coarse fragments within fill

Figure 4: Fair rating: land to be used for blueberries





5.1.3 Example 3: Good Rating. Non-soil bound agriculture for an outdoor livestock area

- First view is aerial overview
- Second image is of area highlighted within the yellow arrows.

Figure 5: Good rating: non-soil bound agriculture

5.1.4 Example 4: Fair Rating Non-soil bound agriculture (nursery/greenhouses).

- Average depth of fill proposed in the application was 0.55 m
- Depth of fill at rear of property is at least 2 m above road grade (images B & C)
- Property at upper end of watershed and land has gentle slope. Fill has potential to impede flow from adjacent properties

Figure 6: Fair rating: non-soil bound agriculture

5.1.5 Example 5: Residential Not farmed X Rating for house fill pads.

- Although these fill pads were not sites within the database they are examples of an X rating
- Fill is placed as preload and is ultimately not to exceed 1 m depth and 2000 m^2
- Of a range of sights surveyed using Google tools – the average area coved by these pads was calculated at 4,800 m^2
- Red boxes outline the extent of fill pads
- Second image is a roadside view of a preload pad estimated to be over 3 m depth

Figure 7: X rating: residential fill pads

5.1.6 Example 6: Poor rating (bare at time of inspection – proposed for blueberries)

- Fill material compacted, fine textured, and litter with coarse woody material
- No topsoil salvaging was evident

Figure 8: Poor rating: proposed for blueberries

5.2 Visual Rating Results

Three sites that had received a refusal by the ALC were included in the visual rating results. These were added as they were observed to have received fill; however, they had not been noted as compliance and enforcement sites and appeared to be suitable for farm use. That meant that 56 (57%) sites were rated for farm uses, 19 (20%) were noted as refused and 23 (23%) were rated as not used for farming purposes.

A surprisingly low number (13%) of approved fill sites were ultimately rated as Good. An additional 18% were ranked as Fair. This left about 37% of the sites rated as Poor (Table 6). Considering that placement of fill was intended to improve the capability, suitability or overall function of agriculture on the site, these results reveal that placement of fill is not necessarily improving agriculture and the continued approval of fill placement as a mechanism for improving capability needs modification.

5.2.1 Distribution of Sites Based on Visual Rating

The tables below are comparing the visual ratings with various aspects of the applications. In Table 6 the visual rating is compared to the approval. In this table there are no clear trends as to why sites were ranked Good, Fair or Poor. One might expect that applications approved with conditions would be more predominantly in the Good rating, but that did not occur, as the outcomes were distributed somewhat equally across the Good, Fair and Poor ratings.

Table 6: Visual Rating versus Approval Status

	Visual Inspection Rating						
Approval status	Good	Fair	Poor	Refused	Not Farmed	Unknown	Grand Total
Approved	6	7	10		12	2	37
Approved with conditions	7	11	8		10	4	40
Refused			2	19	1		22
Grand Total	13	18	20	19	23	6	99

The comparison of visual rating versus reason for fill as proposed in the original application (Table 7) may be the only comparison that presents a trend that should raise a flag for future fill approvals. A significant number of the sites that had indicated drainage issues or improved capability of the site as the reason for the fill application continued to have issues after completion of the fill project. In these instances, the reason for the poor ranking was that the sites remained in very low intensity as abandoned or poorly utilized pasture. Visual inspection of one blueberry site indicated that there were coarse fragments, exposed subsoil, a very rough surface and the crop was in extremely poor condition. Of the sites that ranked as fair, over half were sites with blueberries as the crop in production or intended crop; however, the crops were doing poorly in relation to other blueberry crops on surrounding land or there were visual soil quality concerns.

Table 7: Visual Rating versus Reason for Fill

Reason for Fill	Visual Inspection Rating						
	Good	**Fair**	**Poor**	**Refused**	**Not Farmed**	**Unknown**	**Grand Total**
buildings	1	2	1	3	4		11
drainage	9	3	11	10	9	5	47
drainage / recontour		2	1				3
filling pond	1						1
improve capability	1	9	2	5	1	1	18
improve capability / drainage			1			1	2
landscaping					2		2
paddock	1						1
parking					1		1
ponds					1		1
privacy berms			1				1
public use					1		1
reclamation			1		2		3
recontour		2	2	1	1		7
Grand Total	13	18	20	19	23	6	99

Comparisons were also made for operation type and municipal governments. In both cases the results were interesting but not significant. From the standpoint of operation type, again there was an expectation that sites with soil bound production would be more likely to rank in the Good rating due to the apparent dependency of producers on the soil resource for crop production. This was not the case with only 13% in the Good rating, and about 32% within each of the Fair and Poor ratings. An additional 13% were not being farmed.

Local municipalities are part of the approval and monitoring system for fill applications and have varying levels of oversight in fill applications. When looking at ratings versus local municipality, there was no indication that one municipality fared better than another in terms of the visual rating of sites. See Appendix 2 for tables showing details of these comparisons.

5.2.2 Comparison of Visual Rating to Property Size, and Fill Area, Volume and Depth

Table 8 provides comparisons of the average, maximum, minimum and median for property size, fill area/volume, and depth in relationship to the visual ratings. There was no significant trend although some general characteristics of the sites should be noted.

Good sites

- tended to be large properties with generally smaller fill areas
- primary reason for fill was to improve drainage
- the land had mixed uses, but was primarily soil bound cropping

Fair sites

- tended to be medium size properties with generally the highest fill area percentage
- primary reason for fill was to change capability
- land had mixed uses

Poor sites

- tended to be smaller properties with less areas covered by fill
- primary reason for fill was to improve drainage
- land had mixed uses but was mainly non-cropped

Table 8: Visual Rating compared to Property Size and Fill Amounts

Visual Rating		Total Property Area (ha)	Fill Volume (m^3)	Fill Area (ha)	Depth of fill (m)	Percent of are filled (%)
Good	average	16.0	38,085	3.6	1.4	22.5
N = 13	max	66.1	140,000	14.5	6.1	
	min	2.0	1,400	0.0	0.2	
	median	14.5	24,250	1.4	0.9	
Fair	average	9.4	45,293	7.1	1.6	75.5
N = 18	max	34.7	335,000	69.6	4.8	
	min	1.5	2,000	0.6	0.5	
	median	6.2	14,200	1.9	1.2	
Poor	average	6.9	28,405	2.3	0.9	33.3
N = 20	max	16.1	118,000	6.1	3.1	
	min	1.8	91	0.1	0.1	
	median	5.5	11,500	2.0	0.8	

6 RECOMMENDATIONS RESULTING FROM DATABASE AND SITE REVIEWS

During the review of the application database and sites it became evident that there is a need for some specific guidance and structure on what applications for placement of fill should contain in terms of information. There were clear indications that there is a lack of guidance or knowledge on the part of applicants, agents or Qualified Professionals on what is acceptable in terms of best management practices surrounding the use of fill. Two general topic areas stood out. The first relates to the understanding of agricultural capability versus crop suitability. The second are issues around best management practices for fill placement and the actual management of that placement.

6.1 CAPABILITY VS SUITABILITY

As noted in Section 4.2, the justification for fill provided by most applicants often refers to the desire to change the agricultural capability of ALR land. Although the agents or Qualified Professionals contracted by applicants should be able to provide the clear reason for the fill application, it appears there may a desire to change the site to be more suitable for one use rather than for a range of uses. The terms agricultural capability and suitability are often confused in discussions around the use of agricultural land.

The widely accepted definition of agricultural capability[4] addresses the range of cropping options on the site. This capability rating is the system that laid the foundation for placing of land in the ALR. It is tied to soil and climate and is primarily focussed on soil bound agriculture. The definition of capability does not speak to farm buildings, roads, or other structural features that relate to the movement of equipment or management of water. Capability also assumes that specific management practices (e.g., drainage, irrigation, cultivation, and the application of organic matter or nutrients) may be utilized to reduce the limitations on the range of crops that could potentially be produced on the site.

In contrast, suitability relates to the use of land for a specific crop(s). Although not developed for the wide range of cropping systems in BC, a land suitability rating system has been developed for some cropping systems in Canada[5]. The system generates a rating for specific crops based on soil-climate-landscape potential.

The placement of fill on a site could alter the site sufficiently to change the suitability rating for a specific crop or specific agriculture use in the case of non-soil bound agriculture. The concern arises that by using fill, a site may be converted to one suitability, potentially reducing the range of capability (e.g., rocky fill used to improve drainage for a blueberry farm but limits the production of field crops).

[4] Land Capability Classification for Agriculture in British Columbia MOE Manual 1, 1983, https://www.alc.gov.bc.ca/assets/alc/assets/library/agricultural-capability/land_capability_classification_for_agriculture_in_bc_1983.pdf

> Land capability classification indicates the type and extent of any soil and climate parameters which affect the range of crops that can be grown and/or the management inputs required.

[5] The use of the land suitability rating system to assess climate change impacts on corn production in the lower Fraser Valley of British Columbia, P.-Y. Gasser, C.A.S. Smith, J.A. Brierley, P.H. Schut, D. Neilsen, and E.A. Kenney, Can. J. Soil Sci. 96: 256–269 (2016) http://www.nrcresearchpress.com/doi/pdf/10.1139/cjss-2015-0108

6.1.1 Recommendation

Consideration should be given to include land suitability as part of the application and approval process for placement of fill. This would allow for a more detailed assessment of the land allowing for some consideration of the cumulative effects of multiple limitations (i.e., soil, climate, topography) and the feasibility of a range of improvements (e.g., "normal" land management practices, placement of fill, or a non-farm use).

The key questions that should be answered as part of an application are:

- what is the current suitability? and;
- what is the future suitability for a specific crop or group of crops if the land is intended to remain in soil bound agricultural production?

These questions assume the land will remain or become more capable of producing a range of soil-bound agricultural uses. If the intention is to move away from soil bound production, this then becomes a much broader policy discussion for the ALC.

6.2 Site Specific Approval and Management considerations

Although there is some guidance provided in the current ALC *Regulations* and policy documents (Refer to Section 7), the following highlights some of the more specific set of recommendations for consideration, particularly in terms of the possible development of a "best practices guide for the placement of fill in the ALR". Appendix 1 includes more details on each of the following.

Site conditions

Has the inherent capability and suitability of the site been fully assessed prior to consideration of placement of fill as an option? The application should only be for improving capability.

Fill specifications

What are the characteristics of the fill materials and site in terms of texture, coarse fragment content, contaminants, and organic matter? The proposal must fully detail these and the potential risks and benefits related to them.

Conditions for fill approvals

Specific conditions such as topsoil salvage or the appropriate additions of soil amendments such as compost should be included in the proposal particularly as they relate to nutrient management on the site.

Depth and Fill Volumes

How much fill is required? This may be the most challenging question, although there are some valid reasons for setting reasonable limits on depth and volume particularly related to normal agricultural soil and water management.

Slope or Grade of Land

What is the slope or grade of the site and how will it be changed and why? Slope as it impacts surface drainage is only part of the consideration for water management; however, shedding water to adjacent lands may cause negative impacts. Slope may also impact future land use or site stability.

Bonding or Security

A consistent approach to collection of a bond related to fill volume and property size may counteract the perceived significant economic benefits from placement of fill.

Consistency of Plans Requirements for Placement of Fill Applications

Placement of fill proposals and site monitoring and closure reports have lacked consistency in both content and quality. The expectation of what is required and who is qualified (e.g., a QP) needs to be clearly specified.

Water control

This project was focused on sites within MVRD which has a moderate oceanic climate characterised wet winters and moderately dry summers. This means that water management, particularly as it relates to drainage and off-site impacts must be included in any proposal. Fill applications must also include considerations for impacts on irrigation.

6.3 Other Recommendations

The following recommendations go beyond those noted above that are site specific. At a regional level fill generated from construction or redevelopment activities has the potential to go to broader uses. The movement of fill material could also be controlled at a regional level to ensure a highest and best use rather than a rapid and simple 'disposal'.

6.3.1 Potential locations for fill deposition across the region

1. Dike construction. With the current predictions related to climate change there has been a significant amount of discussion around the need to raise and strengthen dikes. Although all fill materials may not be suitable for dike construction this option for fill could be a more appropriate use than land application.
    - The Fraser Basin Council is one source of information on diking needs https://www.retooling.ca/coastal_management.html
2. Backfilling of aggregate extraction sites. This is an option that is not being fully utilized, based on observation and personal communication.
    - Recommend use of guidance documents such as the 2004 Alberta Environment Code of Practice Guide for Pits http://aep.alberta.ca/land/land-industrial/programs-and-services/documents/GuideCodePracticePits-2004.pdf
3. Agency management or oversight. For either one of these options an overall single agency approach may be required to manage the movement of fill to the sites. This could be a provincial regulator such as the Ministry of Forests, Lands and Natural Resource Operations and Rural Development who are responsible for dike inspection.

6.3.2 Municipal control of Fill Movement

1. Development plan and construction approvals. As part of the municipal approval processes for redevelopment or issuance of building permits, a developer should be required to file a detailed plan indicating how excess soil materials or fill will either be used on site, separated to prevent contamination and the receiving end location of the removed materials. Separated topsoil and clean organic materials could be used to benefit final reclamation of a construction site rather than being removed off site. If they are moved off site, they could be targeted for use as topsoil

applications on appropriate soil bound agriculture production sites. Subsoil materials should be used for dikes, aggregate pit back fill or as subgrade on fill sites for farm buildings rather than final grade materials on fields.

7 PART THREE: REVIEW OF CURRENT LEGISLATION, REGULATION AND POLICY

There are several pieces of legislation, regulation and policy currently in use by the Agricultural Land Commission. The ALC legislation includes the *Act*, and the *Regulation*. The following section highlights the parts that govern fill use in the ALR.

7.1 AGRICULTURAL LAND COMMISSION ACT

Section 20 of the *Act*, [SBC 2002] Chapter 36 (ver. Current to Dec 6, 2017), titled, "Use of agricultural land reserve", pertains directly to the discussion of fill (see Appendix 3 for the text of Section 20). In addition, the definitions of "farm use", 'fill', "non-farm use", and "soil" play a role in the determination of the use of fill in the ALR.

Definitions of Note

> *"farm use" means an occupation or use of land for farm purposes, including farming of land, plants and animals and any other similar activity designated as farm use by regulation, and includes a farm operation as defined in the Farm Practices Protection (Right to Farm) Act;*
>
> *"fill" means any material brought on land in an agricultural land reserve other than materials exempted by regulation;*
>
> *"non-farm use" means a use of land other than a farm use;*
>
> *"soil" includes the entire mantle of unconsolidated material above bedrock other than minerals as defined in the Mineral Tenure Act;*

7.2 AGRICULTURAL LAND RESERVE USE, SUBDIVISION AND PROCEDURE REGULATION

There are four critical sections of the Regulation which pertain directly to the discussion of fill. These are Section 2: Activities designated as farm use, Section 3: Permitted uses for land in an agricultural land reserve, Section 4: Notification requirements for specified farm uses, and Section 5: Notification requirements for specified non-farm uses.

In addition, there are four other sections that pertain to the administration of applications, fees and penalties related to the application of fill and the use of land within the ALR. These are Sections 29, 33, 33.1 and 35. (See Appendix 3 for abbreviated text of these sections).

One definition of note in the *Regulation* that plays a role in determining the use of fill in the ALR is the term 'farm'.

> *"farm" means an occupation or use, for farm purposes, of one or several parcels of land or tenured areas of Crown land;*

7.3 OPTIONS TO REVISE THE ALC *ACT* AND *REGULATION*

Both the *Act* and *Regulation* relate to fill in two separate ways "allowed use" and "non-farm use". During the field investigation, numerous examples were evident where applicants appear to be abusing the intent of these uses. Observations included filling with excessive volumes, damage to lands or potential harm to adjacent lands. This portion of the report provides some interpretation of the relevant sections and observations made in relation to those sections.

7.3.1 Allowed Use Applications

- Fill can be placed on land in relation to drainage and irrigation infrastructure (Section 3(1) of *Reg*.). If the amount of fill is directly related to that infrastructure and not a widespread use to alter floodplain elevation, it can be allowed.
    - Recommend revising the *Regulation* as there are several examples of excessive use of fill under the guise of diking blueberries and cranberries that have caused harm to others, fouling of watercourses, and even the creation of unstable water storage reservoirs above existing grade. There appears to be a few landowners who, by their use of fill, dike their fields without dealing with traditional on-farm drainage, or grow unsuitable crops on whatever land they can purchase regardless of the capability limitations.

- Fill placed in relation to the "farm house" (Sec. 18 *Act*). Fill can be placed on 0.2 ha and 1 m above grade without a non-farm use application.
    - Recommend revising both the *Act* and *Regulations* or policy related to fill pads for dwellings. As an example, an area along 40th Ave roughly between 152nd and 176th Streets within the City of Surrey has numerous instances of these conditions being stretched. Most of these fill pads are placed on small parcels (less than 10 ac or 4 ha). The average fill pad size for house + driveway+ some accessory use is almost double (0.48 ha) the size allowed (range 0.17 to 1.23 ha) and most pads are well above the 1 m elevation allowed (based on Lidar/contour data and visual observations). Although several sites are still in a preload stage, most have structures in place. The fill pad and its placement have created a larger footprint that cannot be farmed due to slope and location of the pad. Many are set well back (>60 m) from road frontages and have a final thickness exceeding the allowed 1.0 m.

- Fill placed in relation to "farm use" activities (activities that cannot be prohibited). The area that can be filled must be less than 2% of the property for the allowed use unless specific conditions (Sec. 4 *Regulation* (abbreviated below)) are met. This section allows for broader use of fill subject to notification and with limited conditions for *"… the construction, maintenance, and operation of ... a greenhouse, … an intensive livestock operation or for mushroom production, … an aquaculture facility, … a composting facility for the production of Class A compost (defined by OMRR) or from agricultural waste, … if the area is over 2% of the parcel; and a turf farm...* "
    - Recommend consultation between local government building approval process and ALC staff to consider some changes to *Regulation*, Bylaws, or policy. This section of the *Regulation* seems to be experiencing some abuse or stretching of the need for fill. Fill is

being applied in greater volumes/depths than required for the foundations of the proposed operations or under the guise of a future use that is not consistent with the agricultural character of the land or surrounding properties.

7.3.2 Non-farm Use Applications

Under Section 29 of the *Regulation* in relation to Sec. 20 (Use) & Sec. 21 (Subdivision) of the *Act*, persons may apply for a non-farm use within the ALR.

- Applications for placement of fill occur under this section when they fall outside of the allowed use, for example, when fill is used to do one or more of the following:
    - raise the land above floodplain for buildings
    - reclaim the land to a higher capability (or for aggregate extraction)
    - prepare the land for a completely different agricultural use (e.g., grapes in a “wetland”or organic waste management, or “horse estates”)
    - change the grade/elevation of the land, including orientation towards the sun
    - improve drainage for crops - without using traditional farm drainage methods/tools (although the cropping is a farm use, applications are made under this provision when fill volumes are substantive)
    - conduct processing of farm products
    - provide additional space for farm family or farm worker housing
    - aesthetics - landscaping of the rural/farm estate

- Recommend review or changes to the interpretation of non-farm use within the ALR and what is deemed to be an acceptable application of fill for non-farm use. Visual examination of sites within the ALC database has indicated that many of the approved sites have issues. These include the over application of fill creating "landing pads" or “domes”. The **“**landing pads” are often substantially elevated above surrounding grade and have abrupt side slopes. The “domed” sites seem to be designed to shed water to adjacent land; however, in several instances the crops planted in these sites were not performing any better than surrounding unfilled lands. There are many situations where the future use proposed in the application is not yet occurring and the land is in non-farm use. There were also a few instances where it was clear that the fill materials were of poor quality (i.e., high coarse fragments percentages or texture/structure is substandard for cropping use).

There was evidence that this was creating impacts to adjacent land and in several instances the crops planted in these domed sites were not performing any better than surrounding unfilled lands.

7.4 Review of ALC Policies and Report Criteria

Of the several policies currently approved by the ALC, five policies, and one report criterion are of particular interest to the discussion of fill. These are:

7.4.1 Policy L-13, January 2016 – Activities Designated as A Permitted Non-Farm Use: Dikes for Flood Control and Irrigation in the ALR.

The policy specifically references Section 3(1) of the *Regulation*. Although the *Regulation* does not allow for widespread or area-based filling, it does allow for flood control or irrigation measures. Dikes can be used to prevent freshet flow and/or sea level flooding and/or impacts of seasonal storm flows. *Flood control works in and about a stream, regardless of their nature, are subject to the provisions of the *Water Sustainability Act (WSA)*. Works may also be used to capture or detain flows for irrigation purposes. *Water diversion and storage for irrigation must be licenced under the *WSA*. The policy indicates the amount of fill placed or soil removed for drainage or irrigation purposes must be justifiable to the Commission. (Note: items identified with "*" are deemed to be "work"' under the *WSA*).

Suggested clarifications:

The policy is generally acceptable but has a weakness in that it does not require the services of a QP (PEng or PAg) with applicable water management training and expertise to plan/design/approve the "proposed works". The impact of these works on the subject property and adjacent properties must be part of that consideration. The policy should also reference the *Water Sustainability Act*.

7.4.2 Policy L-15, January 2016 – Placement of Fill or Removal of Soil: Construction of a Single-Family Residence

The policy specifically references Section 18 of the *Regulation*. The policy discusses the definition of what constitutes a single-family residence and the associated structures and works related to that residence. It also places limits on the fill depth and land coverage by the fill pad and driveway access.

Suggested clarifications:

The policy is reasonable but has some weaknesses. The policy states that these areas are 0.2 ha, many are exceeding this size, are being placed beyond the 60 m suggested setback of the "home plate", and have a thickness of more than 1.0 m (see notes under Allowed Use Applications, Section 7.3.1). The policy should be updated to include the "home-plate" criteria specified in the Guide to Bylaw Development in Farming Areas (BC Ministry of Agriculture, 2015.)

https://www.alc.gov.bc.ca/assets/alc/assets/library/land-use-planning/guide_for_bylaw_development_in_farming_areas_2015.pdf.

7.4.3 Policy L-14, January 2016 – Placement of Fill or Removal of Soil: Construction of Farm Buildings

The policy specifically references Sections 1.1, 2 and 2(4) of the *Regulation*. The policy discusses the appropriate placement of fill or removal of soil to construct farm buildings where the area of the farm building is less than 2% of the area of the parcel. It also notes that fill used to raise land not directly associated with the building requires a non-farm use application. Where buildings exceed 2% parcel coverage, Section 4 of the *Regulation* is referenced.

Suggested clarifications:

The weakness in the policy relates to farm-use and non-farm use designations. Designation of an activity as a farm-use (*Act*) implies that there are limited restrictions that can be placed on the placement of fill or removal of soil if the land owner is carrying out a farm use. Some additional issues that arise are: 1) how enforceable is the restriction of 2% coverage and is it only for the building footprint for non-farm use applications?; 2) what are the reasons for the application?; and, 3) what are the provisions in the application or approval and are the provisions enforceable or being enforced?

7.4.4 Policy L-23 Oct. 2017 – Placement of Fill for Soil Bound Agricultural Activities

This policy relates specifically to the placement of fill for non-farm use under Section 20 of the *Act*. It attempts to create a guidance template for the soil and site considerations which must be covered in any proposals submitted to the ALC. It also provides some indication of the best management practices that must be part of the fill placement proposal if the activity is approved.

Key to the review of the proposed applications is that the fill placement must be a positive improvement to the land. The activity must also not cause harm to the land or to adjacent land.

Suggested clarifications:

- It is not clear who defines the "standard agricultural best practices". It may be appropriate to add more details. These should include soil management practices e.g., cultivation and incorporation of soil amendments, and the use of water management tools including both drainage and irrigation practices.
- The limit of 0.5 m above maximum water table should be clarified to be water table in soil, not the level of water during inundation events. This also needs clarification in terms of remediation of adverse topography (T) and excess water (W) limitations if they are micro topographic areas within a field that may exceed the 0.5 m depth (e.g., the hummocky nature of the Whatcom-Scat-Nicholson (glacial marine sediments) soil complexes found in the Township of Langley).
- Having the finished grade sloped to provide a smooth transition to adjacent landforms is an appropriate recommendation, although there should also be a note that the property should not shed water to adjacent land without due consideration of how that water will be managed to prevent harm. Overall hydrology of the watershed in which the property resides must be considered.
- Allowing fill placement activities to extend up to two years is inconsistent with most local bylaws (within MVRD) which have a one-year permit term.

7.4.5 Policy P-10 Oct. 2017 – Criteria for Agricultural Capability Assessments

This policy is intended to provide information for professional agrologists submitting agricultural capability assessment reports. It lays out the specifics of what is required in a professional report to support agricultural capability assessments.

Suggested clarifications/additions:

- The policy limits agricultural capability assessments to only one professional licensing body in British Columbia, the BC Institute of Agrologists. The work of qualified

professionals licensed to practice under another body, such as Registered Professional Biologists or Professional Engineers and Geoscientists, should be accepted under the policy.

- Soil pit descriptions should also include horizon thickness and root abundance.
- Laboratory data should be used to revise fertility ratings. Since the standard soil survey and agricultural capability references do not have threshold values for available nutrients or "toxic elements or compounds", the following additional references should be added.
    - BC Ministry of Agriculture. 2012. Fraser Valley Soil Nutrient Survey (specifically, Table 4 soil nutrient risk ratings) https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/agricultural-land-and-environment/soil-nutrients/nutrient-management/technical-reports/soil-nutrient-studies
    - *Contaminated Sites Regulation*. B.C. Reg. 375/96. (specifically, Schedules 4 and 5 Column II Agricultural soil standards) http://www.bclaws.ca/civix/document/id/complete/statreg/375_96_07
- References in relation to 'Anthropogenic soils' are not included and should be added since there is a strong likelihood that professional agrologists will encounter non-natural soils in areas that have been under intensive agricultural production.
    - Pennock, D.J., K. Watson, and P. Sanborn. 2015. Section 4. Horizon Identification. From: D. Pennock, K. Watson, and P. Sanborn. Field Handbook for the Soils of Western Canada. Canadian Society of Soil Science. http://www.soilsofcanada.ca/links.php

7.4.6 Criteria for Technical Report Submitted by Consultants (Resource Extraction and Fill Placement)

These criteria have been derived to establish consistency in the quality and format of technical reports submitted to the ALC.

Suggested clarifications/additions:

- Section 2.4 of the document references existing drainage conditions on the land and adjacent properties. Increasingly, changes to soil-bound production also focus on the need for and operation of irrigation systems. Additions of fill should not adversely affect soil capability for irrigation. Appropriate irrigation water supply is not a given for all land in the ALR, so an assessment of irrigation capability and irrigation water supply should be added as a consideration within the technical reports.
- Most references, including this technical report criteria which are used to report project criteria and rehabilitation plans, do not specifically mention soil fertility levels or soil amendment use. This report criteria document may not be the best reference location but a best practices reference document should add additional information or criteria for soil quality (e.g., nutrient levels, OM%, pH, EC etc.)

7.5 BYLAWS

7.5.1 Review of Municipal Soil Bylaws

Local government soil removal and soil/fill deposit bylaws are in place in the seven "rural" municipalities within the MVRD. They were reviewed (Table 9) indicating a wide array of approaches to regulating soil removal and fill placement.

Table 9: Municipal Government Soil Deposit and Removal Bylaws

Municipality	Bylaw name	Number and Year
City of Delta	*Soil Deposit and Removal Bylaw*	7221 (2014)
City of Richmond	*Soil Removal and Fill Deposit Regulation*	8094 (2007) (amended No. 9002 (2017))
City of Coquitlam	*Soil Removal and Deposit Regulation*	1914 (1988) (last updated No. 4715 (2017))
City of Pitt Meadows	*Soil Removal and Fill Deposit Regulation Bylaw*	2593 (2013) (updated No. 2710 (2015))
City of Maple Ridge	*Soil Removal Bylaw*	6398 (2006) currently under review
Township of Langley	*Soil Deposit and Removal Bylaw*	4975 (2013) (amended No. 5120 (2015))
City of Surrey	*Soil Conservation and Protection Bylaw*	16389 (2007) (amended No. 17324 (2011))

While no two bylaws contain the exact same language, there are some similarities. The following topics are found in most of the bylaws:

- **Threshold volumes.** These are the volumes over which permits are required. The threshold is usually less than 100 m^3.
- **Permits.** All the bylaws contained permit provisions with varying levels of detail required to process the permit application. The details required ranged from simple application forms to detailed qualified professional reports.
- **Permit application fees**. All bylaws indicated a non-refundable flat rate permit fee with several requiring an additional fee per unit volume (e.g., \$0.50/m^3).
- **Detailed site management and reporting plans**. All bylaws required varying forms of site design/activity plans prior to an application being accepted for review and/or in advance of permit issuance, including documentation from appropriate professionals on the design operation and reporting of the fill or removal activities.
- **Security**. Not all bylaws required security and the level of security and its management is highly variable. Most municipalities that have a provision to charge a security use a per cubic meter rate (e.g., \$5/m^3) or some using a per hectare rate (e.g., \$2,500/ha).

- **Regulation**. Once a permit is granted regulating the activity is a key focus for all including nuisance related issues (i.e., noise, traffic, dust, etc.) and volume reporting.
- **Offences and penalties**. Penalties relating to permit conditions are included in all but the penalty level was quite variable, from as low as $2,000 up to full costs.
- **Insurance**. A requirement for General Liability Insurance is common.

Recommendations for Municipal Soil Bylaws:

As either a best practice or as a "Ministers Standard", a bylaw template should be developed such that there are standard sections and equivalent requirements for the removal of soil and/ the placement of soil/fill. Section 551 of the *Local Government Act* provides authority to the Minister of Agriculture to establish agricultural standards for local governments as they prepare bylaws that affect agriculture. Although not a bylaw standard, the Ministry of Agriculture information sheet "Guidelines for Farm Practices Involving Fill" was prepared as an attempt to provide some guidance for the appropriate use of fill. However, it did not provide guidance on how fill should be regulated by a local or provincial government.

In addition to a bylaw standard, coordination between the ALC and local governments is required. During discussions with the Advisory Committee it became clear that there is a need to coordinate a process on how fill applications should be reviewed, shared and approved. This approach should include fill applications that require a NOI as well as those requiring a non-farm use application. One reason for this is that a decision to allow a fill project could be overturned within 60 days by the Commission chair. If a local government were to issue a permit within that 60-day period, the project may have proceeded to a substantial degree making regulatory action and reclamation a challenge. A second reason is that uses of fill covered under a NOI may require building permits as well as soil/fill permits from the municipal government.

7.5.2 ALC Bylaw Authority

The ALC has the legislative authority under Section 9 of the *Act* (see below) to create other regulatory tools beyond the current use of policies.

> ***ALC ACT***
> ***Operation of the commission***
> ***9*** *The commission may pass resolutions and bylaws it considers necessary or advisable for the management and conduct of its affairs, the exercise of its powers and the performance of its duties and functions.*

Recommendations for an ALC Bylaw:

Although the specific wording is the realm of legislation drafters, the following are the recommended topic areas that should be included in an ALC fill placement bylaw.

- Clear definitions of what constitutes acceptable fill materials, particularly in relation to quality.
- Provision of general best management practices or linkages to best management practice guidance requirements for fill site design, operation, and closure such that there is limited risk to the land, adjacent land, and future use.
- Clear definition of farm activities that could benefit from the appropriate use of fill

- Linkages with other legislation such as *Water Sustainability Act* as to how filling impacts water and works in and about a stream. This should include impacts on wetland, drainage, water storage, and construction of flood protection or irrigation structures.
- Linkages to legislation such as *Species at Risk Act* (s) and how filling activity could harm or benefit habitat for threatened or endangered species.
- Addition of specific requirements for contents of application and reporting, including plans on how the site will be operated, managed and "closed".
- Inclusion of application and permit fees, financial security (bonds), and insurance as mandatory requirements of for a fill project.
- Clear definition of the roles and requirements of the applicant, agent, QP, local government, and ALC in how an application is handled.

APPENDIX 1 DRAFT CONCEPTS FOR A "BEST PRACTICES GUIDE FOR THE PLACEMENT OF FILL IN THE ALR"

Site conditions

- What was the inherent capability? The application should only be for improving capability.
- Is the current or intended activity soil-bound?
- What was the inherent utility for the intended purpose? Is the intended purpose appropriate?
- Is or was the site farmed?
- Is there topsoil/organics worth salvaging?
- Can the site be graded rather than filled?
- Are standard (normal) soil management practices such as drainage, irrigation, and cultivation in place or capable of being put in place to reduce or eliminate the need for fill?

Fill specifications

- Texture:
  - fill materials should not be not more than two textural classes different than existing soil;
  - fill material should be well sorted, falling within one or two textural classes; and,
  - fill material should be less than 40% clay and less than 80% sand, unless a very specific reclamation plan details sound academic reasons for being outside these conditions.
- Coarse fragment (CF) and organic matter percentage (OM%) of fill should be appropriate to end use without limiting capability and future soil-bound use.
- Coarse fragments should be less than 10% of total volume (CF being greater than 7.5 cm). If the site was stone free, then the fill must be stone free as rock picking has limited practicality and success.
- Organic materials deposited as amendments with the fill project need to meet *OMRR* Class A compost standards (or class B if accompanied by an approved "land application plan") and not be used as a fill (i.e., mixed into existing site or added to mineral fill soil or applied as a mulch/top-dress for a specific cropping plan).
- Foreign matter and contaminant levels should meet or exceed Agriculture Limits in specified Schedules of the *Contaminated Sites Regulation* (i.e., metals/organic compounds) or *OMRR* for organic amendments (e.g., less than 1% foreign matter).
- Woody materials (large woody debris (LWD) in water or coarse woody debris (CWD) on land) should not be acceptable unless specific "biodiversity" habitat features are being incorporated/required for the site (i.e., conditions of approval by environmental regulators if wetlands or watercourses are being impacted). This must be part of the application plan.

Conditions for fill approvals

- Topsoil salvage: Approvals must contain requirements for topsoil salvage. The best management guide would provide details on how this could be achieved and guidance for appropriate use of the salvaged topsoil.
- Additions of appropriate soil amendments: Conditions of approval fill applications and best practices should require the appropriate use of soil amendments such as compost during or after filling activity for soil bound cropping to improve soil quality, tilth, and nutrient levels.

Depth and Fill Volumes

- For fields, the depth of fill should not be more than 0.5-meter on average over the entire cropped area. This also assumes topsoil salvage or incorporation of topsoil like materials at the soil surface as part of the depth calculation. The plan must include drainage works for fill that is placed in wet areas. Plans should also include evidence of considerations for irrigation water supply if fill will remove potential for subsurface irrigation or is designed to improve capability for soil-bound agriculture operations that require irrigation.

Table 10: Query Results - Fill Depth and Volumes for Approved Applications

	Total Property Area (ha)	Fill Volume (m^3)	Fill Area (ha)	Depth of fill applied (m)
average	14.3	29,890	4.5	1.0
median	7.0	16,500	2.0	0.8
maximum	168.0	335,000	69.6	6.1
minimum	0.4	91,000	0.0	0.1
count	77 (Note: one approved extraction site was removed from this data)			

Slope or Grade of Land

- Land should not be sloped to shed water to any adjacent properties without the addition of a water management system (i.e., ditches and subsurface drains).
- Doming an existing site which results in more land consumed by ditches and "unfarmable" slopes (>5% grade) is not acceptable.
- Creation of "landing platforms" (fill pads with steep side slopes) should not be allowed in any proposal.

Consistency of Plans Requirements for Placement of Fill Applications

All applications under "non-farm use" and many under the wider scope of "allowed use provisions" come into the ALC accompanied by a report from a Qualified Professional (QP). The conditions of the application approval then require some form of monitoring and reporting of the project by the QP. From detailed review of a selection of files there appears

to have been many inconsistencies and issues to the policy and procedures for accepting and reviewing reports. The lack of consistent and proper monitoring has likely been the result of ALC staffing levels and expertise, the provisions of the *Act* and *Regulation*, and the qualifications/integrity of the QPs.

- Plans must be completed by a Qualified Professional (QP). "QP" does not simply imply a designation, it requires a level of knowledge, training, experience, and reliability/integrity.
- The criteria for a QP to complete an agricultural capability assessment could be mirrored to provide similar requirements for a QP completing plans for the application of fill. These plans need to go beyond the scope of the simple application of the fill to include impacts on issues such as local hydrology.
- Who reviews the plans? If the QP completing the plan is qualified, then there should be limited concern about who is reviewing the plan as long as all the necessary elements are covered. However, the local government and/or ALC should retain an individual (employed or contracted) to provide a third-party review.
- Who oversees activities on site and who reports on those activities? The conditions of the approval should specify who should monitor a site and how often it should be done. It should also include the level and frequency of reporting.
- Approving agencies must review and follow through with actions if site plans and monitoring are not followed.

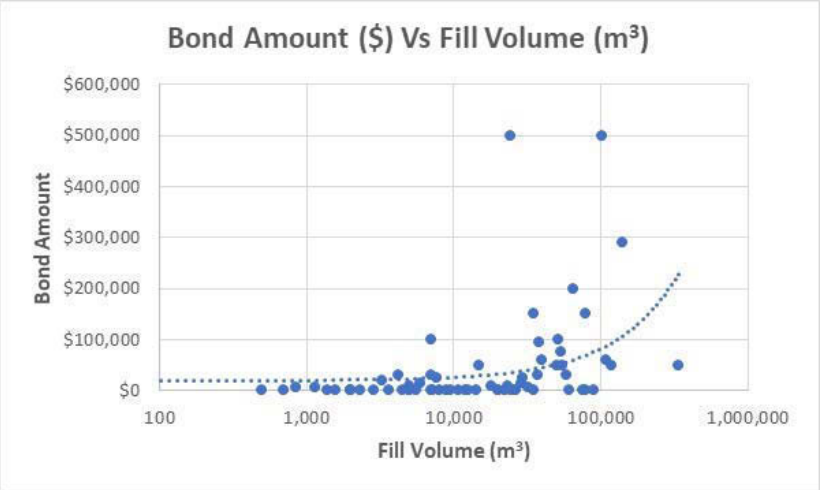
Bonding or Security

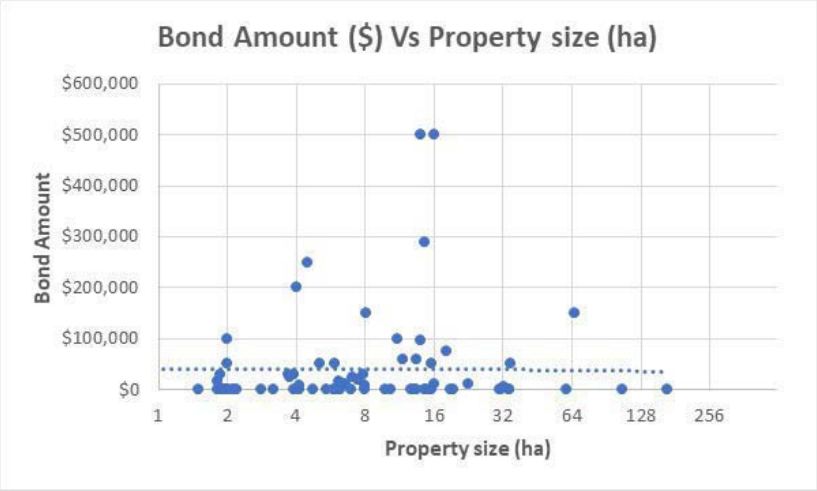
- With tipping fees paid to 'dump' fill reported to be from $100 to $200 per truck load (12 -14 m^3), there appears to be significant financial incentive to receive fill materials.
- Example:
  - Tipping fee paid ≈ $42,000. Assume 0.50 m spread over 1 ha @ 12 m^3/load = 416 loads X $100 per load
  - Cost to remove this volume could be upwards of $25,000. This would be based on easy removal using a bucket loader, a fleet of trucks and a short haul under ideal operating conditions. No restoration costs are included.
- Most local governments have soil deposit bylaws which require some form of security above and beyond the permit fees collected.
- Security at a local government level is primarily based on volumetric formulas ranging from $0.5 to $5.0 per m^3. Some use a per hectare rate. Several do not have an upper limit on the bond. Note that bonding rates are under review by at least two municipalities to increase the per cubic meter rates.
- The system of bonding, based on the information gleaned from the database and ALC files, has not been managed in a consistent fashion. It has not been tied to either fill volume or property size. The requirement for or release of the bonds has not been handled in a similar fashion for all files. Bonds have not increased based on an increase in volume nor have they been tied to property size. In some cases, no bonds were collected, in other cases bonds were released before the final closure of the file.
- The ALC should follow a system of bonding that is similar to that of the permitting municipality. The bond could be collected in conjunction with the permitting the

municipality, where the bond is collected, on a per unit basis. The unit should be $/m^3 with a minimum amount specified.

- The figures below provided a comparison of bond amount ($'s) to both fill volume (m^3) and property size (ha) based on information collected in the database and ALC Decision files.

Figure 9: Database Query Results Bonds Vs Fill Volume or Property Size





Water control

- Has a full hydrological assessment been completed (or is it required?). The following are situations when an assessment should be required:
  - The proposal is to create dikes to protect against freshet, winter storm or sea level rise flooding.

- The applicant is intending to fill wetlands or raise low areas over more than 25% of the property. This will likely adversely impact flood mitigation or wildlife habitat.
- Fill will be blocking or diverting flow to or from adjacent properties. The impacts on adjacent or downstream lands must be reviewed.
- The proposal is to create wetlands or other water holding features to capture rather than discharge water. This would include the creation of irrigation or storm water management reservoirs.

APPENDIX 2 ADDITIONAL VISUAL RATING TABLES

Additional Comparisons of Visual Ratings to Operation Type (Table 9) and Municipal Government (Table 10).

Table 11: Visual Rating Versus Operation Type

Operation type	Visual Inspection Rating						
	Good	Fair	Poor	Refused	Not farmed	Unknown	Grand Total
aquaculture					1		1
berries	2	7	3	6	3	2	23
commercial				1	3		4
composting					1		1
farm yard			1	1	1		3
forage	3	3	2	2	2		12
gravel pit					1		1
greenhouse	2	3					5
industrial		1					1
livestock	4	1	3	1	2	1	12
mixed	1		1				2
nursery	1		1		1		3
pasture		2	4	3			9
recreational					4		4
residential			1	2	4		7
turf			1			2	3
vacant	1		3	1			5
vegetables				2		1	3
Grand Total	13	18	20	19	23	6	99

Table 12: Visual Rating Versus Municipal Government

Municipal Government	Visual Inspection Rating						
	Good	Fair	Poor	Refused	Not Farmed	Unknown	Grand Total
City of Coquitlam					1		1
City of Pitt Meadows		2		1	5		8
City of Richmond	1		1	2	2	2	8
City of Surrey	2	2	2	2	1		9
Corporation of Delta	2	1	1				4
District of Maple Ridge		1		1			2
Township of Langley	8	12	16	13	14	4	67
Grand Total	**13**	**18**	**20**	**19**	**23**	**6**	**99**

APPENDIX 3 *ALC ACT* AND *REGULATIONS*

Agricultural Land Commission Act

Section 20 is a key section of the *Act*, [SBC 2002] Chapter 36 (ver. Current to Dec. 6, 2017) which pertains directly to the discussion of fill.

Relevant Section of Act

Use of agricultural land reserve

20 (1) A person must not use agricultural land for a non-farm use unless permitted under this Act.

(2) For the purposes of subsection (1), except as provided in the regulations, the removal of soil and the placement of fill are non-farm uses.

(3) An owner of agricultural land or a person with a right of entry to agricultural land granted by any of the following may apply to the commission for permission for a non-farm use of agricultural land:

(a) the Surface Rights Board, or its predecessor, the Mediation and Arbitration Board, under the Petroleum and Natural Gas Act, the Mining Right of Way Act or section 19 of the Mineral Tenure Act;

(b) [Repealed 2010-9-1.]

(c) any other authority under an enactment.

(4) A person who intends to use agricultural land for a prescribed use that involves soil removal or placement of fill must give notice of that intention to the commission in the prescribed form at least 60 days before engaging in the intended use.

(5) In response to a notice under subsection (4) or if a person engages in a use specified in subsection (4) without giving the required notice, the chief executive officer, by written order, may

(a) if the owner of the land agrees to restrictions on the use, specify terms and conditions for the conduct of that use of the agricultural land, or

(b) order that an application to the commission under subsection (3) is required for permission to engage in the use and may include as a term in the order that the person cease or not engage in the use until the application is determined.

(6) If the chief executive officer does not respond to a notice under subsection (4) within 30 days by making an order under subsection (5), the owner of the land may engage in the intended use.

Agricultural Land Reserve Use, Subdivision and Procedure Regulation

There are four critical sections of the Regulation which pertain directly to the discussion of fill. These are Section 2: Activities designated as farm use, Section 3: Permitted uses for land in an agricultural land reserve, Section 4: Notification requirements for specified farm uses, and Section 5: Notification requirements for specified non-farm uses. There are four other sections of note that pertain to the administration of applications, fees and penalties. These are Sections 29, 33, 33.1 and 35.

Relevant Sections of Regulation

Part 2 — Permitted Uses

Activities designated as farm use

2 *(1.1) The activities designated under this section as farm uses for the purposes of the Act must not be prohibited*

(a) by any local government bylaw except a bylaw …, or

(b) by a law of the applicable treaty first nation government, …

(2) The following activities are designated as farm use for the purposes of the Act:

(a) farm retail sales …

(c) storing, packing, preparing or processing farm products, …

(d) land development works including clearing, levelling, draining, berming, irrigating and construction of reservoirs and ancillary works if the works are required for farm use of that farm; …

(i) the storage and application of fertilizers, mulches, and soil conditioners;

(j) the application of soil amendments collected, stored, and handled in compliance with the Agricultural Waste Control Regulation, B.C. Reg. 131/92; …

(k) the production, storage, and application of compost from agricultural wastes produced on the farm for farm purposes in compliance with the Agricultural Waste Control Regulation, B.C. Reg. 131/92;

(l) the application of compost and biosolids produced and applied in compliance with the Organic Matter Recycling Regulation, B.C. Reg. 18/2002;

(m) the production, storage and application of Class A compost in compliance with the Organic Matter Recycling Regulation, B.C. Reg. 18/2002, if all the compost produced is used on the farm; …

(o) the construction, maintenance and operation of farm buildings including, but not limited to, any of the following:

(i) a greenhouse;

(ii) a farm building or structure for use in an intensive livestock operation or for mushroom production;
(iii) an aquaculture facility; …

(2.1) A winery or cidery, and ancillary uses, are designated as farm uses …
(2.3) A brewery, distillery or meadery, and ancillary uses, are designated as farm uses …
(3) Any activity designated as farm use includes the construction, maintenance, and operation of a building, structure, driveway, ancillary service or utility necessary for that farm use.
(4) Unless permitted under the Water Sustainability Act or the Environmental Management Act, any use designated under any of subsections (2) to (2.3) includes soil removal or placement of fill necessary for that use as long as it does not
(a) cause danger on or to adjacent land, structures or rights of way, or
(b) foul, obstruct or impede the flow of any waterway.
(5) The removal of soil or placement of fill as part of a use designated under any of subsections (2) to (2.3) must be considered to be a designated farm use and does not require notification except under section 4

Permitted uses for land in an agricultural land reserve
3 *(1) The following non-farm uses are permitted in an agricultural land reserve unless otherwise prohibited by a local government bylaw or, for lands located in an agricultural land reserve that are treaty settlement lands, by a law of the applicable treaty first nation government: …*
(k) aggregate extraction, if the total volume of materials removed from the parcel is less than 500 m^3 and if
(i) any previous extraction from the parcel is rehabilitated in accordance with subsection (3) before a further extraction is made, and
(ii) the cultivatable surface layer of soil is salvaged, stored on the parcel and available for rehabilitation in accordance with subparagraph (i); …
(n) construction and maintenance, for the purpose of drainage or irrigation or to combat the threat of flooding, of
(i) dikes and related pumphouses, and
(ii) ancillary works including access roads and facilities; …
(3) If a use is permitted under subsection (1) (k) it is a condition of the use that once the extraction of aggregate is complete, the disturbed area must be rehabilitated in accordance with good agricultural practice.
(4) The following non-farm uses are permitted in an agricultural land reserve and must not be prohibited by a local government bylaw or, for lands located in an agricultural land reserve that are treaty settlement lands, by a law of the applicable treaty first nation government: …
(i) surface water collection for farm use or domestic use, water well drillings, connection of water lines, access to water well sites and required rights of way or easements; ….
(5) Any permitted use specified in subsection (1) or (4) includes the construction, maintenance and operation of buildings, structures, driveways, ancillary services and utilities necessary for that use.
(6) Unless permitted under the Water Sustainability Act or the Environmental Management Act, any use specified in subsection (1) or (4) includes soil removal or placement of fill necessary for that use as long as the soil removal or placement of fill does not
(a) cause danger on or to adjacent land, structures or rights of way, or
(b) foul, obstruct or impede the flow of any waterway.

Part 3 — Soil Removal and Placement of Fill
Notification requirements for specified farm uses
4 *(1) The removal of soil and placement of fill for the following farm uses are exempt from the requirement to file an application under section 20 of the Act if the requirements in subsections (2), (3) and (4) are met:*
(a) the construction, maintenance and operation of a greenhouse on an area of land if the area occupied by the greenhouse is greater than 2% of the area of the parcel;
(b) the construction, maintenance and operation of a farm building or structure, for use in an intensive livestock operation or for mushroom production, if the area occupied by the farm building or structure is greater than 2% of the area of the parcel;
(c) the construction, maintenance and operation of an aquaculture facility if the area occupied by the aquaculture facility is greater than 2% of the area of the parcel;
(d) the construction, maintenance and operation of a composting facility for the production of Class A compost as defined in the Organic Matter Recycling Regulation, B.C. Reg. 18/2002 or compost from agricultural waste, if the area occupied by the facility is greater than 2% of the area of the parcel;
(e) a turf farm.
(2) An owner must notify the commission and the applicable local government or treaty first nation government of the owner's intent to remove soil or place fill for the uses described in subsection (1) at least 60 days before engaging in the intended use by filing with the commission a notice in a form acceptable to the commission.
(3) If the chief executive officer requests additional information on the extent and method of soil removal or placement of fill within 30 days of receipt of the notice under subsection (2), it must be provided by the owner of the land in the form of an amended notice within 30 days of receipt of the request.
(4) The owner must comply with the restrictions on the use and the terms and conditions for the conduct of that use of agricultural land ordered by the chief executive officer under section 20 (5) of the Act provided that the order is made within 30 days of a notice under subsection (2) or within 45 days of an amended notice under subsection (3).
(5) If the owner does not agree to the restrictions on the use or the terms and conditions ordered by the chief executive officer, the owner may apply to the commission for permission for a non-farm use under section 20 (3) of the Act.

Notification requirements for specified non-farm uses

5 *(1) The removal of soil and placement of fill are exempt from the requirement to file an application under section 20 of the Act as long as the requirements in subsections (2), (3) and (4) are met and the removal or placement is for one or more of the following uses:*

(a) aggregate extraction if the total volume of material removed is more than 500 m^3;

(b) peat extraction;

(c) placer works including the exploration, development and production of placer minerals as defined in the Mineral Tenure Act;

(d) the construction, maintenance, and operation of a composting facility for the production of managed organic matter.

(2) The owner must notify the commission and the applicable local government or treaty first nation government of the owner's intent to remove soil or place fill for the uses described in subsection (1) at least 60 days before engaging in the intended use by filing with the commission a notice in a form acceptable to the commission.

(3) If the chief executive officer requests additional information on the extent and method of soil removal and reclamation within 30 days of receipt of the notice under subsection (2), it must be provided in the form of an amended notice within 30 days of receipt of the request.

(4) The owner must comply with the restrictions on the use and the terms and conditions for the conduct of that use of agricultural land ordered by the chief executive officer under section 20 (5) of the Act provided that order is made within 30 days of a notice under subsection (2) or within 45 days of an amended notice under subsection (3).

(5) If the owner does not agree to the restrictions on the use or the terms and conditions ordered by the chief executive officer, the owner may apply to the commission for permission for a non-farm use under section 20 (3) of the Act.

Part 10 — Applications for Non-farm Use or Subdivision of Agricultural Land

Application must be filed with local government or treaty first nation government

29 *(1) An owner of agricultural land who wishes to use that land for a non-farm use or who wishes to subdivide that land may apply for permission under section 20 or 21 of the Act.*

(2) An application under section 20 or 21 of the Act must be in a form acceptable to the commission and must be filed,

(a) if the application is one referred to in section 34 (3.1) of the Act, with the commission, or

(b) in any other case, with the applicable local government or treaty first nation government.

(3) Subsections (1) and (2) do not apply to applications for transportation or utility uses filed with the commission under section 6 of this regulation.

Part 11 – General

Application fees

33 *(1) In subsection (1.1), **"application"** means an application made for the purpose of seeking permission under any of the following sections of the Act:*

(a) section 20 or 21, for a use or subdivision of agricultural land to which section 4 of this regulation does not apply;

(b) section 29 or 30, for the exclusion of land from the agricultural land reserve;

(c) section 34 (6), for applications filed directly with the commission.

(1.1) The prescribed application fees are as follows:

(a) $1 500, if the application is made in respect of land located entirely or partially in Zone 1;

(b) $900, if the application is made in respect of land located entirely in Zone 2.

(2) The prescribed portion of the application fee that a local government or first nation government may retain for the purposes of section 35 (1) of the Act is $300 for an application

(a) for exclusion under section 29 or 30 of the Act, or

(b) for use or subdivision under section 20 or 21 of the Act.

(3) The prescribed times for the purposes of section 35 (1) (b) of the Act are at a time that occurs on or before March 31, June 30, September 30 and December 31 of each year.

(4) The prescribed portion of an application fee that may be remitted by the commission to a local government or first nation government for the purposes of section 35 (5) of the Act is $200.

Other fees

33.1 *(1) In this section, **"document administration"** means the administration, processing, preparation, review, execution, filing or registration of any of the following by the commission, other than in the context of an application made under the Act:*

(a) a report;

(b) a survey or map;

(c) a contract or similar legal instrument;

(d) a record that must be approved, filed or registered under an enactment;

(e) a subdivision plan, a statutory right of way or a covenant, including related records necessary for deposit of the subdivision plan, statutory right of way or covenant with the Registrar of Land Titles;

(f) a form of security.

(2) If, on approving an application made under the Act, a term or condition described in Column 1 of the following table is imposed on the applicant, the applicant must pay the fee set out in Column 2 opposite the term or condition:

Item	***Column 1*** ***Term or Condition***	***Column 2*** ***Fee ($)***

1	*Document administration*	*150 for each record*
2	*Site inspection*	*350 for each inspection*
3	*The monitoring of activities carried out on land surveyed as being less than 0.8 ha*	*500*
4	*The monitoring of activities carried out on land surveyed as being between 0.8 ha and 4 ha*	*1 000*
5	*The monitoring of activities carried out on land surveyed as being more than 4 ha*	*2 000*

(3) No fee is payable under item 2 of the table in subsection (2) if item 3, 4 or 5 of the table applies.

(4) The fees set out in items 1 and 2 of the table in subsection (2) are payable at the time the term or condition is imposed.

(5) The fees set out in items 3 to 5 of the table in subsection (2) are payable annually, on the date set by the person who approves the application, for each year or part of a year that monitoring is carried out.

Penalties

35 *(1) Before the chief executive officer levies a penalty under section 54 of the Act, the chief executive officer must consider all of the following:*

(a) any contravention of a similar nature by the person;

(b) the gravity and magnitude of the contravention;

(c) whether the contravention was deliberate, repeated or continuous;

(d) whether there was an economic benefit derived by the person from the contravention;

(e) the person's cooperativeness and efforts to correct the contravention;

(f) the degree to which the contravention detrimentally affected or impaired the agricultural capability of the land or its suitability for farming.

(2) The penalty which the chief executive officer may levy is in the complete discretion of the chief executive officer, but must not exceed $100 000 for any single contravention.

(3) The maximum penalty which the chief executive officer may levy for a second or subsequent contravention is double the amount of the penalty levied for the first contravention.

(4) If the chief executive officer levies a penalty under section 54 of the Act against an owner of agricultural land, the chief executive officer must give the owner a notice setting out all of the following:

(a) the nature of the contravention;

(b) the amount of the penalty;

(c) the date by which the penalty must be paid;

(d) a description of the owner's right to appeal the penalty.

To: Regional Planning Committee

From: Theresa Duynstee, Regional Planner, Parks, Planning and Environment

Date: February 20, 2018 Meeting Date: March 9, 2018

Subject: **Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission**

RECOMMENDATION

That the Regional Planning Committee receive for information the report dated February 20, 2018, titled, "Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission".

PURPOSE

To seek feedback from the Regional Planning Committee on six possible strategic actions to send to the independent advisory committee tasked to provide recommendations to the Minister of Agriculture on the best approaches to revitalize the Agricultural Land Reserve (ALR) and the Agricultural Land Commission.

BACKGROUND

Successful implementation of the regional strategy to protect the supply of agriculture land and promote agricultural viability in *Metro Vancouver 2040: Shaping our Future* (*Metro 2040*) is dependent on an effective Agricultural Land Commission (ALC) and a defensible ALR. On several occasions over the past ten years, the MVRD Board has communicated their support for the mandate and work of the ALC to the provincial government.

On January 4, 2018, the Minister of Agriculture announced the formation of an independent Advisory Committee tasked to provide strategic advice and policy guidance on measures to revitalize the ALR and ALC. The Advisory Committee is seeking a response from stakeholders and the general public by April 30, 2018. Before preparing a submission to the Advisory Committee for Regional Planning Committee and MVRD Board consideration, staff is seeking input from the Committee on the strategic actions to recommend.

REVITALIZING THE AGRICULTURAL LAND RESERVE AND THE AGRICULTURAL LAND COMMISSION

As part of the consultation and engagement activities, the Minister's Advisory Committee released a background Discussion Paper to stimulate discussion and seek opinions and feedback on issues that will lead to the revitalization of the ALR and ALC. Regional meetings are being held to hear feedback directly from key stakeholders in the farming and ranching communities. The Abbotsford meeting for stakeholder input was held on February 21, 2018. There is also an online survey for individuals to provide their input (see References).

The guiding principles for the Advisory Committee's work are to:

- Focus on the future of the ALR and ALC;
- Evaluate policy issues that inhibit the purposes of the ALR and ALC;
- Evaluate what is working well; and
- Develop recommendations that:
  - work toward improving the purposes of the ALR and ALC
  - clearly identify the issues, goals and objectives that will strengthen the ALR and ALC in pursuing the purposes
  - suggest a strategy on how to achieve the goals and objectives
  - include, where possible, data/information that validates the issue as defined, and
  - are legally sound and are achievable.

Common issues and themes under consideration and in the online survey include the following:

- A defensible and defended ALR
- ALR resilience
- Stable governance
- Efficacy of Zones 1 and 2
- Interpretation and implementation of the Act and Regulation
- Food security and B.C.'s agricultural contribution
- Residential uses in the ALR
- Farm processing and sales in the ALR
- Unauthorized uses
- Non-Farm uses and resource extraction in the ALR

The Advisory Committee was tasked with delivering to the Minister of Agriculture a set of interim recommendations by spring 2018 and provide a final report to the Minister in the fall 2018.

Proposed Strategic Actions

The Metro Vancouver Regional District is unique in British Columbia. It is one of the most important food producing areas in the province and has the highest gross farm receipts per hectare in Canada. With over half of BC's population, and being a region growing by about 35,000 people per year, agricultural land in this region is consistently threatened by land speculation and the desire to use and/or develop parcels in the ALR for purposes other than farming. This situation continues despite strong protective measures in *Metro 2040*.

Staff is preparing a submission to the Advisory Committee for Regional Planning Committee and MVRD Board consideration in April. This submission will describe the importance of the ALR and ALC to regional policy and where successes to date have been achieved. It will also highlight the importance of local food and food security to Metro Vancouver residents, as was evident in the recent survey on Attitudes towards Agricultural and Industrial Land. The top three benefits of agricultural land identified by the survey respondents were: provide a local source of fresh food; offer environmental benefits; and support future generations with the option of local food production and food security.

Staff have identified the following six strategic actions for the provincial government to pursue, and welcome discussion and feedback from the Regional Planning Committee as part of the preparation of a Metro Vancouver submission to the Advisory Committee.

1. *Strengthen the ALC legislative framework to prevent non-farm activities in the ALR*
   The recently completed Agricultural Land Soil Investigation report provides a comprehensive and technical assessment of the ALC application process for the placement of fill. The results of the investigation led to 11 recommendations for advancing the ALC regulatory, policy and the management protocols for fill to improve outcomes in the ALR. The report also recommended the integration of the home plate concept within ALC legislation.

   Regulating house size and residential footprints can discourage non-farm uses of agricultural land. In both 2011 and 2012, the MVRD Board asked the provincial government to regulate residential housing in the ALR, not just provide guidelines, because of the challenges faced by member municipalities. The request was unheeded, and resulted in a voluntary Bylaw Standard for Residential Uses in the ALR, as well as the continued proliferation of non-farm estate homes on agricultural land in the Metro Vancouver region.

2. *Create financial disincentives for non-farm uses in the ALR*
   Non-farm use of agricultural land is a significant threat to the ALR in the Metro Vancouver region, and are as detrimental to farming as land exclusions. Tax reform that increases taxes for unwanted behaviors is an underutilized tool for discouraging inappropriate land use in the ALR. Right now tax policy provides a financial incentive to locate a non-farm residential or business activity in the ALR, which can displace farm activities. The solution is to adjust the method for valuing agriculture land not used for farming, so that non-farm residential and commercial activities located in the ALR are paying similar tax rates to those located in the urban areas.

3. *Modernize requirements for the classification of farm for assessment* purposes
   Only $2,500 in gross farm revenue is required to receive farm status and a lower property tax assessment for parcels greater than .8 ha or 2 acres. This threshold was established in 1993 and appears to do little to encourage investment in farmland in the Metro Vancouver region. A report completed in 2016, titled, Encouraging Agriculture Production through Farm Property Tax Reform in Metro Vancouver, explains why it is time to increase this threshold and develop a two-tier farm classification benefits system that confers two different levels of tax benefits dependent on farm income.

4. *Encourage more agriculture economic development and value-added enterprises*
   It is well known that an expanded capacity for food processing and value-added production in the ALR can improve the financial viability of agriculture. Yet it has also become evident that at times these facilities and other retail, tourism or restaurant/banquet services in the ALR, evolve to become the prime business venture, leaving farming a token activity. Better crafted legislation with measurable requirements that are easy to identify and real consequences for lack of compliance, are necessary to prevent business ventures in the ALR that are not enabling actively farmed land. A combination of home plate size and location restrictions, farm property tax reform and a modernized assessment process may be necessary to enable appropriate business development in the ALR that champions agriculture production.

5. *Expand avenues to maintain ecological services on agricultural land*
   Many of the ecological services provided by farmland are soil-based such as: nutrient and organic matter recycling, wildlife habitat, carbon sequestration, climate regulation, water infiltration and flood management. Yet it is unclear what avenues are available to local government to protect soil-based crop production and other ecological assets on agricultural land in perpetuity. The current avenue to protect ecological services in the ALR is through the purchase of agricultural land, but this approach does not always facilitate farming. More widespread use of conservation covenants could attract farmers who are willing to forego development options on their purchased land and farm under constraints that preserve the integrity of soil based production and beneficial ecological services.

6. *Implement policy reform specific to the Metro Vancouver region*
   When provincial agencies were approached about the issues plaguing agricultural land in the Metro Vancouver region, the response was often tenuous, as similar problems do not exist to the same extent in other parts of B.C. There appears to be a lack of mechanisms to address region specific issues by the provincial government. Certainly, a precautionary approach is warranted, but should not be justification for doing nothing. Initiating new policy options *only* for the Metro Vancouver region may be a progressive way to monitor and evaluate the outcomes before going province-wide.

The timeline allotted for providing a submission to the Minister's Advisory Committee enables the opportunity for early discussion with the Regional Planning Committee on potential recommendations to revitalize the ALR and ALC in the Metro Vancouver region.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
There are no financial implications to this report.

SUMMARY / CONCLUSION
The Minister of Agriculture has formed an independent Advisory Committee to provide strategic advice and policy guidance on measures to revitalize the ALR and ALC. With a focus on the future, the Advisory Committee will evaluate issues and make recommendations to the Minister starting later this spring, with a final report due in the fall 2018. There is a range of common themes and issues under consideration. Staff is proposing six strategic actions and is seeking feedback from the Regional Planning Committee before preparing a submission for Regional Planning Committee and MVRD Board consideration in April.

References
1. Discussion Paper and Advisory Committee Members' Biographies Revitalizing the Agricultural Land Reserve and the Agricultural Land Commission Discussion Paper for Stakeholder Consultation and Public Engagement
2. Online survey. Closes April 30, 2018 at 4:00pm.

To: Regional Planning Committee

From: Raymond Kan, Senior Regional Planner, Parks, Planning and Environment Department

Date: February 19, 2018 Meeting Date: March 9, 2018

Subject: **Transit-Oriented Affordable Housing Study Phase 2: Exploring New Supportive Tools**

RECOMMENDATION

That the MVRD Board receive for information the report dated February 19, 2018, titled "Transit-Oriented Affordable Housing Study Phase 2: Exploring New Supportive Tools".

PURPOSE

This report provides the Regional Planning Committee and Board a proposed approach to addressing the Regional Planning Committee's request to advance opportunities identified in Phase I of the Transit Oriented Affordable Housing Study.

BACKGROUND

At its meeting on November 24, 2017, the Metro Vancouver Regional District Board passed the following resolution:

That the MVRD Board:

a) communicate the key findings from the Transit-Oriented Affordable Housing Study to the following parties in an effort to encourage the integration of rental housing in transit-oriented locations, including housing that is affordable to lower income households, as essential elements of equitable and resilient transit-oriented communities and funding decisions:

- *the Federal Minister of Infrastructure and Minister of Communities and Families, Children and Social Development;*
- *the Provincial Minister of Municipal Affairs and Housing, Minister of Transportation and Infrastructure, Parliamentary Secretary for TransLink, and Minister of Environment & Climate Change Strategy;*
- *Mayors' Council on Regional Transportation;*
- *member local governments; and,*
- *the Urban Development Institute, Landlord BC, Co-operative Housing Federation of BC, and Greater Vancouver Home Builders' Association;*

b) send a letter expressing its appreciation to BC Housing, BC Non-Profit Housing Association, TransLink, and Vancity for their participation and substantive contribution to the Transit-Oriented Affordable Housing Study; and

c) direct staff to explore Key Finding 5 as outlined in the report dated October 20, 2017, titled "Transit-Oriented Affordable Housing Study", and report back to the Regional Planning Committee.

The proposed Phase 2 of the Transit-Oriented Affordable Housing Study (TOAH) presented in this report responds to Part c) of the Board's resolution. Key Finding #5, as referenced above, refers to the TOAH key finding that: "Initiatives by other jurisdictions may be worth exploring for application in the Metro Vancouver region to generate new affordable rental housing near frequent transit. Partnerships will be the key to any successful initiative." In addition, Metro 2040 and the Regional Affordable Housing Strategy set out a role for Metro Vancouver to conduct research to support affordable housing in transit-oriented locations.

PHASE 2 STUDY – DRAFT OBJECTIVES AND SCOPE

In Phase I, the work around Key Finding #5 was informed largely by research led by the BC Non-Profit Housing Association (BCNPHA) (see Reference 1). BCNPHA reviewed current practices in the United States, as well as tools that are used and those that are not currently used, or at least not widely applied, within the Metro Vancouver region.

When this work was presented to the Regional Planning Committee, the Committee sought more information about the applicability of these tools in the Metro Vancouver region. As such, staff have developed a proposed Phase 2 for the TOAH study.

The objectives of Phase 2 of the TOAH study are to advance information and knowledge to practitioners and decision-makers about the effectiveness and applicability of a set of tools to catalyze the construction of transit-oriented affordable rental housing units on a much wider scale in the Metro Vancouver region; market and low-end of market rental housing will both be within the scope of work. These tools are intended to target ways to address both the land and construction cost components of development. The table below lists the tools proposed for analysis (refer to Appendix 1 to this report for scoping details).

Land Cost Research Stream	**Construction Cost Research Stream**
• Transit-oriented inclusionary housing policies • Surplus lands and developable airspace in transit-oriented locations • Density bonus for market and affordable rental housing • Regional land trust	• Regional revolving loan funds • Construction tax incentives • Property tax reductions for affordable rental housing • Construction technology and regulations • Parking supply requirements (informed by Regional Parking Study)

Phase 2 of the TOAH study also provides an opportunity to update the 10-year regional affordable housing supply gap estimates identified by Phase I of TOAH, work primarily undertaken by the BCNPHA. That work identified a gap of 24,000 to 28,000 units affordable to households earning less than $50,000 per year, but was undertaken prior to the National Housing Strategy and the City of Vancouver's recent Housing Plan.

The TOAH study's findings will be communicated widely to federal, provincial, and regional stakeholders. The study may also recommend a proposed implementation approach on tools deemed effective and viable, and the partnerships necessary to achieve successful outcomes.

STUDY TIMELINE

The Phase 2 TOAH timeline is as follows:

- Project Definition (January – May 2018)
- Research and Analytics (May – December 2018)
- Communications and Reporting Out (Q1 2019)

STUDY PARTNERSHIPS

Phase 1 of the TOAH study benefited from a successful partnership comprising Metro Vancouver, BC Housing, BCNPHA, TransLink, and Vancity. Discussions are underway with these partners to confirm their interest and role in Phase 2 of the study. Other potential partners may include the Canada Mortgage and Housing Corporation, Urban Development Institute, Real Estate Foundation of BC, and representatives from the Regional Planning Advisory Committee (RPAC) and/or the RPAC Housing Subcommittee.

CONSULTATION WITH MUNICIPAL PLANNING STAFF

Regional Planning staff consulted with municipal planners at RPAC and its Housing Subcommittee in February 2018 regarding the potential scope of Phase II of TOAH and received good feedback that although TOAH is focused on generating new housing supply, there should be explicit acknowledgement of the interactions of new supply on rental retention as well as the implications of redevelopment in terms of tenant displacement. In addition, municipal staff noted that reducing property taxes for certain land uses, such as rental housing, may conflict with municipal interests and initiatives.

NEXT STEPS

The Regional Planning Committee was the standing committee responsible for Phase 1 of the TOAH study as well as for other applied policy research seeking to integrate housing and transportation such as the Housing + Transportation Cost Burden Study. As such, staff is recommending that they continue to be responsible for Phase 2. However, the Housing Committee also has a significant interest in this work, and all staff updates and study findings will also go to the Housing Committee for information. Staff are meeting with TOAH Phase I partners to discuss opportunities for collaborative efforts going forward, and as noted below, staff will also be taking this proposal to the Climate Action Committee, responsible for the Sustainability Innovation Fund for MVRD, to seek a broadening in scope for approved funds currently slated to prepare a business case for a regional transit oriented affordable housing fund.

Staff is seeking input from the Regional Planning Committee on the proposed scope of TOAH Phase II as a response to the Board's direction to report back to the Committee on the applicability of tools identified in TOAH Phase I to the Metro Vancouver region.

ALTERNATIVES

This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS

In 2016, staff received $100,000 from the Metro Vancouver Sustainability Innovation Fund (SIF) to prepare a business case for a regional transit-oriented affordable housing loan fund. At the time, the intention was to transition to the work as soon as the TOAH study was completed. In light of the Phase 1 findings and direction from the Board, staff will be recommending an amendment to the SIF project to encompass the elements of the Phase 2 study; the regional loan fund concept is proposed to be within the scope of the Phase 2 study. An amended SIF project will likely encourage greater research sharing and participation from interested partners, including potential in-kind and funding contributions. Any scoping change amendments require the approval of the MVRD Board. Staff anticipates bringing forward a scope amendment recommendation report to the Climate Action Committee, which oversees the Sustainability Innovation Fund, in April 2018.

Regional Planning staff anticipate that consultant support will be required to assist with some of the research and policy development work. The detailed scope and resource requirements will be developed and refined as staff proceed with the consultation with key stakeholders. Staff will explore possible funding opportunities with study partners, as appropriate.

SUMMARY / CONCLUSION

Phase 2 of the Transit-Oriented Affordable Housing Study will advance information and knowledge to practitioners and decision-makers about the effectiveness and applicability of a set of tools to catalyze the construction of transit-oriented affordable rental housing units on a much wider scale in the Metro Vancouver region. The proposed tools are intended to consider addressing the construction and land cost components of development of this form of housing. It is anticipated that the study findings will be communicated widely to federal, provincial, and regional stakeholders, and may recommend a proposed implementation approach on tools deemed effective and viable.

Attachment: Transit-Oriented Affordable Housing Study Phase 2 – Draft Scoping Elements

References

1. Key Finding #5 in TOAH Presentation to Regional Planning Committee (November 3, 2017) http://www.metrovancouver.org/boards/RegionalPlanning/RPL_2017-Nov-3_PPT.pdf
2. Transit-Oriented Affordable Housing Study Project Page http://www.metrovancouver.org/services/regional-planning/housing-affordability/transit-oriented/Pages/default.aspx

Transit-Oriented Affordable Housing Study Phase 2 – Draft Scoping Elements

OBJECTIVES

Study Objectives:

1. Explore and evaluate the role, effectiveness, and applicability of a set of tools to catalyze the construction of transit-oriented affordable rental housing units on a much wider scale in the Metro Vancouver region.
2. Communicate the study findings to federal, provincial, and regional stakeholders.
3. Recommend a proposed implementation approach.

Desired outcomes:

1. Improved understanding of new approaches and tools, their effectiveness, applicability, and scalability in the Metro Vancouver region.
2. Partner agencies are engaged throughout the study – public, private, and non-profit entities that could have important roles in the implementation of these tools.
3. More affordable rental housing units are likely to be constructed (and generate higher transit ridership) than would otherwise be without these tools. Note: market and low-end of market rental housing will both be within the scope of work.

TIMELINE AND MILESTONES

1. **Project Definition** (January – May 2018)
    - Prepare project plan and receive sign-off
    - Prepare scope of work and receive sign-off
    - Establish project team
    - Establish partnerships
    - Consult/inform Regional Planning Advisory Committee and RPAC Housing Subcommittee (optional: Regional Transportation Advisory Committee)
    - Consult/inform Regional Planning Committee, Housing Committee, and Climate Action Committee

2. **Research and Analytics** (May - December 2018)
    - Retain consultants for research streams
    - Convene partners advisory group
    - Consult/inform RPAC and RPAC Housing Subcommittee
    - Consult/inform Regional Planning Committee and Housing Committee

3. **Communications and Reporting Out** (Q1 2019)
    - Prepare communications strategy and tactics
    - Communicate findings to Regional Planning Committee, Housing Committee, staff committees, and the MVRD Board.
    - Communicate findings to municipal partners, provincial and federal agencies, developers, and other stakeholders.

- Convene workshops and presentations with partners for regional housing, finance and transport stakeholders to raise awareness and knowledge, and to foster opportunities for partnerships.
- Host public events to communicate key findings.
- Other tasks to be determined.

4. **Optional: Pilot Implementation Initiatives** (Q1-Q2 2019)
    - Where deemed appropriate by the MVRD Board and partner agencies, prepare implementation initiatives to advance these tools into practice as pilots.

RESEARCH STREAMS

Land Cost Research Stream

1. **Transit-oriented inclusionary housing policies:** best/current practices review (affordable housing targets; zoning for tenure and affordability levels), implications for land values and development pro formas, evaluation of effectiveness, and implementation options (e.g. enabling legislation for local governments).
   Potential Deliverables: Information report, Implementation guidelines, advocacy

2. **Surplus lands and developable airspace in transit-oriented locations** (informed by TOAH Phase 1): mapping of lands under public and non-profit ownership in transit-oriented locations, best/current practices review of deploying surplus public and non-profit lands (including developable airspace) to support affordable rental housing, evaluation of effectiveness, and implementation options.
   Potential Deliverables: Information report**,** Implementation guidelines, advocacy

3. **Density bonus for market and affordable rental housing:** best/current practices review and lessons learned in the region about number and types of housing built, and evaluation of effectiveness.
   Potential Deliverables: Information report, Implementation guidelines

4. **Regional land trust:** best/current practices review and lessons learned, governance models, funding models, evaluation of effectiveness, and implementation options.
   Potential Deliverables: Information report, Implementation guidelines, advocacy

5. **Integrating transportation and housing funding:** best/current practices review and lessons learned, opportunities and challenges, implementation options.
   Potential Deliverables: Information report, advocacy

Construction Cost Research Stream

6. **Regional transit-oriented affordable housing revolving loan funds:** business case development, complementarity with other loan programs, governance/administrative models, funding models, evaluation of effectiveness, and implementation options.
   Potential Deliverables: Information report, Implementation guidelines, policy

7. **Construction tax incentives:** best/current practices review of federal and provincial tax incentives, evaluation of effectiveness, and implementation options (e.g. advocacy).
   Potential Deliverables: Information report, advocacy

8. **Property tax reductions for affordable rental housing:** best/current practices review, implications for local government finance, evaluation of effectiveness.
   Potential Deliverables: Information report, advocacy

9. **Construction technology and regulations:** best/current practices review, emerging materials science and modular housing, supportive regulations, evaluation of effectiveness, and implementation options.
   Potential Deliverables: Information report, advocacy

10. **Parking supply requirements** (informed by Regional Parking Study)**:** opportunities for residential parking supply reductions and implications for development pro formas, guidelines.
    Potential Deliverables: Information report, Implementation guidelines, advocacy

Strategic Outlook Research Stream

11. **Regional housing supply gap estimates and scenarios:** refine BCNPHA's estimates of 10-year affordable rental housing supply gap using latest development statistics and household income cut-offs, prepare scenarios based on implementation of new tools. The findings will inform municipal planning work, including rapid transit corridor planning.
    Potential Deliverables: Information report

PARTNERSHIPS

Potential Phase 2 Partners (to be confirmed): Phase 1 partners plus potential for additional partners including the Canadian Mortgage and Housing Corporation, Urban Development Institute, Real Estate Foundation of BC, and/or representation from RPAC and/or the RPAC Housing Subcommittee

TOAH Phase 1 Partners: BC Housing, BC Non-Profit Housing Association, TransLink, and Vancity

To: Regional Planning Committee

From: Erin Rennie, Senior Regional Planner, Parks, Planning, and Environment

Date: February 13, 2018 Meeting Date: March 9, 2018

Subject: **Centres and Corridors Literature Review and Case Studies – Urban Centres and Frequent Transit Development Areas Policy Review**

RECOMMENDATION

That the MVRD Board receive for information the report dated February 13, 2018, titled, "Centres and Corridors Literature Review and Case Studies – Urban Centres and Frequent Transit Development Areas Policy Review".

PURPOSE

The purpose of this report is to provide the Regional Planning Committee and MVRD Board with an overview of two reports commissioned by Regional Planning: "Assessing Metro Vancouver's Growth Overlays: Review of the Literature on Centres and Corridors as a Regional Planning Concept" (Literature Review), and "Assessing Metro Vancouver's Growth Overlays: Peer Jurisdiction Assessment" (Case Studies).

BACKGROUND

In late 2017, Metro Vancouver staff worked with Dr. Ray Tomalty of Smart Cities Research to conduct a literature review of academic literature and planning documents on the topic of "centres and corridors" as a regional planning concept and to develop a set of case studies of peer jurisdictions that also use a centres and corridors strategy. The literature review "Assessing Metro Vancouver's Growth Overlays: Review of the Literature on Centres and Corridors as a Regional Planning Concept" and the Case studies "Assessing Metro Vancouver's Growth Overlays: Peer Jurisdiction Assessment" are now complete (Attachments 1 and 2).

THE URBAN CENTRES AND FTDA POLICY REVIEW

Board Strategic Plan (2015-2018) Goal 1.3 directs Metro Vancouver to use, "experience gained from the implementation of Metro 2040," as the basis to, "identify and evaluate possible changes in regional planning goals and strategies," (p 20). The *Metro 2040* Urban Centres and Frequent Transit Development Area Policy Review (the Review) is a two-phase initiative to identify opportunities to consider a number of implementation challenges and improve Metro Vancouver's growth structuring tools (called "Growth Overlays" in *Metro 2040* and "centres and corridors" more generically), which include Urban Centres and Frequent Transit Development Areas (FTDAs). The goal of the Review is to prepare a set of policy recommendations to inform the policy directions of the next iteration of the regional growth strategy.

Phase 1 of the Review focused on understanding how the *Metro 2040*'s Urban Centres and FTDAs are being used to support structured growth in the region and how these focal points for growth are

performing. The findings of Phase 1 were presented to the Regional Planning Committee on June 9, 2017.

The objectives of Phase 2 of the Review are to identify opportunities to improve the Urban Centres and FTDA growth structuring tools by:

1. Clarifying the criteria and definitions for different types of centres and corridors;
2. Defining the relationship among and between the centres and corridor types and transit service levels; and
3. Identify recommended policy options associated with centres and corridors.

Phase 2 of the Review is currently underway and will extend until the end of 2019. It includes a series of policy analysis activities and stakeholder engagement opportunities designed to generate and test policy alternatives to improve the region's tools for structuring growth.

The first activity of Phase 2 was to conduct a literature review of academic literature and planning documents on the topic of "centres and corridors" as a regional planning concept (i.e. what is referred to in *Metro 2040* as the "Urban Centres and FTDA growth overlays"), and to develop a set of case studies of peer jurisdictions that also use a centres and corridors strategy. Smart Cities Research was contracted in September 2017 to conduct this activity.

Regional Planning staff will continue to work with the Regional Planning Advisory Committee (RPAC), possibly striking of an RPAC taskforce, to further consider the concepts described in the Literature Review and Case Studies.

OBJECTIVES OF THE LITERATURE REVIEW AND CASE STUDIES

The objective of conducting the literature review was to:

- summarize and synthesize what academics and planners have written about the rationales, challenges, barriers, best practices, and opportunities for developing and implementing a centres and corridors growth structuring framework.

The objective of the case study review was to:

- conduct a short overview of the centres and corridors policies used in peer jurisdictions to provide examples of what growth structuring strategies have worked and why. By contrasting these systems with Metro Vancouver's Urban Centres and FTDA framework it was intended that the case studies would help identify opportunities and gaps in *Metro 2040's* growth structuring framework.

FINDINGS OF THE LITERATURE REVIEW AND CASE STUDIES

Challenges to Implementing Centres and Corridors

The literature review found that while many regional planning agencies have adopted a "polycentric" strategy (i.e. the principle of organizing a region around several political, social, or financial centres) for growth management, fewer have included a corridors component and very few have done so with much success.

There are many challenges inherent in the implementation of a centres and corridors strategy including:

- Auto-dependent preferences and a general neighbourhood resistance to development and densification;
- The risk of designating too few or too many corridors or centres;
- Site and Subregional-level multi-modal transportation planning challenges such as the lack of transit, bike, and pedestrian connections;
- Coordination challenges between levels and orders of government and between transportation and land use planning agencies; and
- Funding constraints at all levels of government.

There were some additional challenges specific to the corridor component of a centres and corridors model identified. Among others, these include:

- The need for sustained political commitment;
- Competing modal objectives for road rights-of-way;
- The requirement for additional coordination between municipalities;
- Added risk to small parcel holders and added difficulties in developing mid-rise buildings along a corridor;
- Coordination challenges between adjacent property owners and potential developers; and
- The linear geography of a corridor being more likely to raise objections and different concerns from multiple neighbourhoods.

Many of the above-listed challenges are familiar planning challenges that often occur in other types of planning work as well, such as at the neighbourhood planning scale. This suggests that many of the solutions that work in other types of planning could be adapted to address the challenges that tend to limit the successful implementation of regional centre and corridor policies.

Principles and Strategies for a Centres and Corridors Framework

The literature revealed a number of key principles for developing an effective centres and corridors framework, including those that:

- Differentiate centres and corridor types based on size, function, and built context (i.e. have multiple types of corridors and centres);
- Categorize centres and corridor types into a hierarchy of functional characteristics and according to development priority (in terms of development intensity and timing);
- Invite local municipalities to designate centre and corridor boundaries, and avoid a top-down approach;
- Provide local municipalities with guidance on the minimum thresholds for centre and corridor designation;
- Conduct a study of existing economic conditions and demand for further mixed-use development before designating a transit corridor or new urban centres; and
- Identify and address interdependencies and issues early using a corridor-level analysis.

Practices to Support the Implementation of Centres and Corridors

The literature described many supportive policies that could be used to aid the implementation of a centres and corridors strategy, including those that:

- Foster active cooperation within and between local jurisdictions;
- Provide transit and other infrastructure that is consistent with the corridors and centres plan;
- Use a detailed set of standardized and objective criteria to provide clarity for the allocation of transit and other infrastructure resources to a centre or corridor;
- Provide financial incentives to direct growth in a way that is consistent with the strategy;
- Provide staff resources, technical expertise, and funding to municipalities to support plan development and implementation where needed;
- Incorporate stakeholder engagement and collaboration among and between planning and transportation agencies; and
- Provide provincial or regional-level design guidelines to encourage a consistent approach to transit-oriented development between municipalities.

OBSERVATIONS AND SIGNIFICANCE FOR METRO VANCOUVER

Metro Vancouver has already adopted many of the principles, strategies, and practices identified in the Literature Review and Case Studies. For example, Metro Vancouver, its member jurisdictions, and TransLink already work closely to foster regional-municipal collaboration, conduct stakeholder engagement, support one another with technical expertise in specific initiatives like corridor-scale planning, develop shared transportation planning guidelines, and take steps to integrate land use and transportation planning. These have proven to be successful strategies that have yielded the strong performance of Metro Vancouver's Urban Centres and FTDAs, TransLink's transit routes, and complete communities in municipalities. The Literature Review and Case Studies demonstrate that Metro Vancouver and its partners are on the right path and should maintain and re-commit to the above-listed principles, strategies, policies and practices for centres and corridors in the ongoing implementation of *Metro 2040* and beyond.

Key Themes for Further Study

The Literature Review and Case Studies revealed some key themes that Regional Planning staff will continue to study as the part of the *Metro 2040* Urban Centres and FTDA Policy Review. These themes suggest some considerations and opportunities that may strengthen and enhance Metro Vancouver's urban growth structuring tools for the next iteration of the regional growth strategy, including:

1. **Recognition of the Growth Corridor Implementation Challenge:** Recognize that growth corridors, especially multi-jurisdictional growth corridors, are often more challenging to implement than centres. Few attempts to concentrate growth along corridors, and even fewer successful examples, exist in peer jurisdictions. However, the barriers are similar to many of the challenges seen in other planning initiatives, suggesting that planning solutions that have been used elsewhere could be tailored to address the challenges inherent to corridor planning.

2. **Categorization of Corridor and Centre Types:** Explore the potential for further differentiation of centre and corridor types based on their size, function, context, and level of development priority (for both intensity and timing of development).

3. **Definition of Quantifiable Designation Criteria and Specific Targets:** Consider developing more specific guidelines for the designation of centres and corridors that include quantifiable thresholds, targets, and development densities, as well as defined timelines for area plan development as part of the designation of Urban Centres or FTDAs. Two peer jurisdictions reviewed include very specific thresholds that must be met before an area can be designated as a centre or corridor, providing clarity to the municipality and a rationalization and meaning to the centre/corridor type itself. Several of the jurisdictions reviewed also had measurable targets for each centre/corridor type. At the moment Metro Vancouver does not have specific designation or target densities for each centre/corridor type.

4. **Linking Funding, Financial Incentives and Infrastructure Investment to Regional Centres and Corridors:** Explore opportunities to further the use of financial and other incentives to implement centres and corridors. Consider both municipal/regional incentives to direct private sector growth to centres and corridors as well as provincial/federal incentives to encourage municipalities to designate and implement consistent and compatible centres and corridors strategies. Three of the peer jurisdictions reviewed had access to senior government programs that tied funding to implementation of the regional growth and/or transportation plan. A few Canadian federal and provincial funding programs reference consistency with regional plans as a consideration for the provision of transit or other financial resources, but there are opportunities to strengthen these requirements and make them more explicit.

NEXT STEPS

The preparation of the Literature Review and Case Studies was the first activity in the Urban Centres and FTDA Policy Review policy analysis work. This activity helped to identify some currently used principles, practices, and strategies that Metro Vancouver should continue as well as some gaps in Metro Vancouver's current policies. There are many interesting and promising examples of centres and corridors criteria, hierarchies, and policies that can serve in the development of policy alternatives in the next stage of the Policy Review. Regional Planning staff will use the Literature Review and Case Studies as a reference when considering options for improving *Metro 2040*'s Urban Centre and FTDA framework. Finally, staff will create opportunities for municipal engagement on these topics through RPAC, possibly through the creation of an RPAC Taskforce if there is interest.

ALTERNATIVES

As this is an information report, no alternatives are presented.

FINANCIAL IMPLICATIONS

There are no financial implications.

SUMMARY / CONCLUSION

The Literature Review and Case Studies (Attachments 1 and 2) prepared by Smart Cities Research support the Metro 2040 Urban Centres and FTDA Policy Review by providing a broad understanding of how other similar regions have approached the objective of directing growth to a network of centres connected by high-frequency transit corridors and what academics have observed about centres and corridors strategies. Using a comparative analysis, the Literature Review and Case Studies have helped to reveal some strengths and opportunities for improvement to Metro Vancouver's approach. Staff will continue to study the themes and concepts described in this work to support the development of recommendations to improve the Urban Centre and FTDA framework in *Metro 2040*.

Attachments *(Orbit Doc 24561003)*

1. Assessing Metro Vancouver's Growth Overlays: Review of the Literature on Centres and Corridors
2. Assessing Metro Vancouver's Growth Overlays: Peer Jurisdiction Assessment (Case Studies)

Assessing Metro Vancouver's Growth Overlays:

Review of the Literature on Centres and Corridors as a Regional Planning Concept

Prepared as part of Phase 2 of the Urban Centres and FTDA Policy Review

Final Report

Ray Tomalty, Ph.D.
Smart Cities Research

Prepared for
Metro Vancouver
Growth Management and Transportation
Regional Planning

January 2, 2018

Table of Contents

INTRODUCTION 1

WHERE HAS AN URBAN STRUCTURE BASED ON CENTRES AND CORRIDORS BEEN ADOPTED AS A PLANNING STRATEGY AND WHY? 1

WHAT ARE THE CHALLENGES AND BARRIERS TO IMPLEMENTING A CENTRES AND CORRIDORS PLANNING STRATEGY? 2

WHAT ARE THE KEY PRINCIPLES AND STRATEGIES INVOLVED IN PLANNING A REGION BASED ON THE CENTRES AND CORRIDORS MODEL? 4

WHAT KIND OF POLICY SUPPORTS CAN BE INCLUDED IN A CENTRES AND CORRIDORS STRATEGY? 6

CONCLUSIONS 7

BIBLIOGRAPHY 8

Introduction

The purpose of this literature review is to provide Metro Vancouver with a synthesis of the literature on the planning of centres and corridors, especially from a regional perspective. The review is based on an extensive search of the urban studies literature, using electronic catalogues through McGill University. The search covered planning and geography databases and included books, academic articles, consulting reports, student theses, and government documents.

The term "centres and corridors" is used in this report to mean a regional urban structure based on the concept of concentrating forecasted employment and population growth in specific geographic areas that are well served by transportation facilities, especially transit. Centres may take the form of older urban or suburban downtowns or newer focal points in more recent extensions of the urban fabric, while corridors could be traditional mainstreets or transit arterials in newer areas with a potential for mixed-use development. Ideally, centres and corridors are walkable precincts with a mix of land uses and good transit access. A number of other terms are used in the literature to refer to this urban structure concept, including "dispersed concentration", "multi-nodal region", "recentralized region", "multi-nucleation", "polycentrism", "network city", and "regional TOD". The term "centres and corridors" is used here as it captures the dual nature of the concept as an arrangement of both points and lines on the regional landscape and because it seems to be the term favoured by Canadian planners.

The questions addressed in this review include the following:

- Where has an urban structure based on centres and corridors been adopted as a planning strategy and why?
- What are the challenges and barriers to implementing a centres and corridors planning strategy?
- What are the key principles and strategies involved in planning a region based on the centres and corridors model?
- What kind of policy supports can be provided to encourage the implementation of a centres and corridors strategy?

The referencing strategy is meant to maximize the number of sources cited and pinpoint the relevance of sources by citing references for small blocks of text. The goal is both to provide Metro Vancouver with a high-level overview of thought and practice in the field and a finely grained resource document they can use to pursue these and related questions in the future.

Where has an urban structure based on centres and corridors been adopted and why?

The predominant form of development since WWII throughout the developed world has been one of dispersion, or urban sprawl, due in large part to rising incomes, cheap oil, and the spread of the automobile as the primary form of personal transport. However, disenchantment with this urban pattern is increasing, and planners (among others) have proposed alternative development patterns based on the concept of focusing growth into centres and corridors: higher-density, multi-use precincts designed for walkability and public transit access (Calthorpe, 1993; Duany and Plater-Zyberk, 1994; Williams et al, 2000).

A centres and corridors strategy has emerged as a model of metropolitan growth management due to its potential to:

- reduce car travel and the city's energy budget (Van Til, 1979; Kumar, 1990; Handy, 1996; Rickaby, 1991; Van der Valk and Faludi, 1992; Cooper and Smyth, 2001)
- create diverse complete communities where residents can meet most of their daily needs at every stage of their life cycles (Duany and Duany and Plater-Zyberk, 1994)
- provide a structure to optimize transportation investments and boost the modal share of transit (Curtis, 2006)
- reduce the cost of other public infrastructure and services (Litman, 2015; Blais, 2010)
- revive older downtowns and make newer centres more complex, diverse, and inclusive (Calthorpe and Fulton, 2001)
- generate business opportunities by improving accessibility to commercial areas (Naude, 1991: Green, 1990)
- enhance regional equity by providing opportunities for a mix of housing opportunities in locations convenient to public transport (Zimbabwe and Anderson, 2011; Calthorpe and Fulton, 2001)
- offer a compromise among competing growth management objectives, i.e., the desire to reduce automobile dependence and preserve green areas without disrupting the entire urban fabric of the city region (Filion and McSpurren, 2007).

A multi-nodal strategy has been adopted or proposed in cities on every inhabited continent. The earliest survey on the subject was conducted in 1981 when researchers surveyed 48 metropolitan planning agencies in the US, Canada and the UK. They concluded that the "polycentric city " concept was being used by half the cities surveyed, but in a fairly superficial way. The cities that were taking the concept most seriously were Toronto and Vancouver. In the US, Minneapolis-St. Paul and Denver were the most advanced although far less so than the two Canadian cities cited (Schneider, 1981). A more recent survey examined metropolitan-scale plans from the 58 urban regions with a population in excess of one million (Filion et al, 2016). That work revealed that 32 regions had adopted plans with a hierarchy of centres and 30 plans included provisions to concentrate development in transit corridors or mainstreets. All five Canadian regions included in the study (Vancouver, Toronto, Calgary, Montreal, and Edmonton) had proposed centres and three (Vancouver, Toronto, and Edmonton) had proposed corridors.

In Europe, a nodes and corridors planning approach has been adopted in Barcelona, Helsinki, Copenhagen, the Randstad, and London, to name a few of the major centres involved (Elinbaum and Galland, 2016; Lloyd-Jones et al, 2001; Schwanen et al, 2004; Dieleman et al 1999). Centres and corridors have also been adopted in metropolitan plans in Australia's major cities, including Perth, Melbourne and Sydney (Curtis, 2008a; Curtis, 2006; Crommelin et al, 2017). In Asia, Tokyo has been planned using a multi-nodal approach, as have some mid-sized metro areas such as Toyama (Sorenson, 2001; Takami and Hatoyama, 2008). The Beijing regional plan is based on the concept of a polycentric urban structure as is that of Nanjing and Kunshan (Wu, 2015). In Africa, Cape Town has adopted this approach (Watson, 2002) while in South America, Curitiba is well known for its "linear city" urban structure based on bus rapid-transit (Smith and Raemaekers, 1998).

What are the challenges and barriers to implementing a centres and corridors planning strategy?

The widespread adoption of the centres and corridors strategy as a model of metropolitan growth management does not, of course, mean that the model has shaped growth on the ground wherever it has been adopted. Several studies (Filion, 2001; Filion 2010, Provo, 2002) have shown that there is a significant gap between the aspirations of regional planners promoting the model on the one hand and actual development patterns on the other hand.

CENTRES

Many centres designated in regional plans (especially those located in suburban areas) remain below the target densities years after designation, transit ridership is often below expectations, and even among centres that have achieved higher densities and mixed-use development, many feature built environments that are unconducive to walking and transit use (Filion, 2001; Filion, 2009; Filion and Kramer, 2012; Filion and McSpurren, 2007; Schneider, 1981). Factors accounting for this gap that have been identified in the literature can be categorized as political-cultural, planning-related, or economic.

Political-cultural impediments include:

- the entrenched commitment of a large proportion of the public to dispersed urbanization and a way of life dependent on the automobile (Downs, 2005; Filion, 2010; Filion, 2016)
- opposition to centres and corridors strategies from some suburban municipalities, which may have little interest in realigning auto-dependent land use and transportation patterns (Westerman, 1998).
- NIMBY resistance to higher-density redevelopment within designated nodes and corridors and in surrounding neighbourhoods (Filion, 2001; Schively, 2007)
- shifts in political priorities over time, which may undermine a necessarily long-term strategy (Filion and McSpurren, 2007).

Planning-related obstacles include:

- poor regional-level planning, especially designating too many centres and corridors for the amount of development that can reasonably be expected over the planning horizon, or designating too few centres and corridors to make a difference to travel patterns when surrounded by a sea of low-density, car-oriented development (Filion, 2009)
- district-level planning problems, especially the lack of transit connections with the local catchment area, in which case nodes must make room for copious parking (Filion, 2007)
- inadequate site-level planning, such as a failure by local authorities to rezone the target areas or adopt detailed planning provisions to ensure development in a transit- and pedestrian-oriented way (Filion, 2007)
- the lack of coordination among regional and local planning authorities, resulting in mismatches in planning among the various levels
- a lack of coordination between land use and transportation planning agencies, resulting in misalignments between transportation funding decisions and an adopted centres and corridors strategy (Margerum, 2013; Zimbabwe, 2011).

Economic constraints include:

- the lack of interest among developers in locating their projects in centres and corridors due to the added costs of assembling land, upgrading infrastructure, dealing with NIMBY objections, and meeting the regulatory overlays needed to produce a high quality pedestrian- and transit-friendly environment (Curtis and Tiwar, 2008; Provo, 2002; Kelley, 2009)
- senior government funding constraints that make it difficult to build the transit infrastructure required to support a centres and corridors strategy (Filion and McSpurren, 2007)
- limited municipal budgets that constrain the ability of local authorities to adequately plan designated centres and corridors (e.g., area plans, circulation plans, and public consultation) or meet their infrastructure needs (ranging from pedestrian improvements to streetscape, parking, and intersection improvements) (Margerum, 2013)
- the tendency for office and big box development to opt for scattered suburban locations with superior highway accessibility (Lang, 2003).

CORRIDORS

Research on the nodes and corridor model has revealed some additional obstacles specific to the corridor component of the model. Not only are corridors sometimes excluded from multi-nodal metropolitan plans, but even where included, they are less likely to be implemented (Filion, 2007; Filion and Kramer, 2012). Implementation may be stalled by these corridor-specific factors:

Political-cultural impediments include:

- corridors may demand sustained interest and consistent interventions over a longer period of time, which may be difficult in a context where political and planning champions come and go (Curtis and James, 2004)
- the extended area along the route subject to densification is likely to raise more NIMBY objections than a concentrated node (Filion, 2007).

Planning-related obstacles include:

- redeveloping arterials as walkable places offering a variety of transport options may pit planners against transportation engineers who see the roadway in terms of its capacity for carrying vehicular traffic alone (Curtis, 2008a)
- corridors may cross municipal boundaries and present a major coordination challenge (Curtis, 2006; Newman and Kenworthy, 1999).

Economic constraints include

- the unfavourable economics associated with the type of mid-rise development often proposed for transit corridors, including the difficulty of assembling small parcels, fixed development costs regardless of building heights, accommodating in-door parking, and building code or design guidelines requirements (Filion, 2007).
- corridor intensification depends on the decision-making of many small property holders and developers, which presents coordination challenges and raises problems such as the "who first?" issue; that the heightened financial risk to the developers who are first to locate along the corridor may be enough to discourage anyone from coming forward (Filion, 2007).

What are the key principles and strategies involved in planning a region based on the centres and corridors model?

Regional planners should ensure that the number and location of centres and corridors is optimized for current and forecasted economic and social conditions in the region. Potential nodes and corridors should be identified on the basis of a careful assessment of the region's economic and demographic development potential, an analysis of current and forecasted travel patterns, a realistic estimate of the transit funding that will become available within the planning horizon, and a modelling of the optimal synergistic effects of different nodes and corridors scenarios. Nodes and corridors should be categorized into a hierarchy of functional characteristics and in terms of their development priority (Frey 1999; Curtis, 2006; Davis and Perkins, 1992; Schneider, 1981; Zimbabwe, 2011; Thorne-Lyman and Wampler, 2011).

Although this type of regional mapping and analysis is essential to the process of designating a system of nodes and corridors, regional planners should avoid identifying nodes and corridors in a top-down fashion. Research shows that implementation is likely to be more successful if local jurisdictions are invited to collaborate in the process of designating new centres and corridors in the context of metropolitan planning exercises (Puget Sound Regional Council, 2016). In a review of four metro areas in the US (Portland, San Diego, Denver, and Puget Sound), it was found that a collaborative approach results in more local investment and supportive planning measures (Margerum, 2013). This approach does, however, lend itself to the threat of over-designation of growth areas, especially if regional

incentives are involved. Regions that invite proposals from local planning authorities, but provide consistent guidance in terms of minimum thresholds for designation seem to have found a good balance between top-down and bottom-up designation criteria.

Although the (re)development of transit corridors presents specific planning challenges, they can be essential to the success of a nodal strategy due to the potential they offer for synergistic effects with their nodal counterparts (Filion, 2001). A network of nodes and connecting corridors creates advantageous conditions for transit both at the origin and at the destination of a journey, creating broad sectors rather than localized points of transit viability. Transit corridors can strengthen the system of nodes by shifting nodal access to transit and thereby reducing the amount of space devoted to the car and help improve these centres' pedestrian environment. Additional transit patronage confers an accessibility advantage to mixed-use centres and incentivizes developers who would otherwise be discouraged by the obstacles cited above (Filion, 2003; Filion, 2001). Transit corridors should be proposed only where there is pre-existing economic growth, a demand for further mixed-use development, and minimal inhibitors (Marrian, 2001). In general, research has shown that heavy subsidies and concessions do not offset poor market conditions for corridors; they do not create economic strength, but help channel existing economic and demographic growth (Roeseler and von Dosky, 1991).

Planning at the district level, which sometimes falls through the cracks between regional and local planning efforts, should carefully weigh the relationship between an activity centre and surrounding neighbourhoods. Centres and corridors that are not adequately planned to integrate with adjacent neighbourhoods will raise the hackles of nearby residents and fail to attract consumer activity from the district. Transit-based nodes and corridors require feeder routes and easy access through pedestrian and bicycle connections to attract ridership from their catchment areas. The mix of land uses planned for a centre or corridor should take into account economic conditions in the district, such as the location of competing retail and office hubs that may offer more attractive conditions for car based access, such as copious parking (Frey, 1999; Curtis, 2006).

Regional planners should plan transit corridor redevelopment in an integral fashion in order to optimize the impact of transit investment and realize maximum Transit-Oriented Development (TOD) potential. Corridor planning enables planners to understand how development along the corridor should be phased, and determine the land uses and development intensity that is most appropriate along the corridor and at any stations. A corridor-level analysis can also identify and address issues that may not be visible to municipalities planning for development adjacent to corridors along a multi-jurisdictional route. For example, the fragmentation of development parcels may be presenting a barrier to redevelopment at various places along a corridor, an issue that lends itself to global solutions. Counting on each municipality to address planning issues on their own can result in a more costly process to achieve inconsistent results (Thorne-Lyman and Wampler, 2011).

While regional planners can set a framework that provides consistent guidance for local planning, a one-size-fits all approach to planning centres and corridors should be avoided. Planning should differentiate centres not only on their size but also on the built context: for example, centres that are the outcome of urban redevelopment, existing suburban centres originally developed on greenfield sites, future suburban centres to be erected on greenfield sites, traditional downtowns of suburban municipalities within or near the core city, and the downtowns of self-standing urban areas within the metropolitan region (Zimbabwe, 2011; Curtis and Tiwar, 2008; Puget Sound Regional Council, 2016). Planning for transit corridors should differentiate between older traditional main streets in stable neighbourhoods and arterial streets in rapidly growing suburban settings, and between those located near major sources of retail competition and those that are more isolated (Metro, 1995). Corridors can also be distinguished in terms of the type of transit that serves them; for example, destination connector, commuter, and district circulator (Thorne-Lyman

and Wampler, 2011). Each type of corridor creates different sets of residential and business opportunities and presents different planning issues.

What kind of policy supports can be included in a centres and corridors strategy?

The successful implementation of a centres and corridors approach depends on the active cooperation of local jurisdictions, which must designate the target areas in their community plans, adopt appropriate zoning and other regulatory measures, invest in public infrastructure, and plan for a high quality public realm. Centres and corridors also need to attract sufficient interest among developers and attract the right types of development proposals to generate momentum and achieve the urban form and transportation objectives set out for the areas concerned. Implementation thus needs to address the fact that both local planning authorities and developers may be resistant to the centres and corridors model due to the challenges involved. To counteract these disincentives, it is important to offer positive inducements to both planning authorities and developers to encourage the implementation of a centres and corridors planning concept.

The single most effective incentive to both municipalities and developers is the provision of transit infrastructure and transit service improvements serving designated centres and corridors. Major investments in transit are clearly a strong trigger for land use changes and private investment and local government policy changes. Some metropolitan regions in the US use federal and state funding to prioritize investment that will reinforce their planned urban structure. These regions often employ a detailed set of criteria for the choice of projects, which limits the opportunities for political interference. This is the approach used in Metro Portland, Puget Sound, and the San Diego region. The funding criteria sometimes provide even more direct encouragement to municipalities to collaborate with regional planners by including consideration of municipal readiness to leverage transportation funding (Margerum, 2013). The San Diego Association of Governments prioritizes transit provision to those centres and corridors where municipalities have prepared the way via appropriate planning and zoning and where local investments in infrastructure complement regional commitments. In the southern suburbs of Chicago, a sub-regional council of governments assesses transit funding opportunities at stations along three suburban commuter rail corridors by identifying those station areas where the most intense level of development is allowed by local plans and market conditions (Zimbabwe, 2011).

While improved transportation infrastructure and services can improve the attraction of centres and corridors to developers, it is sometimes not enough to close the gap between regional planning goals and local development realities (Filion, 2009). In these situations, financial incentives may prove effective. In the Greater Golden Horseshoe, municipalities use property tax breaks, reduced development fees and charges, grants for heritage preservation, façade refurbishment, affordable housing, economic development, and so on. Both Denver and Portland metropolitan regions have established dedicated TOD investment programs that provides incentives to private developers building high-density, mixed-use projects located close to transit (Puget Sound Regional Council, 2016; Crawford and Gillan, 2011). Regulatory incentives can include relaxation of parking requirements, traffic generation assumptions, or parkland dedication requirements. Implementation can also be catalyzed through the work of quasi-public redevelopment authorities, as is done in Perth (Crommelin, 2017).

Research has shown that local planning authorities often lack the staff resources and technical expertise to undertake the planning activities needed to implement a regional plan. Planners report they need guidance on improving zoning codes to support transit, strategies for how to get stakeholders to support development in centres, options for better parking management, financing strategies for affordable housing, options for the phasing of improvements, guidelines for assessing development potential, and

best practice information (Margerum, 2013). Some regions have attempted to address these needs by providing funding for plan development. The Southern California Association of Government's Compass Blueprint Demonstration Project program funds the planning efforts necessary to achieve the goals of the regional blueprint vision, which focuses growth in centres around transit stations and along major transportation corridors. Projects funded through these demonstration planning grants include general plan updates, development feasibility studies, visioning workshops, development code and zoning change analysis, transit-oriented and mixed-use development design, redevelopment planning, downtown revitalization plans, and multi-family and affordable housing planning (Zimbabwe and Anderson, 2011). Regional authorities in Portland, San Diego, and Denver offer similar programs.

Stakeholder engagement and collaboration among planning and transportation agencies are crucial to the success of both centres and corridors. In Perth, Australia, metro planning authorities have set up an inter-disciplinary team to bring together the major players from the public and private sectors, coordinate public investment, remove obstacles, and undertake public outreach as a catalyst for (re)development in nodes and corridors (Curtis, 2008b). A team with a similar purpose was set up by the City of Toronto to facilitate development on the city's transit avenues (Brook McIlroy Planning and Urban Design/Pace Architects, 2010). Denver's regional transportation planning authority convenes land-use planners from municipalities along new transit routes to help make decisions about the placement of stations and stops to support TOD. In the San Francisco Bay Area, regional authorities have made funding for transit projects conditional on collaboration among the local jurisdictions concerned (Thorne-Lyman and Wampler, 2011). The Puget Sound Regional Council created a Regional Equity Network, a partnership among regional and local agency staff, community organizations and foundations dedicated to promoting equitable community development, especially in relation to development triggered by new transit investments (Zimbabwe, 2011). The Denver Regional Council of Governments created a Metro Vision Idea Exchange where local agency staff can share their experiences with planning and implementing TOD, and learn about topics of interest from experts (Zimbabwe, 2011).

Provincial/state or metropolitan design guidelines can encourage a consistent approach to transit-oriented design in municipalities across a metro region (Davis and Perkins, 1992). In the Greater Golden Horseshoe (GGH), the province's policy statement includes some high-level guidelines while the advisory Transit-Supportive Guidelines provide more detailed recommendations on district- and site-level design issues (Ontario Ministry of Transportation, 2012). Within the GGH, York Region (2006) has prepared a set of guidelines to guide growth among the nine local jurisdictions it comprises. In Denver, the metro government provides recommendations on creating pedestrian- and transit-friendly places (Puget Sound Regional Council, 2016). Some guidelines include model zoning overlays, such as the set prepared by the Metropolitan Atlanta Rapid Transit Authority (2010) for use by local authorities in planning areas around transit stations and along transit corridors. In Western Australia, the state metropolitan planning agency has developed detailed guidelines for the design of activity centres. Guidelines specific to corridors have been developed by Metro Portland (Metro, 1995) and Broward County (Abate, 2004). Design guidelines should provide a consistent baseline but be flexible enough to account for the various types of centres and corridors and the different contexts in which they are being developed.

Conclusions

The centres and corridors model has the potential to guide urban development in a way that minimizes the environmental impacts of urbanization, helps achieve social equity goals, and stimulates economic development, and therefore can support regional sustainability. It is a concept that steers a middle path between wholesale reconfiguration of the urban region and business as usual by focusing growth in a network of (re)development zones that work synergistically to build transit patronage and create vibrant,

walkable places. As a planning model, the centres and corridors concept has attracted interest from state and metropolitan planning authorities all over the world.

As attractive as the concept is, there are serious obstacles in its path, and experience has shown that many designated centres and corridors fail to achieve the urban form and transportation goals assigned to them. Corridors are not only less likely to be designated in metropolitan plans, but also face additional challenges in their implementation. Regional planners can help counteract some of these obstacles by ensuring that:

- a centres and corridors plan is based on an analysis of the capacity of regional real estate markets to support centre and corridor development
- designations are made in collaboration with local authorities and reflect local market realities
- centres and corridors are linked to maximize the transit benefits
- the land use and transportation characteristics of corridors are planned in an integral way rather than station by station
- developing clear criteria associated with infrastructure or funding
- a one-size-fits-all approach is avoided, i.e., that regional planning distinguish centres by their function and urban context and corridors by their built form and type of transit service.
- planning guidance is offered to local authorities to provide consistency throughout the region

Transit investment is an important lever that government authorities can use to attract planning attention and developer interest to the target zones, but public infrastructure money is limited and transit access is only one of many considerations taken into account by developers in their location decisions. To bridge the gap between the planning potential and developer interest, regulatory and financial incentives are needed in most situations to make the concept work. Obtaining buy-in from local authorities is also easier if funding, policy guidance, and technical assistance are on offer.

As part of robust growth management program, and with effective collaboration among planners in both vertical (state/provincial, metropolitan and local) and horizontal (land use and transportation) dimensions, the centres and corridors model can offer a realistic alternative to urban dispersion. It is one of the few concepts in planning around which a consensus has emerged, and in practice it has proved its resilience and staying power over the decades.

Bibliography

- Abate, A. (2004). Broward County Guidebook, C1.5. Broward County.
- Blais, P. (2010) Perverse Cities: Hidden Subsidies, Wonky Policy, and Urban Sprawl, UBC Press: Vancouver.
- Brook McIlroy Planning + Urban Design/Pace Architects (2010) Toronto Avenues and Mid-rise Buildings Study. Prepared for the City of Toronto: Toronto.
- Calthorpe, P. and W. Fulton (2001) The Regional City: Planning for the End of Sprawl. Island Press: Washington, DC.
- Carey C. and R. Tiwar (2008) "Transitioning urban arterial roads to activity corridors," Urban Design International 13(2): 105-120.
- Cervero, R. (1998) The Public Transport Metropolis: A Global Inquiry. Island Press: Washington DC.
- Cooper, J., Ryley, T. and Smyth, A. (2001) "Energy trade-offs and market responses in transport and residential land use patterns: promoting sustainable development policy," Urban Studies 38(9): 1573–1588.
- Crawford, S. and L. Gillan (2011) Planning for Transit Corridors: An Overview of Issues and Opportunities. Prepared for Metro Vancouver, Policy and Planning Department: Vancouver.

- Crommelin, L., R. Bunker, L. Troy, B. Randolph, H. Easthope, and S. Pinnegar (2017) "As compact city planning rolls on, a look back: lessons from Sydney and Perth," Australian Planner 54(2)" 115-125.
- Curtis, C. (2006) "Network City: Retrofitting the Perth Metropolitan Region," Urban Policy and Research 24 (2): 159–180.
- Curtis, C. (2008a) "Planning for sustainable accessibility: The implementation challenge," Transport Policy 15: 104–112.
- Curtis, C. (2008b) "Evolution of the Transit-oriented Development Model for Low-density Cities: A Case Study of Perth's New Railway Corridor," Planning Practice & Research 23(3): 285-302.
- Curtis, C. and B. James (2004) "An institutional model for land use transport integration," Urban Policy and
- Davis, H.C. and R. A. Perkins (1992) "The promotion of metropolitan multinucleation: Lessons to be learned from the Vancouver and Melbourne experiences," Canadian Journal of Urban Research 1: 16-38.
- Dieleman F.M., M. Dijst, T. Spit (1999) "Planning the compact city: the Randstad Holland experience," European Planning Studies 7 (5): 605–621.
- Downs, A. (2005) "Smart growth: Why we discuss it more than we do it," Journal of the American Planning Association 71: 367-378.
- Duany, A and E. Plater-Zyberk (1994) "The neighbourhood, the district and the corridor," In: P. Katz (editor) The New Urbanism: Toward an Architecture of Community. McGraw-Hill: New York.
- Elinbaum P. and D. Galland (2016) "Analysing Contemporary Metropolitan Spatial Plans in Europe Through their Institutional Context, Instrumental Content and Planning Process," European Planning Studies 24:(1): 181-206.
- Filion, P. (2001) "Suburban mixed-use centres and urban dispersion: what difference do they make?" Environment and Planning A 33: 141–160.
- Filion, P. (2003) "Towards smart growth? The difficult implementation of alternatives to urban dispersion," Canadian Journal of Urban Research (joint issue CIP-CJUR) 12(1): 48-70.
- Filion, P. (2007) The Urban Growth Centres Strategy In The Greater Golden Horseshoe: Lessons From Downtowns, Nodes, And Corridors. Neptis: Toronto.
- Filion, P. (2009) "The mixed success of nodes as a smart growth planning policy," Environment and Planning B: Planning & Design 36(3): 505-521.
- Filion, P. (2010) "Reorienting urban development? Structural obstruction to new urban forms," International Journal of Urban and Regional Research 34(1):1-19.
- Filion, P. and A. Kramer (2012) "Transformative metropolitan development models in large Canadian urban areas: The predominance of nodes," Urban Studies 49(10): 2237-2264.
- Filion, P. and K. McSpurren (2007) "Smart Growth and Development Reality: The Difficult Co-ordination of Land Use and Transport Objectives," Urban Studies 44(3): 501–523.
- Filion, P., A. Kramer, and G. Sands (2016) "Recentralization as an Alternative to Urban Dispersion: Transformative Planning in a Neoliberal Societal Context," International Journal Of Urban And Regional Research 40(3): 658–678.
- Frey, H. (1999) Designing the City: Towards a More Sustainable Urban Form. Taylor & Francis.
- Goetz, A. (2013) "Suburban Sprawl or Urban Centres: Tensions and Contradictions of Smart Growth Approaches in Denver, Colorado," Urban Studies 50(11): 2178–2195.
- Green, C. (1990) Principles for the Planning of Activity Streets, Research Report DPVT/113, Council for Scientific and Industrial Research, Stellenbosch, South Africa.
- Handy, S. (1996) "Methodologies for exploring the link between urban form and travel behavior," Transportation Research—D 1(2): 151–165.

- Kelley, G. (2009) "Achieving sustainable, compact development in the Portland Metropolitan Area : New tools and approaches for developing centers and corridors." A policy report prepared by the Institute of Portland Metropolitan Studies: Portland.
- Kumar, A. (1990) “Impact of technological developments on urban form and travel behaviour,” Regional Studies 24: 137-48.
- Lang R. (2003) Edgeless Cities: Exploring the Elusive Metropolis. Brookings Institution Press: Washington, DC.
- Litman, T. (2015) Evaluating Transportation Land Use Impacts: Considering the Impacts, Benefits and Costs of Different Land Use Development Patterns. Victoria Transport Policy Institute: Victoria, BC.
- Lloyd-Jones, T., B. Erickson, M. Roberts and S. Nice (2001) “The integrated metropolis: a strategy for the Networked Multi-Centred City,” in A. Madanipour, A. Hull and P. Healey (eds) The Governance of Place: Space and Planning Processes. Aldershot: Ashgate.
- Margerum, R. D., S. Brody, R. Parker and G. McEwen (2013) “Metropolitan smart-growth centers An assessment of incentive policies in four regions,” Journal of Transport and Land Use, 6(2): 21-32.
- Marrian, B. (2001) Towards A General Theory of Corridor Development in South Africa. Paper presented at the 20th South African Transport Conference “Meeting the Transport Challenges in Southern Africa,” 16 – 20 July.
- Metro (1995) Regional Mainstreets: An Implementation Strategy to Promote Main Street and Corridor Development. Metro (Oregon) Collection: Portland.
- Metropolitan Atlanta Rapid Transit Authority (2010) Transit-Oriented Development Guidelines. MARTA: Atlanta.
- Naude, A. H. (1991) “Economic Upliftment through Urban Corridor Development: A Summary Assessment,” Research and Development Advisory Committee, South African Roads Board: Pretoria.
- Newman, P. and J. Kenworthy. (1999) Sustainability and Cities; Overcoming Automobile Dependence Island Press: Washington, DC.
- Ontario Ministry of Transportation (2012) Transit- Supportive Guidelines. MOT, Toronto.
- Provo, J. (2002). "Regional centers: do they work?" Metroscape, Winter: 20-25.
- Puget Sound Regional Council (2016) Regional Centers Framework Update Project Background & Findings: Appendix B: Peer Regions Center Planning and Implementation. PSRC: Seattle.
- Rickaby, P. (1991) “Energy and urban development in an archetypal English town,” Environment and Planning B 18: 153–175.
- Roeseler, W. G. and D. von Dosky (1991) “Joint development in urban transportation: a practical approach to modern growth management,” Landscape and Urban Planning 20(4): 20325-346.
- Schively, C. (2007) “Understanding the NIMBY and LULU phenomena: Reassessing our knowledge base and informing future research,” Journal of Planning Research 21: 255-266.
- Schneider, J. B. (1981) Transit and the Polycentric City. U.S. Department of Transportation: Washington, DC.
- Schwanen, T., Dijst, M. J. & Dieleman, F. M. (2004) “Policies for urban form and their impact on travel: the Netherlands experience,” Urban Studies 41(3): 579–603.
- Smith, H. and J. Raemaekers (1998) “Land use pattern and transport in Curitiba ,” Land Use Policy 15(3): 233-251.
- Sorenson, A. (2001) “Subcentres and Satellite Cities: Tokyo’s 20th Century Experience of Planned Polycentrism,” International Planning Studies, 6(1): 9–32.
- Takami, K. and K. Hatoyama (2008) Sustainable Regeneration of a Car-dependent City: The Case of Toyama toward a Compact City, in T. Kidokoro, N. Harata, L. P. Subanu, J. Jessen, A. Motte, E. P. Seltzer (Eds.) Sustainable City Regions: Space, Place and Governance.
- Thorne-Lyman, A. and E. Wampler (2011) Transit Corridors and TOD: Connecting The Dots. Prepared for the Center for Transit-Oriented Development.

- Van der Valk, A. and A. Faludi (1992) Growth regions and the future of Dutch planning doctrine, in: M. Breheny (Ed.) Sustainable Development and Urban Form, 122–137. Pion: London.
- Van Til, J. (1979) Spatial form and structure in a possible future," American Planning Association Journal, 5(3): 318-329.
- Watson, V. (2002) Change and Continuity in Spatial Planning: Metropolitan Planning in Cape Town under Political Transition. Routledge: New York.
- Westerman, H. L. (1998) Cities for Tomorrow: Integrating Land Use, Transport and the Environment. Better Practice Guide. Austroads Incorporated: Haymarket, New South Wales.
- Western Australia, State of (2010) State Planning Policy 4.2 Activity Centres for Perth and Peel. WA: Perth.
- Williams K., E. Burton and M. Jenks (2000). Sustainable Development and Urban Form. Pion: London.
- Wu, F. (2015) Planning for Growth: Urban and Regional Planning in China. Routledge.
- York Region (2006) Regional Transit-Oriented Development (TOD) Guidelines. Regional Municipality of York: Newmarket.
- Zimbabwe, S. and A. Anderson. 2011. Planning for TOD at the regional scale: The big picture. The Center for Transit-Oriented Development.

24156738

Assessing Metro Vancouver's Growth Overlays:

Peer Jurisdiction Assessment (Case Studies)

Prepared as part of Phase 2
of the Urban Centres and FTDA Policy Review

Final Report

Ray Tomalty, Ph.D.
Smart Cities Research

Prepared for
Metro Vancouver
Growth Management and Transportation
Regional Planning

January 2, 2018

Table of Contents

Greater Golden Horseshoe (GGH), Ontario 1
Puget Sound Regional Council, Washington 7
Metro Portland, Oregon 14
Metropolitan Perth and Peel, Western Australia 20
Greater Copenhagen, Denmark 26
Peer Jurisdiction Comparison Table 30

Greater Golden Horseshoe (GGH), Ontario

Regional profile

- Metropolitan population: 9.24 million (2016)
- Metropolitan area: 31,561 km^2
- Metropolitan density: 295 p/km^2
- Expected regional population: 13.5 million (2041)
- Core city: Toronto
- Core city population: 2.7 million (2016)

Regional land use and transportation governance

- There is no formally-constituted metropolitan government in the Toronto region. It is the only large urban region in Canada without some kind of metropolitan government.
- The provincial government assumes responsibility for strategic land use planning in the GGH. Land use planning is carried out by the Growth Secretariat in the Ministry of Municipal Affairs.
- Land use planning in the region is governed by a top-down system, with the provincial government setting the strategic framework and municipal governments adopting plans and policies that are consistent with that framework. The provincially-appointed Ontario Municipal Board adjudicates in disputes between the province and municipalities over planning matters.
- Regional transportation planning is carried out by Metrolinx, a Crown agency that also operates GO Transit, which provides commuter rail and coach services in the region. Metrolinx is governed by a board of provincially-appointed members (all non-political). Other municipally-owned agencies in the region, including the Toronto Transit Commission, run local bus systems.
- The GGH is a vast urbanized region comprised of six upper-tier (regional) municipal governments comprised of 43 lower-tier (local) municipalities, eight single-tier cities (like Toronto), and seven counties. It includes nine CMAs, including Toronto, Hamilton, Oshawa, and Peterborough.

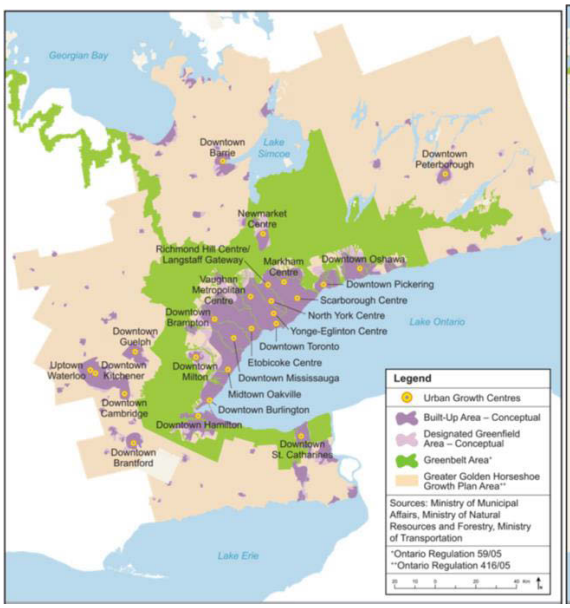
Regional planning framework

- The idea of organizing growth around a hierarchy of nodes and corridors goes back to the 1960s in the Toronto region. In 1992, the former Office for the Greater Toronto Area (a provincially-created entity with local representation) adopted a concentrated nodal form of development as its vision for the GTA. Successive regional planning efforts led by the provincial government continued to embrace this model into the early 2000s.
- In 2006, the Ontario government released its Places to Grow: Growth Plan for the GGH. The plan was intended to promote higher-density development, a lower rate of urban land absorption, and increased public transit use in the GGH. The designation of Urban Growth Centres (UGCs) was a major plank of this strategy. In the 2017 update to the plan, UGCs again played an important role in the growth management regime, but additional attention was placed on transit corridors.

- The Growth Plan has intensification and greenfield density targets and refers to an Urban Settlement Area, but the boundary of this area is negotiated with municipalities during official plan reviews and is therefore not a hard edge.
- The Growth Plan is meant to work in tandem with the 2005 Greenbelt Plan, which establishes permanently protected areas, including areas of great agricultural and ecological value, around which major urbanization in the GGH is to be organized.
- The Provincial Policy Statement, 2005 (PPS) contains a number of transit-supportive planning policies that all Ontario communities must be consistent with. These include:
    - integrating transportation and land use considerations at all stages of the planning process
    - identifying nodes and corridors for higher-intensity, mixed-use development
    - an emphasis on intensification and the creation of a more compact urban form
    - promoting a land use pattern, density and mix of uses that minimize the length and number of vehicle trips and support transit as a viable mode choice
- To provide technical guidance on how to achieve the policies of the PPS, the Province published the Transit-Supportive Guidelines in 2012. The document provides advice on community-wide, district-level and site-specific planning and design issues.
- The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area is Metrolinx' regional transportation plan, adopted in 2008. It focusses largely on commuter train, subway, light rail and bus rapid transit projects. By law, the plan must conform with and support the goals of the Growth Plan.

Centres

- The 2006 and 2017 Growth Plans identify 25 UGCs (see map), which are defined as mixed-use, high-density, and public-transit oriented developments that are or will become focal points within the GGH. These include existing downtowns in well-established cities, as well as some emerging centres in rapidly growing municipalities.
- According to the 2017 Growth Plan, UGCs must be planned:
    - as focal areas for investment in regional public service facilities, as well as commercial, recreational, cultural , and entertainment uses
    - to accommodate and support the transit network at the regional scale and provide connection points for inter- and intra-regional transit
    - to serve as high-density major employment centres that will attract provincially, nationally , or internationally significant employment uses
    - to accommodate significant population and employment growth.
- Although not differentiated by name, the centres are grouped into three categories for purposes of their urban form targets (see below):
    - five urban growth centres in the City of Toronto
    - 14 UGCs in a list of larger downtowns
    - six UGCs in a list of smaller downtowns.



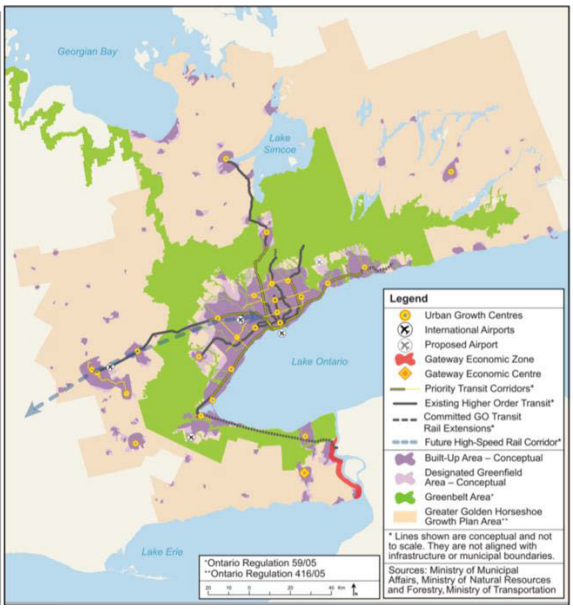


Figure 1: Urban Growth Centres Figure 2: Priority Transit Corridors

Corridors

- According to the 2017 Growth Plan all major transit station areas (MTSAs) will be planned and designed to be transit-supportive. Within all major transit station areas, development will be supported by:
    - planning for a diverse mix of uses, including second units and affordable housing, to support existing and planned transit service levels
    - fostering collaboration between public and private sectors, such as joint development projects
    - providing alternative development standards, such as reduced parking standards
    - prohibiting land uses and built form that would adversely affect the achievement of transit-supportive densities.
- The 2017 Growth Plan identifies ten priority transit corridors (see map) to accommodate intensification and higher-density mixed uses in a compact built form. The plan lays out the urban form targets for MTSAs along these priority corridors (see below), but not for the corridor components outside the station areas.

Development Priority

- No overall goal is given for the amount of growth to be accommodated in UGCs, MTSAs, or transit priority corridors.
- No development priority for the various UGCs, transit stations or corridors is given in the planning documents. Forecasted growth is allocated on the basis of upper-tier municipalities, but the proportion of growth that will go into UGC and transit corridors is not specified.
- For transit stations, development priority is placed on those stations in the priority transit corridors.

Designation criteria

- The province determines the size and location of the urban growth centres and municipalities delineate the boundaries of urban growth centres in their official plans. No designation criteria are provided in the Growth Plan.
- The 2006 Growth Plan identified 25 urban growth centres and the 2017 update continued to recognize the same centres, i.e., no new UGCs designated since 2006.
- MTSAs are defined as the area including and around any existing or planned higher order transit station or stop, meaning transit that generally operates in partially or completely dedicated rights-of-way including heavy rail (such as subways and inter-city rail), light rail, and buses in dedicated rights-of-way.
- The 2006 Growth Plan proposed that municipalities develop their own process and set of criteria for identifying designated intensification corridors. In the 2017 update to the plan, the corridors were designated in the plan, although no criteria were given for these designations.

Urban form targets

- According to the 2006 and 2017 Growth Plans, urban growth centres will be planned to achieve a minimum density target of:
    - 400 residents and jobs combined per hectare for each of the five urban growth centres in the City of Toronto
    - 200 residents and jobs combined per hectare for the 14 UGCs in larger downtowns
    - 150 residents and jobs combined per hectare for the six smaller downtowns
- Major transit station areas on priority transit corridors will be planned for a minimum density target of:
    - 200 residents and jobs combined per hectare for those that are served by subways
    - 160 residents and jobs combined per hectare for those that are served by light rail transit or bus rapid transit
    - 150 residents and jobs combined per hectare for those that are served by the GO Transit commuter rail network.
- Upper-tier municipalities may request an alternative to the MTSA targets where the above targets are not achievable due to development restrictions or considered premature given the development context.

Geographical relationship to transportation

- A major transit station area is the area including and around any existing or planned higher order transit station or stop. Major transit station areas generally are defined as the area within an approximate 500 metre radius of a transit station.

Regional incentives

- Provincial/regional transportation investment is guided by the regional transportation plan, which respects the Growth Plan.
- The province (as the regional planning authority in this case) does not provide technical or financial support for municipalities to undertake planning/re-zoning processes for UGCs or transit station areas and corridors.

Municipal actions required

- Municipal plans are expected to develop municipal strategies and policies for urban growth centres and MTSAs that conform with the Growth Plan and the provincial transit-supportive guidelines.
- Municipal official plans must be brought into conformity with the Growth Plan within five years after the Growth Plan comes into effect, although they have until 2031 to achieve the UGC urban form targets (no interim targets). Measures to meet the MTSA targets are expected to be incorporated into municipal plans within the five year conformity timeline.
- For major transit station areas on priority transit corridors, upper-tier municipalities are required to delineate the boundaries of major transit station areas.
- Municipalities are expected to complete detailed planning for major transit station areas on priority corridors to support planned service levels. The corridors must be identified as such in official plans and planning will be prioritized for major transit station areas along these corridors, including zoning in a manner that implements the policies of the plan.
- Upper-tier municipalities are required to provide policy direction to lower-tier municipalities to implement the Growth Plan, including identifying minimum density targets for UGCs and MTSAs and addressing matters that cross municipal boundaries (e.g., transit corridor planning).
- Each municipality must prepare a growth management strategy, which includes a land budget. The land budget assesses the land area required to accommodate additional people and jobs over time, and achieve UGC minimum density targets (in addition to the overall intensification and greenfield density targets).

Other tools that support urban structure

- The province has created several tools that, although not targeted specifically to centres and corridors in the GGH, do allow municipalities to adopt incentives for (re)development in such places. This includes:
- Community Improvement Plans: allows municipalities to designate an area where they are permitted to offer financial incentive programs to encourage development, redevelopment and the revitalization of buildings and properties. Most municipalities in the GGH with UGCs (like Oshawa, Hamilton, Barrie, Waterloo, and Guelph) have availed themselves of this program to spur development in their growth centres. Typically, grants are offered to property owners to refund increased tax assessments as a result of improvements, encourage building renovation, subsidize the conversion of upper-storey office space to residential uses, preserve heritage values, and build affordable housing.
- Development charges: provincial legislation allows municipalities to waive or reduce development charges in specific areas. Several municipalities (e.g., Kitchener, Brampton, Hamilton) are using this provision to reduce charges in their UGCs.

Observations

- Very little of the GTHA's population growth has been located near frequent transit corridors or near GO train stations. Between 2001 and 2011, only 18% of the region's new residents were accommodated near frequent transit routes, and only 10% of new residents were accommodated within 1000 metres of a GO station. At present, most GO train stations are little more than giant parking lots that underutilize the surrounding land.
- Only 13% of population growth has occurred in UGCs since 2006. While 66% of office space built since 2006 was located within UGCs and MTSAs, much of this office growth was

concentrated in the City of Toronto. Outside the City of Toronto, only 20 % of the new major office development was located in UGCs and MTSAs.

- Despite the consistent planning interest in nodal development going back decades, few of the numerous nodes that have been designated by various planning agencies have taken shape and only four have achieved substantial levels of development.
- Many nodes, particularly suburban ones, are marred by an urban form primarily tailored to the automobile and ill-suited to walking and transit. The lack of frequent or convenient public transit services between many of the nodes and their catchment areas is also responsible for a high reliance on the car for journeys to and from these nodes.
- Provincial infrastructure investment is not consistently linked to land use planning for UGCs or MSTAs. Even large scale transit projects are planned by the government without the land-use supportive plans being in place. This has led to low-density development and squandering the opportunity for thousands of jobs and homes close to transit.
- One of the weaknesses of the planning framework is that municipalities have until 2041 to achieve the urban form targets and are not required to pre- or re-zone UGCs to accommodate the targets in the short term. This means that transit-unfriendly land uses can proliferate for years and be very hard to undo at a latter date.
- Planning for transit corridors has lagged behind centres planning in the GGH, but a number of municipalities, including Waterloo Region, York Region, Mississauga and Toronto, have designated specific transit corridors for more intensive development within their boundaries.

Puget Sound Regional Council, Washington

Regional profile

- Metropolitan population: 3.8 million (2014)
- Metropolitan area: 16,300 km^2
- Metropolitan density: 233 p/km^2
- Expected population: 5 million (2040)
- Core city: Seattle
- Core city population: 704,352 (2016)

Regional land use and transportation governance

- In 1990, Washington adopted a Growth Management Act (GMA) that sought to reduce sprawl by establishing state-wide planning goals and requiring local and regional planning in areas of high growth.
- The Puget Sound Regional Council (PSRC) was established in 1990. The PSRC is a planning association of cities, towns, ports, tribal representatives, and state agencies that acts as a body for developing policies and making decisions on regional growth strategy, transportation issues, environmental issues, and economic development.
- The PSRC's primary decision-making body is the Executive Board, which is composed of 32 elected officials from all levels of local government: county executives and commissioners, city mayors, and members of city and county councils.
- The PSRC planning area includes four counties (King, Snohomish, Pierce, and Kitsap) and 82 cities, including Seattle, Bellevue, Bremerton, Everett, and Tacoma.
- The PSRC, as the federally designated Metropolitan Planning Organization, is charged with formulating the metropolitan transportation plan. Regional transit services are provided by Sound Transit, created in 1996. It operates light rail service in Seattle and Tacoma, regional commuter rail, and express bus service. It is governed by a board made up of elected officials from member jurisdictions. Six other independent of local transit agencies provide local services.
- Under Washington state's GMA, the local governments remain the proactive force in land use decisions, with the regional entity setting overall direction, including an allotment of population and employment growth and policies to guide local planning decisions. Each local government is to develop a plan to meet regional and state goals. Local decisions that undermine these goals can be challenged and are either resolved by the PSRC or go to a state appeal board, the Central Puget Sound Hearings Board.

Regional planning framework

- Vision 2020 was the region's first growth management strategy, adopted in 1990. Because the plan was adopted prior to the enactment of the state growth management law, it was advisory only. In 1993, the PSRC amended Vision 2020 to establish a more robust framework for implementing the goals specified in the GMA.
- Vision 2040 is the updated regional plan, adopted in 2008. Like its predecessors, the current plan expresses Metro's desire to focus growth in "central places" and to develop a transit system that connects and supports the development of these places.
- Vision 2040 is comprised of a Regional Growth Strategy (RGS) and the "multi-county planning policies" that are intended to guide planning decisions among local authorities to support the RGS goals. The RGS lays out the strategy of concentration growth in central places, including

regionally recognized centers and sub-regional centers designated by local planning authorities. Regionally recognized centers are comprised of regional growth centers linked by high quality transit and industrial/manufacturing areas. The RGS allocates population and employment growth to regional "geographies" that contain the regionally recognized centers (see below).

- Counties and cities are required by state law to designate an urban growth area where growth will be concentrated. All four counties in the region designated such an urban growth area in the mid-1990s and only minor adjustments have been made since. Vision 2040 assumes that existing urban growth area designations can accommodate the growth expected by 2040 with only minor adjustments.
- PSRC is responsible for creating a regional transportation plan to guide planning and investment over a 30 year time horizon. The most recent plan, Transportation 2040, was adopted in 2010. Transportation 2040 links regionally designated centers with an efficient transportation network, and prioritizes regional transportation investments to serve regional centers. The RTP also lays out physical design guidelines for local plans related to regional growth centers and high-capacity transit.
- To ensure that local plans support the region's growth management strategy, local planning authorities are required to submit a report during updates to their comprehensive or subarea plans that shows how the plan is consistent with requirements of the GMA, Transportation 2040, and the multicounty planning policies found in Vision 2040. The consistency report is used by the PSRC in its decisions related to the prioritization of transportation projects.
- Sound Transit is charged with developing a regional transit system that links together the urban centers. Plans prepared by Sound Transit are reviewed by the PSRC to ensure they are consistent with the regional transportation plan.

Centres

- The RGS in Vision 2040 designates 29 regional growth centers and nine manufacturing/industrial centers. 21 of the regional growth centers were identified in the 1995 Vision 2020 plan, and eight have been added since then.
- **Regional Growth Centers (RGCs)** are focal points for higher density population and employment growth, and are primary locations for arts, civic activity, public services, commerce and recreation. The regional growth centres include five Seattle neighbourhoods (including downtown Seattle) and most of the older suburban downtowns such as Bellevue, Everett, and Issaquah. They also include emerging suburban job centers, including some job centers located adjacent to regional malls. Their intended urban form is compact and walkable, served with efficient multimodal transportation infrastructure and services. They will accommodate significant population and employment growth, and be the focus of regional transportation investments. Vision 2040 does not differentiate among centers of different sizes or establish a functional hierarchy among them.
- **Manufacturing/Industrial Centers (MICs)** are employment areas with a concentration of jobs and intensive manufacturing and industrial land uses that are typically not appropriate for housing. These areas rely on specific transportation facilities, such as roads, rail, ports, and airports, and have a land use pattern consistent with their freight and manufacturing needs. These areas are intended to accommodate a significant amount of regional employment growth.

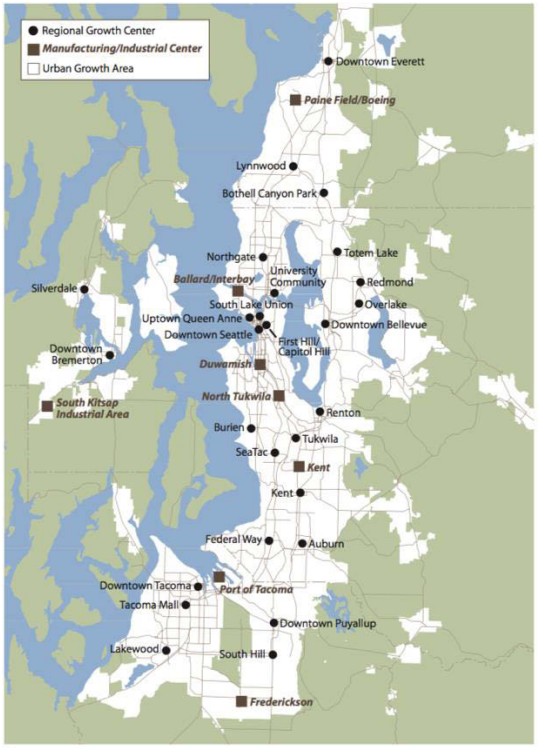


Figure 3: Regional Growth Centers

- The regional centers are more densely developed than the rest of the region and contain the lion's share of the region's jobs. Although regional centers comprise only 1% of the region's land area, they represent 5% of the region's current population and 37% employment and will capture most of the future housing and job growth (see below).
- Vision 2040 calls for local jurisdictions with designated regional centers to develop center-specific growth targets to assist in planning. Jurisdictions with regional centers are in the process of establishing these growth targets as a part of their local comprehensive plans.
- Although not formally recognized in Vision 2040, the RGS encourages counties and cities to designate their own smaller centers to accommodate planned growth according to the regional vision. These centers are activity hubs that are pedestrian- and transit-oriented. They can be downtowns, neighbourhood centers, or station areas along major transit routes in cities and communities of all size. Vision 2040 encourages counties and cities to direct their own infrastructure funds to these centers, but they are not considered a priority for regional funding.

Corridors

- Neither Vision 2040 nor Transportation 2040 contain specific policies to encourage (re)development along high-frequency or high-capacity transit arterials with the potential to support more compact, pedestrian-oriented communities. Transportation 2040 encourages local authorities to adopt transit-oriented plans for the areas around high-capacity transit stations, but there is no supporting program of guidance, standards, or incentives.

Development Priority

- Vision 2040 does not differentiate among the regional centers in terms of development potential or lay out development priorities for the centers. However, the RGS does distribute

the forecasted population and employment growth among the different types of cities (or "regional geographies") within which the regional centers are located. This allotment is meant to guide counties and cities as they develop new population and employment growth targets and update local comprehensive plans and provide a basis for regional transportation planning. These numbers provide an indication of the relative development priority of the various regional growth centers.

- **Metropolitan Cities:** Each of the four counties in the region contains at least one central city that serves as a civic, cultural, and economic hub. 16 regional growth centers have been designated within these Metropolitan Cities.
- **Core Cities:** These cities contain key hubs for the region's long-range multimodal transportation system, and are major civic, cultural, and employment centers within their counties. 17 regional centers have been designated in core cities.
- **Larger Cities:** grouped together because they each have a combined population and employment total over 22,500. Many of these cities are home to important local and regional transit stations and other transportation connections. There are no regional centres designated in these cities.
- **Small Cities:** typically have a population well under 10,000, including traditional suburbs, small residential towns, and cities in the rural area. They have no regionally-designated centers.
- **Unincorporated Urban Growth Areas.** These urban areas are quite diverse, with both lightly developed fringe areas and neighborhoods that are much more urban and nearly indistinguishable from surrounding incorporated jurisdictions. There are three regional centers designated in these areas.
- **Rural Areas.** Rural lands will not develop urban service levels or characteristics, or accommodate a great deal of residential or employment growth.

- Metropolitan Cites will accommodate the largest share of both of both employment and housing growth, implying that the 16 regional centers located in those cities will attract the most growth.
- Core cities will attract somewhat less growth, indicating that their 17 regional centers have a lower level of development priority.
- Other cities will attract more modest levels of growth, as reflected in their lack of regionally-designated growth centres.

Table 1: Distribution of population and employment growth according to the "urban geographies", 2010-2040.

	Metropolitan Cities	Core Cities	Larger Cities	Small Cities	Unincorporated UGA	Rural	Total
Number of cities	5	14	18	46	0	0	83
Number of regional centres	11 RGCs 5 MICs	15 RGCs 2 MICs	0	0	3	0	26 RGCs 7 MICs*
% of total pop growth	32	22	14	8	18	7	100
% of total emp growth	42	29	12	6	8	2	100

Note: Other centers added after 2013 when the data for this table was current.

Designation criteria

- Since 2003, the region has had a formal designation process for recognizing regional centers. Counties propose new centers and the PSRC reviews the applications to ensure they meet eligibility (i.e., within an urban growth area and designated in county and local plans) and

minimum requirements (see below). Once accepted by PSRC, the center receives "provisional" status until the jurisdiction has adopted a center subarea plan (see below).

- The majority of centers (28 of 37) were designated through the adoption of the 1995 update of Vision 2020. The remainder were reviewed and approved under the current designation procedures.
- Regional Growth Centers minimum requirements:
    - Area: 1 square mile
    - Minimum existing activity: 18 activity units (population + employment) per acre
    - Minimum planned activity: 45 activity units per acre
    - Zoned development capacity to adequately accommodate targeted levels of growth
    - Subarea plan required within two years.
- Manufacturing/Industrial Center minimum requirements:
    - Minimum existing threshold: 10,000 jobs
    - Minimum planned activity: 20,000 jobs
    - Zoned development capacity to adequately accommodate targeted levels of growth
    - Subarea plan required within two years.
- There is no regional framework for designating subregional centers. This process is left up to the counties and differs from jurisdiction to jurisdiction.

Urban form targets

- Regional Growth Centers: Minimum planned activity: 45 activity units per acre.
- Manufacturing/Industrial Center: Minimum planned activity: 20,000 jobs.

Regional incentives

- PSRC gives funding priority for transportation and other infrastructure to support designated regional growth centers consistent with the regional vision. Regional funds are prioritized to regional growth centers. PSRC recommends that county-level and local funding also prioritize regional growth centers, but has no control over these expenditures.
- The region's seven public transportation agencies direct service and capital improvements to regional and local centers, both in response to policy direction and ridership needs. For example, Sound Transit selects future transit corridors based in part on the extent to which candidate corridors support regional growth centers.
- PSRC's Transportation Improvement Program, which allocates federal transportation funds follow a policy framework that prioritizes support for centers and the corridors that serve them. TIP is updated regularly and reflects priorities found in the Transportation 2040, where regionally significant transportation projects must be explicitly listed before they can proceed to implementation.
- PSRC does not provide any funding or technical assistance for centers planning.
- PSRC does not provide any special tax or other fiscal provisions.

Municipal actions required

- Jurisdictions that have regionally designated centers — either regional growth centers or regional manufacturing/industrial centers — are required to prepare a subarea plan for each center within two years of the designation of the center. The plan must cover topics included in the applicable PSRC checklist.
- For regional growth centers, the plan must cover (among other things):

    - Center Plan Concept or vision (including commitment to a pedestrian- oriented scale and urban form, center relationships and context, and development potential).
    - Land Use (including defined boundaries with appropriate size and shape, residential and employment growth targets and capacity, a balanced mix of uses, and urban design).
    - Transportation (including physical design guidelines, multimodal networks and complete streets, transit-supportive planning, context-sensitive design, green streets, tailored concurrency standards, and mode-split goals).
- For manufacturing/industrial centers, the plan must cover:
    - Center Plan Concept or vision (including commitment to preservation of the urban industrial land base, center relationships and context, and development potential).
    - Land Use (including defined boundaries with appropriate size and shape, employment growth targets and zoned capacity, discouraging incompatible uses, and urban design).
    - Transportation (including transportation networks, planned improvements, capacity for freight movement, employee commuting, and mode split goals).

Geographical relationship to transportation

- None.

Other tools that support urban structure

- No other tools or incentives.

Observations

- PSRC is considered to be near the forefront of using Smart Growth principles to combat urban sprawl in the United States.
- Regional centers have accommodated significant shares of recent population and employment growth (7% and 20% from 2000-2014, respectively) and that share is expected to grow in the future.
- However, success has not been uniform. Much of this activity is clustered in a small handful of growing regional centers. Many other regional centers have experienced little to no growth and remain unconnected to high-capacity transit.
- Some regional growth centers do not meet the minimum activity levels for a new center today, while some mixed-use places that are not regional growth centers are denser and have a greater mix of uses.
- Some centers are predominantly focused on employment and have accommodated little housing growth, while others have experienced the residential or mixed-use development expected of centers.
- The regional growth centers do not completely align with the region's high-capacity transit system built to date. Some mixed-use places that are not designated centers have better transit and transportation access than some existing designated centers.
- Competition for limited infrastructure funding may motivate the selection of some local centers that primarily address local transportation needs, rather than selecting locations that achieve the land use and growth objectives of VISION 2040.
- There are inconsistent designation procedures and selection criteria within counties for the nomination of regional centers and the designation of local and countywide centers.
- Some large and growing jurisdictions do not include a regional growth center, while some smaller communities may include one or more centers.

- Stakeholders have raised concerns about designating too many centers that may compete with each other for limited market demand.
- The region does not differentiate the regional centres into a hierarchy of size, function, or development priority.

Metro Portland, Oregon

Regional profile

- Regional population: 1.5 million people (2010)
- Regional area: 1200 km^2
- Regional density: 1250 p/km^2
- Expected population: 1.8 million (2040)
- Core city: Portland
- Core city population: 639,863 (2016)

Regional land use and transportation governance

- The Metropolitan Planning Office for Portland (known as Metro) was created by the State of Oregon in 1979. Metro is charged with developing regional growth management and land use policies, creating a regional transportation plan, and allocating federal transportation funds.
- Metro Council consists of a president, elected region-wide, and six councillors, who are elected by district every four years. It is the only directly elected regional council in the US.
- Various committees with representation from local governments and state agencies advise Metro. This includes the Joint Policy Advisory Committee on Transportation, which is charged with defining needed regional transportation improvements, prioritizing projects for funding, and reviewing the regional transportation plan. Acting in concert, Metro and JPACT serve as the region's Metropolitan Planning Organization (MPO). The Metro Policy Advisory Committee advises Metro Council on regional planning issues.
- TriMet provides bus, light rail and commuter rail transit services in the Portland metro area. The board of directors is appointed by the Governor of Oregon.
- There are three counties (Clackamas, Multnomah and Washington) and 25 cities in the Portland region, including Portland, Beaverton, and Tualatin. Metro's jurisdiction is considerably smaller than the metropolitan area.
- Metro's planning decisions must be consistent with State planning goals, while Metro ensures (following a conflict resolution and mediation process) that local jurisdictions adopt local comprehensive plans that are consistent with regional planning policies.

Regional planning framework

- Oregon state law requires that Metro adopt an urban growth boundary (UGB) that ensures a 20-year land supply inside and a 50-year supply through "urban reserves" outside the boundary. Metro adopted its first urban growth boundary in 1979 and since then, the UGB has been moved about 35 times, mostly involving additions of 20 acres or less, but including some major adjustments.
- In 1995, Metro adopted the 2040 Growth Concept Plan, which directs most development to existing urban centers and along existing major transportation corridors, and promotes a balanced transportation system with a variety of transportation options.
- The Regional Transportation Plan is a 20- year blueprint that covers motor vehicle, transit, pedestrian, bicycle and freight, first adopted by the Metro Council in 1983 and then updated in 1996 and thereafter to implement the 2040 Growth Concept Plan and the state Transportation Planning Rule (see below). The RTP prioritizes the mobility needs of the centers and corridors identified in the 2040 Growth Concept Plan. The last update, the 2035 Regional Transportation Plan, was adopted in 2014.

- In 1992, the region's voters adopted a Charter for Metro which gave Metro jurisdiction over matters of metropolitan concern and required the adoption of a Regional Framework Plan. The Regional Framework Plan (RFP), adopted in 1996, unites the 2040 Growth Concept and the RTP. The RFP contains regional policies on key regional growth issues, including accommodation of projected growth and the coordination of transportation and land-use planning. The plan was updated in 2005, 2010, and 2014.
- In 1996, Metro adopted the Urban Growth Management Functional Plan (UGMFP), which mandates that local jurisdictions implement the goals and policies in the RFP, e.g., by adopting growth targets, parking maximums, minimum densities, and street connectivity standards. All jurisdictions are currently in compliance with the UGMFP.

Centres

- The Urban Centers policy in the 2040 Growth Concept identifies 40 high-density, mixed-use, pedestrian- and transit-oriented activity nodes, defining a hierarchy of places within the plan. Planning for these places is supposed to seek a balance among jobs, housing, and unique blends of amenities so that more transportation trips are likely to remain local and become multi-modal.
- **Central city:** Downtown Portland will accommodate high-rise development and continue to serve as the finance and commerce, government, retail, tourism, arts and entertainment center for the region.
- **Regional centers:** As centers of commerce and local government services serving a market area of hundreds of thousands of people, regional centers are to be the focus of redevelopment, multi-modal transit connections and concentrated growth. Regional centres will see construction in the range of two- to four- story compact employment and housing development. There are eight regional centers, almost all of which are well connected to the rest of the region through rail or frequent bus service. Some have grid street patterns and maintain a historic downtown feel, while others have larger block sizes with large format retail, more typical of suburban style malls. Eventually, Metro intends for these regional centers to be connected to one another and the city center via light rail service.
- **Town centers:** Town centers provide day-to-day services to tens of thousands of people within a two- to three-mile (3.2-5 km) radius. These centers differ widely in their current urban form. One- to three-storey buildings for employment and housing will be characteristic. Each of the 31 town centers will be linked by transit and road with its regional center. Some town centres will see a currently auto-oriented landscape transformed into a more complete community, while those that already have features of a traditional town centre will see those features strengthened. A few town centres are located in newly developing areas.
- **Main streets:** Similar to town centers, main streets have a traditional commercial identity but are more linear and on a smaller scale. Main streets feature good access to transit.
- **Corridors:** Corridors are major streets that serve as key transportation routes for people and goods. They provide a place for increased densities and feature a high-quality pedestrian environment and convenient access to transit. Typical developments expected along corridors include rowhouses, duplexes and one- to three- storey office and retail buildings. While some corridors may be continuous, narrow bands of higher intensity development along arterial roads, others may be more nodal, that is, a series of smaller centers at major intersections or other locations along the arterial that have good transit service. Corridors are served extensively by transit.

- **Station communities:** These are areas of intensified residential development, including shops and services centered around a light-rail or high- capacity-transit station. 31 such communities were identified in Metro 2040.

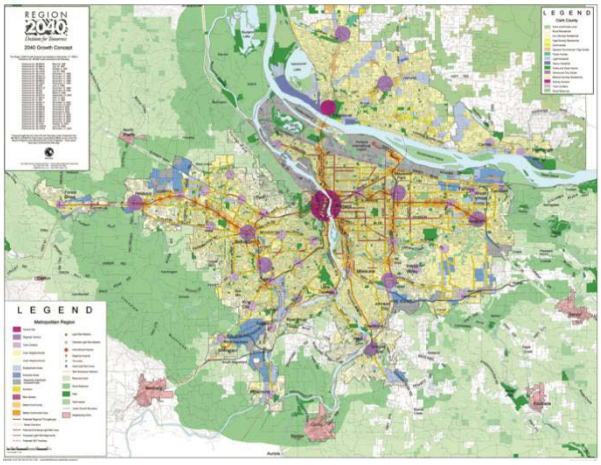


Figure 4: Regional Growth Concept showing Urban Centers

Corridors

- There are a large number of corridors designated in the 1995 2040 Growth Concept (yellow lines on the 2040 Growth Concepts map). This reflects the assumption that there would be an extensive transit system providing 10-15 minute peak hour service on major routes throughout the region.

Development priority

- According to the 2040 Growth Concept, about 55% of the expected employment growth and about 40% of household growth to 2040 are to take place in and around the designated centers and corridors (not including Main Streets).
- The largest share of the forecasted household growth (28%) and a significant portion of the employment growth (15%) were allocated to the corridors and station communities, indicating that these would be a major priority in the regional growth strategy.
- The largest share of employment growth is expected to go to the Central City (i.e., Downtown Portland), which will also capture 6% of household growth.

Table 2: Distribution of household and employment growth, 1990-2040.

Center Type	Number of centers	% of total household growth	% of total employment growth
Central City	1	6	20
Regional Centers	8	3	11
Town Centers	31	3	7
Corridors	large no.	28	15
Station Communities	NA		
Main Streets	NA	NA	NA

Designation criteria

- Most centers were designated by 1995 and appeared on a concept map in Metro 2040. Since then, a few new town centres have been added in urban expansion areas and one town center has been redesignated as a regional center.

- Neither the 2040 Growth Concept Plan nor the RFP provide any thresholds (e.g., size, housing density, employment density) for the designation of the different types of centres or corridors.
- There does not appear to be a formal process or criteria for designating new centers.
- High capacity transit (HCT) corridors have been selected and ranked at the regional level using public consultation to establish a long list of candidate corridors, then filtering them using planning criteria (like projected ridership), and then ranked into four priority investment tiers using criteria grouped into community, environment, economy and deliverability.

Urban form targets

- The 2040 Growth Concept Plan was accompanied by a map that showed the general location and scale of the designated centres and corridors. It was left up to each municipality to define the actual boundary and target characteristics of its own centres and corridors.
- However, the Urban Growth Management Functional Plan recommends the following density targets:

Table 3: Centers and corridors density targets, 2040.

Center Type	1990 density (people/acre)	2040 density (people/acre)
Central City	150	250
Regional Centers	24	60
Station Communities	NA	45
Corridors	NA	45
Town Centers	23	40
Main Streets	36	39

- Beyond these quantitative targets, the UGMFP lays out some qualitative land use and housing mix aspirations for centers and corridors, including:
    - a mix of land uses, including private amenities, institutional uses, and civic uses.
    - a mix of housing types, including those identified in the city's or county's housing need analysis, and accessory dwellings.

Regional incentives

- Metro's Transportation Improvement Program uses federal transportation funds to implement the 2040 Growth Concept. The TIP funds projects and programs administered by Metro, Oregon Department of Transportation, and TriMet. Projects are chosen in part on the basis of their potential to spur development in priority 2040 centers and corridors. For example, Metro's Regional High Capacity Transit Plan, completed in 2010, identifies high-priority investment areas, based in part on each candidate corridor's ability to serve identified 2040 Growth Plan centers, main streets and growth corridors. The plan was incorporated into the 2035 Regional Transportation Plan.
- To help stimulate development in transit-supportive centres and corridors, Metro operates the innovative TOD Implementation Program using federal transportation funds. The program offers direct investment in development projects (e.g., gap financing), makes limited acquisition and banking of property near transit, supports the addition of neighborhood amenities and provides technical assistance to local jurisdictions to help with planning initiatives in centres and corridors. When property is acquired, it is re-parceled and sold with conditions to private developers for constructing TOD or dedicated to local governments for streets, plazas, and other public facilities. Project selection is made on the basis of the need in terms of premium costs involved in developing at a particular location, and the expected transit ridership boost from the

project. This spending has been scaled back since 2005, and land acquisition is currently not a regular component of TOD program activity.

Municipal actions required

- Planning documents do not lay out specific guidelines for municipal action after a center is designated in its jurisdiction. However, the Urban Growth Management Functional Plan lays out the conditions on which priority for regional investments, such as future high capacity transit, will be based. Investments will go to those communities that have taken steps to promote the development of its designated centres. These steps include:
    - establish a boundary for the center or corridor
    - analyze the physical and regulatory barriers to mixed-use, pedestrian-friendly and transit-supportive development in the area and develop a plan to address them
    - commit to revising its comprehensive plan and land use regulations to allow for the density and housing/land use mix targets mentioned above
    - commit to making public investments and incentives to support mixed-use pedestrian-friendly and transit-supportive development
    - adopted a plan to achieve its non-SOV mode modal share targets through transportation system/street design or a parking management program.
- A city or county is eligible to use higher volume-to-capacity traffic ratios when planning a center or corridor if it has established a boundary for the area and adopted land use regulations to allow the density and housing/land use mix targets mentioned above.
- A city or county is eligible for an automatic reduction of 30 percent below the standard vehicular trip generation rates when analyzing traffic impacts in a center or corridor if it has adopted a plan that:
    - establishes a boundary for the center or corridor
    - allows the density and housing/land use mix targets mentioned above
    - prohibits new uses that rely principally on auto trips
    - adopted a plan to achieve its non-SOV mode modal share targets through transportation system/street design or a parking management program.

Geographical relationship to transportation

- Station communities are defined as an area defined in regional or local transportation plans to be within one-half mile (800 m) radius of an existing or planned light rail station.
- A corridor means an area defined in regional or local transportation plans to be within one-quarter mile (400 m) of a fixed route transit service.

Other tools that support the urban structure

- A 1991 state-wide Transportation Planning Rule (TPR) requires metropolitan areas to adopt specific targets to reduce reliance on the automobile. Plans to achieve the target must include measures to improve the availability and convenience of alternative modes (including transit, walking and cycling), as well as transportation demand management measures and parking management plans. The TPR also directs metropolitan areas to implement land use changes to promote compact, mixed-use, pedestrian-friendly development as a way to reduce automobile reliance.
- Initiated in 1993, the Transportation and Growth Management (TGM) program is a joint program of the Oregon Department of Land Conservation and Development and the Department of Transportation that provides grants as well as direct technical assistance to help

local governments plan for balanced, multimodal transportation systems that support compact communities. Outreach projects increase public awareness and understanding of transportation and growth management concepts. Competitively awarded TGM grants can be used for new development, redevelopment, or large area planning, and have been used extensively in Metro's designated centres and corridors.

- In 1995, the Oregon State Legislature amended legislation to enable local jurisdictions to adopt a property tax abatement program for transit-oriented development. This permits cities to offer a 10-year tax exemption on the improvement value of a property in a transit station area. To date, the cities of Portland and Gresham have utilized this program to incentivize TOD development.
- Prosper Portland is a municipally-owned redevelopment agency that prioritizes renewal projects in transit-supportive centres and corridors.

Observations

- Metro's policy-led land-use planning system has maintained its legitimacy in a highly politicized environment only by avoiding conflict, nurturing support coalitions, and engaging in continual policy innovation and adjustment.
- The region has successfully integrated land use and transportation planning at all levels of government and has the most aggressive TOD program in the United States.
- Since 1990, ridership on buses and light rail has grown at a rate significantly higher than both population and vehicle kilometres traveled.
- Metro's centers and corridors comprise about 12 percent of the land area within the urban growth boundary but have attracted about 22 percent of the total development activity (2000-2007).
- Metro recently evaluated permit values and found that centers are developing more densely than non-designated central areas.
- Metro has experienced a substantial amount of infill development at stations along transit corridors and in mixed-use centers. This infill development is helping to realize macro-level design goals calling for higher-density development to be concentrated near transit facilities.
- The greatest attention to TOD is focused on the stations along transit corridors, especially the Portland Streetcar and the region's three light-rail lines. In many cases, station-area TOD plans have been adopted by local governments before the new light-rail lines opened for service.
- Realization of the centers and corridors concept has been uneven. Local plans and public investment in infrastructure (e.g., light rail transit) has not been enough in some cases to trigger aggressive private investment in nearby development.
- The design of individual projects is frequently not contributing to the community's design aspirations. There is a lack of funding to address incomplete or missing pedestrian infrastructure that limits pedestrian access to and through some centers and corridors. There is also a lack of civic amenities, such as public gathering places, parks and community centers.
- Portland Metro has an interest in promoting further development in corridors based on their significant untapped capacity. At the same time, there is ongoing concern regarding competition for growth between corridors and centers.

Metropolitan Perth and Peel, Western Australia

Regional profile

- Metropolitan Population: 2.0 million (2014)
- Metropolitan area: 6,450 km^2
- Metropolitan density: 310 p/km^2
- Expected population: 2.7 million (2031), 3.5 million (2050)
- Core city: Perth
- Core city population: 22,000 (2016)

Regional land use and transportation governance

- The Western Australian Planning Commission (WAPC) was created by the State of Western Australia in 1995. The WAPC is an independent, statutory authority with state-wide responsibility for urban, rural and regional land-use planning and land development matters.
- The commission comprises a Chair and 16 members, representing industry, State government agencies, representatives of metropolitan and regional local government, and the community. Members are appointed by the WA Minister of Planning.
- The Perth metropolitan region is grouped with the Peel region for the purposes of WAPC planning.
- The planning region is comprised of 33 local governments.
- All local government plans and policies are required to be consistent with State Government planning objectives and requirements. In the Perth region, local governments are required to ensure their local planning schemes are consistent with the metropolitan plan.
- A public agency, TransPerth, has full control of the transit network and service planning and contracts bus operations to the private sector while rail operations remain in state government ownership.
- Regional transportation planning is conducted by the State Department of Transportation.

Regional planning framework

- Metropolitan planning in the Perth region goes back to the 1960s and has been consistently focused on stemming (or at least shaping) the extremely low density type of urban sprawl that characterizes the region.
- The 2005 Network City plan identified “activity centres” of concentrated residential and business development, connected by a network of “activity corridors” with good public transport, and emphasized the important of infill over greenfield growth.
- The Network City plan was superseded by Directions 2031 and Beyond in 2010, which maintained the overall approach by identifying three integrated networks that form the basis of the spatial framework: A network and hierarchy of activity centres, a movement network designed to support and reinforce the activity centres network and a green network that protect valuable natural areas. The plan has intensification and greenfield density targets.
- In order to strengthen this polycentric objective, the Directions 2031 also committed to implementing the provision of WAPC’s State Planning Policy 4.2, entitled Activity Centres for Perth and Peel. This SPP identified just over 100 activity centres across a six-point typology that reflected varying degrees of intensity and diversity in terms of land-use functions as well as the

nature and extent of transport services, connectivity and accessibility. This policy applies throughout the Perth and Peel regions to guide the preparation of local plans and development control.

- The current regional transportation plan, Public Transport for Perth in 2031, was developed in close consultation with the WAPC and is designed to reinforce the activity centre hierarchy outlined in Directions 2031. It identifies new options for rail development, and suggests most new growth corridors be served by bus rapid transit.

Centres

- Activity centres were defined in Directions 2031 as residential and employment hubs that are integrated within the transport network, with particular emphasis on promoting public transport, walking and cycling and reducing the need for car trips. The activity centres are meant to provide sufficient development intensity and land use mix to support high-frequency public transport. The hierarchy provides a strategic planning framework to guide public authorities in the preparation of long-term capital investment programs.
- The WAPC State Planning Policy 4.2, entitled Activity Centres for Perth and Peel, provides planning and design guidance for activity centres, including:
    - reflect the role and function of the centre in the centres hierarchy.
    - avoid uses that are likely to undermine the established and planned activity centre hierarchy.
    - concentrate retail, commercial, health, education, entertainment, cultural, recreational and community facilities and higher-density housing should in centres.
    - concentrate employment uses in activity centres and adopt job targets
    - locate offices based on centres hierarchy with major developments in the higher order centres
    - horizontal and vertical integration of compatible land uses in activity centres.
    - limit parking
    - use small, walkable blocks
    - ensure buildings address streets
    - design public spaces to promote vitality and provide public meeting spaces
    - provide a mix of uses along street frontages
    - ensure externally-oriented or “active” building frontages and fewer blank wall.

Table 4: Activity centre typology

Centre type	Number	Features	Transport
Capital city	1	Perth is, and will continue to be, the highest level of activity centre in the metropolitan Perth and Peel region. It is the main focus for civic, cultural, administrative, business, retail and tourism activity.	Serves as the focus of regional road and rail infrastructure as well as radial bus network.
Strategic metropolitan centres	10	Provide a range of housing, services, facilities and activities necessary to support the communities within their catchments.	Important focus for passenger rail and high frequency bus networks.
Secondary centres	19	Share similar characteristics with strategic metropolitan city centres but generally serve smaller catchments and offer a more limited range of services, facilities and employment opportunities.	Important focus for passenger rail and/or high frequency bus network.
District centres	70	have a greater focus on servicing the daily and weekly needs of residents. They are predominantly retail focused but many also include a limited mix of other uses	Focal point for bus network.
Neighbourhood centres	Not designated in plan.	Provide for the main daily shopping needs of the community and typically include a supermarket grouped together with a small range of other uses and occasionally community facilities	Stopping / transfer point for bus network.

Specialized centres	5	Provide opportunities for the development of complementary activities, particularly knowledge-based businesses. A range of land uses that complement the primary function of these centres are encouraged.	

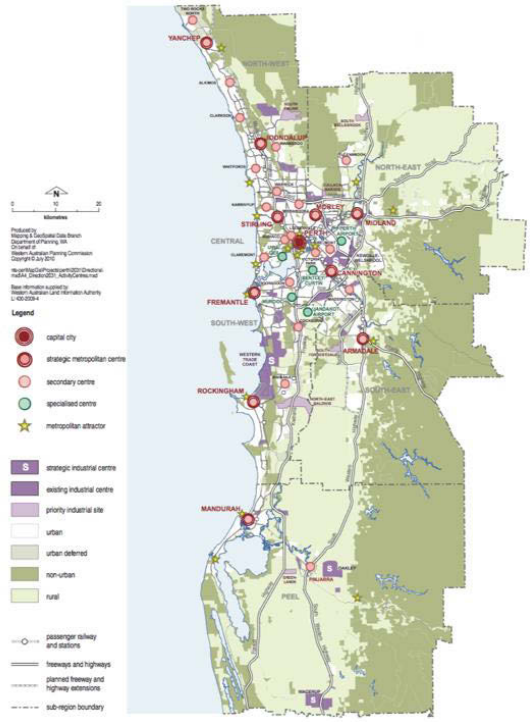


Figure 5: High frequency public transport corridors.

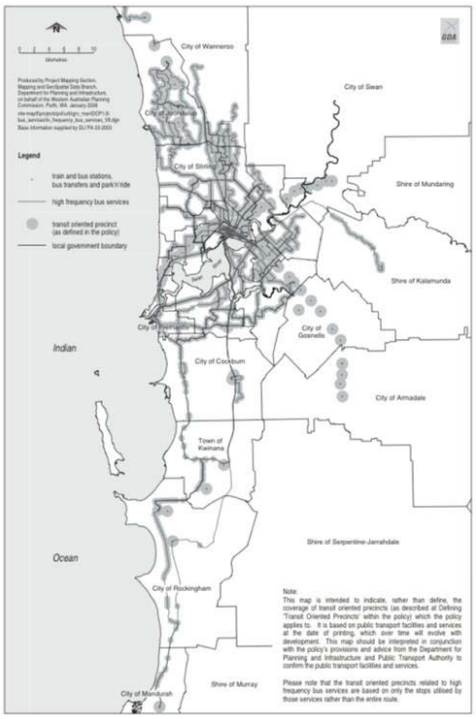


Figure 6: Activity centres.

Corridors

- The Directions 2031 indicates that high frequency public transport corridors in Perth and Peel will help to accommodate much of the region's medium-density residential infill needs while providing connections between centres. TOD is conceived around both railway stations and along bus-based transit routes.
- Medium-rise higher density housing is the preferred form of development along these urban corridors, not only to capitalise on access to and maximise use of high-frequent public transport, but also to contribute to the viability of the activity centres.
- In 2006, the WAPC adopted Development Control Policy 1.6, entitled Planning to Support Transit Use and Transit Oriented Development. The policy lays out the design principles that should be used by municipalities in the planning of precincts near transit facilities, including rail stations, transit interchanges or major bus transfer stations or terminals, and high-frequency bus routes. The guide includes detailed recommendations on:
    - residential density and diversity
    - the scale and intensity of non-residential uses
    - the encouragement of mixed use development
    - transit-supportive street patterns and streetscapes
    - design of public space and amenities
    - integration of transit facilities with their surroundings
    - use of lower parking standards
    - location of generators of transit trips close to transit facilities.

Development Priority

- The planning documents do not indicate any priority in the development of specific activity centres or types of centres. In fact, one of the principle goals of the activity centers network in Directions 2031 is to provide an even distribution of jobs, services and amenities throughout the Perth and Peel metro region.

Designation criteria

- The planning documents do not provide any thresholds (e.g., size, housing density, employment density) for the designation of the different types of centres or corridors.
- There does not appear to be a formal process and criteria for designating new centers or corridors.

Urban form targets

- The WAPC State Planning Policy 4.2, entitled Activity Centres for Perth and Peel, requires local plans governing development in activity centres to aim for the following targets.

Table 5: Activity centre functions, typical characteristics and performance targets

Typical characteristics	Perth Capital City	Strategic metropolitan centres	Secondary centres	District centres	Neighbourhood centres
Future indicative service population (trade) area	Greater metropolitan region	150,000–300,000 persons	Up to 150,000 persons	20,000–50,000 persons	2000–15,000 persons
Walkable Catchment for residential density target	N/A	800m	400m	400m	200m

Residential density target per gross hectare	N/A	Minimum/Desirable 30/45	Minimum/Desirable 25/35	Minimum/Desirable 20/30	Minimum/Desirable 15/25

- Policy 4.2 also provided some targets for the mix of uses. Those centres with retail floor space above 100 000 m2 are required to have 50% of their floor space divided among a mix of uses, those above 50 000 m2 need a 40% mix, and those above 20 000 m2 a 30% mix.
- Development Control Policy 1.6 requires local plans to target a minimum density of 25 dwellings per hectare and substantially higher where sites have the advantage of close proximity to a rail station, major bus interchange or bus route that provides service frequencies equivalent to rail

Regional incentives

- A TOD program formed after the adoption of the Network City plan to push for TOD at key locations represents a new approach to the development of activity centres and corridors in Perth. The program is driven by a committee comprising members of the state governments planning, infrastructure, public transport and development agencies. This cross-agency committee jointly establishes priorities for action across the 100 or so centres and transit nodes (bus and rail) in the metropolitan area and then produces a coordinated action plan. The priorities are set using six evaluation criteria: strategic significance of location; potential for maximizing ridership; transport infrastructure need and/or opportunity; potential for jobs, amenity, services, activity, mixed uses; partnership potential (by state government, local government, the private sector and others); and development (or redevelopment) opportunity. The action plan includes the strategic planning of projects, including for corridors that cross municipal boundaries. The committee brings together state and regional agencies with local governments to prepare a planning framework for the corridor as a whole that identifies the function/typology of each transit place within it. The action plan could also include acquisition and protection of land to enable TOD development to occur either now or in the longer term. The committee also undertakes outreach to the planning and development sector to enhance awareness of TOD opportunities, conducts public education campaigns, and coordinates research on TODs.

Municipal actions required

- Municipalities are expected to adopt planning amendments to reflect regional planning policies, but no timeframe is imposed.

Geographical relationship to transportation

- The Development Control Policy 1.6, entitled Planning to Support Transit Use and Transit Oriented Development (2005), applies to planning in areas within 800m of rail stations, transit interchanges or major bus transfer stations or terminals, or within 400m of bus stops located on bus routes with multiple bus services that have a frequency of 15 minutes or less during peak periods.

Other tools that support urban structure

- The Metropolitan Redevelopment Authority (MRA) is an independent public development agency that has helped trigger redevelopment in a few key activity centers in Perth. The MRA has the broad planning and financing powers needed to take on major infrastructure and renewal projects, mostly along transit routes in the metropolitan center.

Observations

- Despite decades of metropolitan planning to curb sprawl, residential densities across most of Perth's station precincts and in transit corridors remain very low, even by Australian standards. The highest densities have been achieved in the metropolitan central area.
- Providing for mixed-use development, measured by presence of employment land use, has been particularly weak. Again, most success has been achieved in the Perth central area, where the market is more favourable thus assisting planning implementation.
- In the five suburban activity centers that have the longest planning history – those at the ends of each railway line - only one has attracted the employment planned for in the regional centres policy.
- There is a robust policy framework (metropolitan plans and sub-regional plans, centers policy, TOD policy) in place to promote integrated land use and transportation development in activity centers and corridors, but there is a big gap between policy and implementation. In part this is due to the fact there is no specific requirement for municipal action (such as local plan amendment) following designation of a center or corridor.
- The WAPC is not consistently using its planning authority to enforce policy goals on local planning authorities. In many cases, transit infrastructure has been built without prior provisions for intensification in transit corridors and around stations.
- The region is relying on an elaborate but ineffectual policy framework rather than incentives to encourage local planning authorities and developers to implement the regional vision in markets perceived to be riskier than the sprawl model.
- The policy framework is not sufficiently tailored to the specific conditions in each activity center and station area. This is diluting the strategy, a particular problem where the market for non-residential development is limited and where metropolitan Perth continues to develop large land areas for residential development at the urban fringe.
- The TOD program approach used in the last decade has seen substantial progress in the integration of land us activity and transport infrastructure.
- The success of the Metropolitan Redevelopment Authority in particular locations shows that progress can be made where the state plays a key planning and land development role outside of the conventional policy-based planning model. The disadvantage of this approach, however, is that the resources required mean that very few of the station precincts have been improved.

Greater Copenhagen, Denmark

Regional profile

- Metropolitan population: 2 million (2016)
- Metropolitan area: 3,030 km^2
- Metropolitan density: 665 p/km^2
- Core city: Copenhagen
- Core city population: 1.25 million (2016)

Regional land use and transportation governance

- The Metropolitan Council of Greater Copenhagen was responsible for transportation planning, regional planning, and transit operations. It was abolished in 2007 and its regional planning function was uploaded to the Danish Ministry of the Environment.
- Planning is governed by a top-down hierarchy, whereby regional planning sets the frameworks for municipal plans, which sets the framework for local/neighbourhood plans. Plans at a lower level in the hierarchy cannot conflict with plans above them.
- Municipal plans have to be accompanied by a report assessing the plans relative to the regional plan and the development of the Greater Copenhagen area as a whole.
- Currently, the area covered by the regional plan for the Greater Copenhagen area encompasses 34 municipalities.
- Movia, created in 2007, is the public transport agency that is responsible for operating buses and commuter rail in the Greater Copenhagen area. It is owned by the municipalities it serves.
- The Danish Government has 100% funded the construction and operation of the rail network over past 60 years, along with 45% funding for metro lines. Copenhagen's city administration has funded 55% of the construction of metro lines.

Regional planning framework

- The Copenhagen Finger Plan has been the governing development model for the city since it was first drawn up in 1947. The concept is based on an urban structure whereby urban development is concentrated along five “fingers”, which are corridors linked to the railway system and radial road networks, while central area of Copenhagen serves as the “palm”. The fingers are separated by “green wedges”, which are exempt from urban development. Over the decades, the Copenhagen Finger Plan has evolved into a plan for the development of the entire Greater Copenhagen area.
- Planning for the “fingers” is based on the proximity principle, i.e., that regionally-important activities (such as various public institutions, retail centres and large housing complexes) be located in close proximity to rail stations.
- The Ministry’s Fingerplan 2007 and the revised Fingerplan 2013 are based on the finger plan concept.
- The finger plan divides Greater Copenhagen into four geographical areas:
    1. the core urban region,
    2. the peripheral urban region (the city fingers),
    3. the green wedges, and
    4. the rest of the Greater Copenhagen area.
- Special regulations apply for municipal planning in all four geographical areas.

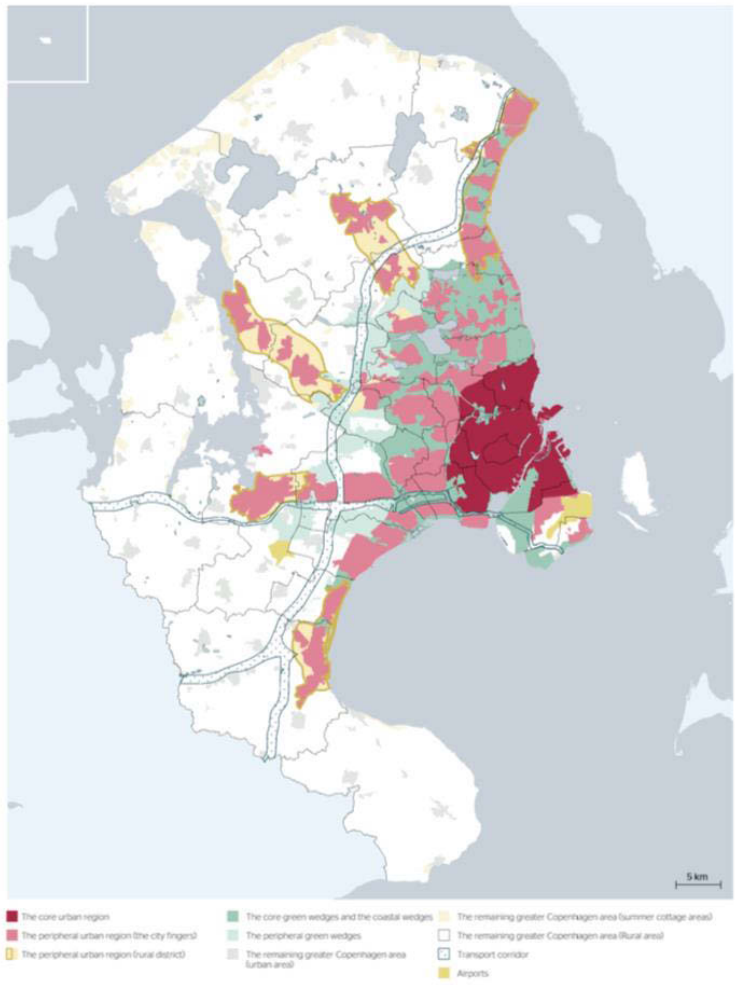


Figure 7: Fingerplan

Centres

- In previous versions of the Fingerplan, suburban centres at the tips of the fingers were designated for priority re(development) but these designations were eliminated in the more recent versions.
- Growth is structured around transit stations throughout the metropolitan area.
- The regional plan identifies the stations included in the growth structuring policies and these must be delimited in municipal plans.
- The stations are on the general rail network, which comprises local commuter rail, heavier intra-regional rail, and the subway system.
- Junction stations are those stations that are at the intersection of two lines or at the end of a line.
- There are 48 junction stations and 80 other stations in the planning area.

Corridors

- There are five historic and one newer corridor (Ørestad) in the regional plan. The corridors are based on railway lines and the radial road network.

- The land around stations is slated for intensive development/regeneration.
- The land between these nodes is not designated for intensive development, although development on land outside these corridors is highly constrained by the plan.

Development Priority

- According to the provisions in the Finger Plan 2013, municipal planning must ensure that an order of priority is drawn up for the implementation of urban development and urban regeneration of regional significance. The order of priority must be established on the basis of an assessment of developments in the area as a whole after prior agreement with the Ministry. Urban development or urban regeneration may be conditional on decisions about or construction of transportation infrastructure or a given standard for public transport services.
- The use of priority provisions may also contribute to ensuring balanced development between different parts of the Greater Copenhagen area, for example between development in central areas, nearby suburbs, the city fingers and the peripheral areas. The purpose of the prioritization process is to balance growth across the region and direct development to the station areas.

Designation criteria

- No criteria provided in the Fingerplan.

Urban Form Targets

- For stations in the core urban area, the municipality must strive for at least 40 residences per hectare in residential areas.
- For the remaining stations, the municipality must strive for at least 25 residences per hectare in residential areas.
- At all stations, the municipality must strive for a building density of at least 100 in employment areas.

Regional incentives

- None

Municipal actions required

- Municipalities are required to develop local plans that reflect Fingerplan goals.
- High density residential development should be placed in areas near stations and preferably within the core area near stations.
- Large office buildings with more than 1500 m^2 of floor space may only be placed in core areas near stations or, in exceptional circumstances that must be justified by the municipality, in the rest of the area near stations. In the latter case, the municipality must show how it will use supplementary instruments in order to ensure traffic-related effects equivalent to the core area near stations. This may be via a limited number of parking spaces supplemented by different types of transport arrangement such as a direct shuttle service or company cycle scheme to and from the station etc.
- At junction stations, the municipality is expected to develop a planning framework that will attract regional functions, including employment-intensive uses such as major office building, public institutions, and industries with a large labour force, as well as land uses that will attract visitors from a large catchment area, such as conference centres and major sports facilities. Land

near junction stations should be reserved for such purposes, even in the face of expansion-related pressure for other urban functions.

Relationship to transportation

- The intensification area around a station is divided into core area within a maximum radius of 600 m and the remaining station area, with a maximum radius of 1,000 m.

Other tools that support urban structure

- Investment in public transport infrastructure and service in Greater Copenhagen has historically been very high.
- Policies to restrict car usage (e.g., prohibition on surface parking lots) in urban centres encourages transit (and bike) use and discourages car-oriented uses such as shopping malls.
- A government planning directive for Greater Copenhagen requires that retail establishments greater than 2,000 m^2 be located in designated town centres, with certain exceptions permitted. No more than one town centre per town is permitted, except for the core city.

Observations

- Over the decades, the Fingerplan has been very effective in terms of encouraging transit in spite of the fact that Copenhagen has one of the lowest residential densities of major cities in Europe.
- Public transport usage per capita is comparable to denser cities such as Amsterdam.
- Over 56 percent of the residential population and 61 percent of jobs within the metropolitan region are within easy walking distance (a kilometre) of a metro or railway station.
- Transport-related carbon emissions in Greater Copenhagen decreased by 9 percent in the 20 years to 2011.
- Most transit stations have higher-density, mixed use development around them.
- The Ørestad, one of the newer finger corridors, is being created by a public development corporation that is also responsible for planning and developing a higher-density mixed-use corridor along the route. Now half built out, the corridor doesn't yet meet its ambitious design goals.

24832691

Peer Jurisdiction Comparison Table

Jurisdiction/Dimensions	Metro Vancouver	Greater Golden Horseshoe	Puget Sound	Metro Portland	Metropolitan Perth and Peel	Greater Copenhagen
Regional planning authority	Metro Vancouver	Province of Ontario	Puget Sound Regional Council	Metro	Western Australian Planning Commission (WAPC)	Danish Ministry of the Environment
Core city	Vancouver	Toronto	Seattle	Portland	Perth	Copenhagen
Principal document	Metro Vancouver 2040: Shaping Our Future	2017 Growth Plan	Vision 2040	2040 Growth Concept Plan	Directions 2031 and Beyond	Fingerplan 2013
Centres	Region-serving centres: - 1 Metropolitan Core (serves whole region) - 1 Surrey Metro Centre (serves south of Fraser) - 7 Regional City Centres (serves sub-region) 17 Municipal Town Centres (serves municipality)	- 5 Urban Growth Centres (UGCs) in the City of Toronto - 14 UGCs in a list of larger downtowns - 6 UGCs in a list of smaller downtowns.	- 36 Regional Growth Centers (RGCs) in Metropolitan Cities, Core Cities, or Unincorporated Urban Growth Areas - 7 Manufacturing/Industrial Centers (MICs) in in Metropolitan Cities or Core Cities	Designated in plan: - 1 Central City - 8 Regional Centers - 31 Town Centers - large number of Corridors Not designated in plan (up to local authorities): - Station Communities - Main Streets	Designated in plan: - 1 Capital city - 10 Strategic metropolitan centres - 19 Secondary centres - 70 District centres - 5 Specialized centres: Not designated in plan: - Neighbourhood centres:	No designated centres.
Corridors	- A handful of Frequent Transit Development Areas (FTDAs) designated in plan - new FTDAs to be identified by municipalities and TransLink and located along Frequent Transit Network (FTN)	- All major transit station areas (MTSAs) will be planned and designed to be transit-supportive - Ten priority transit corridors designated in the plan	None	A large number of corridors are designated in the regional plan.	- A large number of high frequency public transport corridors are designated in the regional plan.	There are five historic and one newer corridors designated in the regional plan. The corridors are based on railway lines and the radial road network.
Development Priority (Intensity or Targets for Centres and Corridors)	- 40% of new dwelling unit growth to UC, 28% to FTDAS	None	72% of population growth and 79% of job growth in Metropolitan Cities, Core	Central City: 6% of household growth, 20% of job growth	None. Point of the plan is to distribute growth throughout the metro region.	

	- 50% of employment growth to UC, 27% to FTDAs -The highest level of development to be directed to Metro Core and Surrey Metro Core		Cities, or Unincorporated Urban Growth Areas	Regional Centers: 3% of household growth, 11% of job growth Town Centers 3% of household growth, 7% of job growth Corridors and Station Communities: 28% of household growth, 15% of job growth		
Development Priority (Timing/Phasing)	- Municipalities encouraged to prioritize development for UC and FTDAs over General Urban - no clear development priority between centres.	For transit stations, development priority is placed on those stations in priority transit corridors	- No development priority among centres.	- no development priority within centre types	None	- Order of priority of urban developments of regional significance, negotiated between municipalities and the Ministry. - The City of Copenhagen prioritizes major development projects that are close to best-served stations.
Designation criteria (e.g. threshold to receive designation)	None	None	RGCs: - Area: 1 sq mi - Minimum existing activity: 18 activity units (population + employment) per acre - Zoned development capacity to adequately accommodate targeted levels of growth MICs: - Minimum existing threshold: 10,000 jobs	None for centres and corridors designated in plan. High capacity transit (HCT) corridors have been selected and ranked by Metro using public consultation and planning criteria.	None	None
Density/Urban form targets	No quantitative targets.	UGCs:	RGCs:	2040 density (people/acre):	Residential density targets and size:	- For stations in the core urban area, at

	Region-serving UCs: - high and medium density housing, regional-scale employment, services, business and commercial activities, major institutional, community, cultural and entertainment uses Municipal Town Centres: High and medium density housing, municipal-serving employment, services, business and commercial activities, institutional, community, cultural and entertainment uses. FTDAs: - medium and higher density housing, mixed uses, and employment, services, business and commercial activities Municipalities should consider TransLink's Transit-Oriented Communities Design Guidelines.	- 400 residents + jobs/h for UGCs in the City of Toronto - 200 residents + jobs/h for the 14 UGCs in larger downtowns - 150 residents + jobs/h for the six smaller downtowns MTSAS on priority transit corridors: - 200 residents + jobs/h for subways 160 residents + jobs/h for light rail transit or BRT - 150 residents + jobs/h for the GO Transit commuter rail network - no targets for corridor. The Province's Planning Policy Statement and Transit-Supportive Guidelines provide guidance on the design of station areas.	- Minimum planned activity: 45 activity units per acre MICs: - Minimum planned activity: 20,000 jobs.	- Central City: 250 - Regional Centers: 60 - Station Communities: 45 - Corridors: 45 - Town Centers: 40 - Main Streets: 39	- Perth Capital City: N/A - Strategic metropolitan centres: 30-45 units/h, 800m radius - Secondary centres: 25-35 units/h, 400m radius - District centres: 20-30 units/h, 400m radius - Neighbourhood centres: 15-25 units/h, 200m radius - Centres with retail floor space above 100,000 m^2 are required to have 50% of their floor space divided among a mix of uses, - Centres above 50,000 m^2 a 40% mix - Centres above 20 000 m^2 a 30% mix. - WAPC's Development Control Policy 1.6, entitled Planning to Support Transit Use and Transit Oriented Development lays out the design principles that should be used by municipalities in the planning of precincts near transit facilities	least 40 units/ha in residential areas. - For the remaining stations, at least 25 units/ha in residential areas. - At all stations, a residential building density of at least 100 units/ha in employment areas.
Relationship between Centre/Corridor Designations and	- Region-serving UCs: area within 800m of Skytrain station or 400m of the	- MTSAs defined as the area within a 500 metre radius	None	- Station communities: area within one-half mile (800 m) radius of an	Development Control Policy 1.6 applies to planning in areas within 800m of rail	The intensification area around a station is divided into core area

Physical Access to Transit	intersection of two or more corridors on TransLink's Frequent Transit Network (FTN). - Municipal Town Centres: area within 800m of SkyTrain station or within 400m of FTN - FTDAs: area within 800m of SkyTrain station or 400m of the FTN	of a transit station		existing or planned light rail station. - Corridor: area within one-quarter mile (400 m) of a fixed route transit service.	stations, transit interchanges or major bus transfer stations or terminals, or within 400m of bus stops located on bus routes with multiple bus services that have a frequency of 15 minutes or less during peak periods.	within a maximum radius of 600 m and the remaining station area, with a maximum radius of 1,000 m.
Provincial/state/regional incentives	There are no specific Federal or Provincial grant/funding/or other incentive programs that specifically support directing growth to regionally designated centres or corridors	Transportation investment supposed to respects plan and promote UGCs.	Transportation investment supposed to respects plan and promote regional centres.	- Transportation investment supposed to respects plan and promote regional centres. - TOD Implementation Program: direct investment in development projects, acquisition and banking of property near transit, neighborhood amenities, provides technical assistance for local planning in centres and corridors	An inter-governmental TOD committee establishes priorities for action across centres and transit nodes (bus and rail) in the metropolitan area and produces a coordinated action plan. It prepare a planning framework for the corridor as a whole. The action plan could include acquisition and protection of land, and outreach to the planning and development sectors.	State transportation investments form the axis of corridors.
Municipal Role	In Regional Context Statements, municipalities must include: - dwelling unit and employment projections indicating the municipality's share of growth	Detailed planning, adopt urban form targets in plans, do land budget.	RGCs and MICs: - Zoned development capacity to adequately accommodate targeted levels of growth - Subarea plan required within two years.	- Regional high capacity transit, will go to communities that commit to a plan for the development of designated centres and that have adopted a plan to achieve its non-SOV modal share targets	Municipalities are expected to adopt planning amendments to reflect regional planning policies, but no timeframe is imposed.	- Municipalities are required to develop local plans that reflect Fingerplan goals. - High density residential development to be placed in areas near stations and

	within its UCs and FTDAs. - policies for UCs that identify boundaries and types of centres on a map (consistent with the RGP map), focus growth in those areas, encourage office development, and establish reduced residential and commercial parking requirements - policies for FTDAs that identify boundaries on a map (in consultation with TransLink), focus growth, and establish reduced parking requirements - policies for General Urban areas that identify Local Centres, preferably in FTDAs, and exclude non-residential major trip-generating uses outside UCs and FTDAs. − for UCs and FTDAs, include transit priority measures			through transportation system/street design or a parking management program - City or county is eligible to use higher volume-to-capacity traffic ratios when planning a center or corridor - City or county is eligible for an automatic reduction of 30 percent below the standard vehicular trip generation rates when analyzing traffic impacts in a center or corridor if it has adopted a plan		preferably within the core area near stations. - Large office buildings with more than 1,500 m^2 of floor space may only be placed in core areas near stations or, in exceptional circumstances that must be justified by the municipality, in the rest of the area near stations. - At junction stations, the municipality must plan for regional functions, including employment-intensive use and land uses that will attract visitors from a large catchment area, such as conference centres and major sports facilities.
Other tools to support urban structure	- TransLink and the province are encouraged to collaborate with municipalities on the planning of new FTN corridors and stations.	- Community Improvement Plans - Development charges	-None specified in plan	- Oregon state Transportation Planning Rule requires metropolitan areas to adopt specific targets to reduce reliance on the automobile.	The Metropolitan Redevelopment Authority (MRA) is an independent public development agency that has helped trigger redevelopment in a	- Investment in public transport infrastructure and service has historically been very high. - Policies to restrict car usage

	- Municipalities are encouraged to focus office growth in UCs via financial incentives, and density bonus provisions.			- state grants and direct technical assistance to help local governments plan for centres and corridors - state law allows property tax abatement program for transit-oriented development	few key activity centers in Perth.	in urban centres encourages transit (and bike) use. - A government planning directive requires that retail establishments greater than 2,000 m^2 be located in designated town centres.
Other observations	- Some lower order centres getting more regionally-significant development than higher-order centres. - Some FTDAS identified by municipalities as nodal geographies, not as corridors along the FTN as envisioned - Difficulties fulfilling economic vision for some UCs	- Little office development in UGCs outside City of Toronto - Only a handful of mixed-use nodes materializing - Many UGCs are car-oriented - Corridors lagging behind - Transportation investment not linked to municipal pre-planning.	- No hierarchy of size, function, or development priority - A handful of regional centers are growing according to the regional vision. - Many other regional centers have experienced little to no growth and remain unconnected to high-capacity transit.	- Substantial amount of infill development at stations along transit corridors and in mixed-use centers. - Local plans and public investment in infrastructure has not been enough in some cases to trigger private investment. - Urban design in some centres and corridors not pedestrian friendly.	- The region is relying on an elaborate but ineffectual policy framework rather than incentives to encourage local planning authorities and developers - The TOD program approach has seen substantial progress. - The Metropolitan Redevelopment Authority has been successful in particular locations.	- Very effective at promoting public transport over the decades. - Transport-related carbon emissions decreased by 9 percent in the 20 years to 2011. - Over 56 percent of the residential population and 61 percent of jobs within the metropolitan region are within easy walking distance of a metro or railway station.

To: Regional Planning Committee

From: Jaspal Marwah, Regional Planner, Parks, Planning and Environment

Date: February 19, 2018 Meeting Date: March 9, 2018

Subject: **Implementation of the Regional Food System Action Plan**

RECOMMENDATION

That the MVRD Board receive for information the report dated February 19, 2018, titled "Implementation of the Regional Food System Action Plan".

PURPOSE

The purpose of this report is to provide an update to the Regional Planning Committee and Board on the implementation of the Regional Food System Action Plan.

BACKGROUND

In April 2016, the MVRD Board adopted the Regional Food System Action Plan (Action Plan). The Action Plan identified 160 planned actions and 18 new collaborative actions for local governments across the region. The 160 planned actions are projects and initiatives that were previously approved in department budgets. At the time of endorsement, the MVRD Board passed the following resolution:

Direct staff to explore the eighteen new collaborative actions identified in the Action Plan

This report provides a summary of implementation efforts on both the planned and new collaborative actions since adoption of the Action Plan.

ADVANCING THE REGIONAL FOOD SYSTEM ACTION PLAN

Of the 160 planned actions in the Action Plan, 29 actions were specifically identified for Metro Vancouver to undertake, and 140 were for member jurisdictions to address.

Metro Vancouver Progress

Staff recently undertook an internal review of Metro Vancouver activity since the adoption of the Action Plan, and summarized actions currently underway or that have been recently completed. Since 2016, Metro Vancouver has advanced 26 out of the 29 actions in the Action Plan, as well as four additional food and agriculture-related initiatives that were not identified in the Action Plan. Of the actions advanced by Metro Vancouver, some of the key areas of focus were on agricultural land use issues and reducing food waste. A detailed summary is attached, and a brief overview is as follows:

Goal 1 – Increase capacity to produce food close to home
Of the 10 actions identified for Metro Vancouver

- Regional Planning advanced:
  - 4 actions primarily to protect the supply of agricultural land
  - 2 actions to support agricultural viability
  - 2 new[1] actions to expand food production and support young farmers
- Regional Parks advanced:
  - 1 action indirectly related to protecting agricultural land
  - 1 action to restore fish habitat
- Water Services advanced:
  - 1 action to restore fish habitat

Goal 2 – Improve the financial viability of the food sector
There were no actions identified for Metro Vancouver under this goal.

Goal 3 – People make healthy and sustainable food choices
Of the 6 actions identified for Metro Vancouver

- Regional Planning advanced:
  - 1 action to promote agricultural awareness
- Regional Parks advanced:
  - 1 action to celebrate local food
- External Relations advanced:
  - 3 actions related to improving food literacy in schools

Goal 4 – Everyone has access to healthy, culturally diverse & affordable food
Of the 3 actions identified for Metro Vancouver

- Regional Parks advanced:
  - 1 new action and 1 ongoing action to increase access to food and community gardens
- Solid Waste Services and External Relations advanced:
  - 2 new actions and 1 ongoing action to support food recovery

Goal 5 – A food system consistent with ecological heath
Of the 10 actions identified for Metro Vancouver

- Regional Planning advanced:
  - 1 action to improve pollinator habitat
- Regional Parks advanced:
  - 1 action to improve pollinator habitat
- Solid Waste Services, External Relations, Metro Vancouver Housing Corporation and Liquid Waste Services advanced:
  - 2 actions to reduce food waste
  -
- Air Quality and Climate Change Policy advanced:
  - 1 new action to prepare for the impacts of climate change

[1] New actions refer to food and agriculture-related actions undertaken since 2016, but that weren't included in the Action Plan.

Municipal Actions

On November 30, 2017, Metro Vancouver hosted an inaugural Regional Food System Action Plan Implementation meeting. This was the first opportunity since the adoption of the Action Plan to convene local jurisdictions to discuss implementation progress.

The meeting's objectives were to:

- Identify local government activity since plan adoption that supports implementation;
- Explore emerging issues and current challenges;
- Seek opportunities for collaboration; and
- Establish an ongoing forum for local governments to shape, contribute and participate in ongoing knowledge exchange and collaborative activity.

The meeting identified specific actions Metro Vancouver and member governments are undertaking across the region. Since the Action Plan was adopted by the Board and endorsed by several municipal Councils in 2016, member jurisdictions have advanced work on 43 actions as well as three additional food system initiatives (relating to food security, indigenous food systems and food waste) that were not identified in the Action Plan.

Of the actions advanced by member jurisdictions, some of the main areas of focus include:

- Protecting agricultural lands & increasing agricultural food production;
- Developing / adopting policy, bylaws and regulations in support of the local food economy; and
- Supporting food access for vulnerable groups & strengthening urban agriculture capacity.

Collectively, over the past 18 months, Metro Vancouver and member jurisdictions have advanced work on 67 of the Action Plan's 160 planned initiatives, and have also begun exploring 8 of the 18 newly identified collaborative opportunities. Metro Vancouver will collate the progress reported from local governments, and maintain a cumulative log of implementation actions.

Next Steps

At the meeting there was unanimous support for establishing an ongoing regional food system forum for local government staff. As a result, Metro Vancouver will convene two such meetings annually to enable member jurisdictions to maintain a regular and ongoing opportunity to exchange knowledge in a peer to peer environment. The objectives of the regular forum meetings will be to assess ongoing progress in advancing the Action Plan, jointly addressing common challenges, seeking opportunities for ongoing collaboration, providing a venue for member governments to seek feedback on current initiatives, and facilitating peer to peer learning and knowledge transfer.

There was also interest in enabling smaller groups of local government staff to attend learning activities organized around a specific topic of interest, or current challenges common to several jurisdictions. These events are intended to be topic-specific, and shorter and less comprehensive than the semi-annual meetings, and could include activities such as peer-to-peer conversations, lunch & learns, breakfast meetings, or similar activities for small groups of local government staff.

At the meeting, six of these topics of interest were identified: food hubs; emergency planning & food security; Indigenous food systems; food safety between urban agriculture and commercial food systems; bulk purchasing to support local food; and local government training for more effective

partnerships with civil society groups. Metro Vancouver will organize the first subject specific meeting, and review opportunities for municipal staff to also collaborate on organizing future meetings.

ALTERNATIVES
This is an information report. No alternatives are presented.

FINANCIAL IMPLICATIONS
There are no financial implications.

SUMMARY / CONCLUSION
In April 2016, the MVRD Board adopted the Regional Food System Action Plan. The Action Plan identified 160 planned actions and 18 new collaborative actions for local governments to address in the next 5 years.

Of the 160 planned actions in the Action Plan, 29 actions were identified for Metro Vancouver to undertake, and 140 were for member jurisdictions to address. Since 2016, Metro Vancouver has advanced 26 out of the 29 initiatives in the Action Plan, as well as four additional food and agriculture-related initiatives that were not identified in the Action Plan. Member jurisdictions have advanced work on 43 initiatives as well as three additional food system initiatives that were not identified in the Action Plan. Collectively, Metro Vancouver and member governments have advanced work on 67 of the Action Plan's 160 planned initiatives, and have also begun exploring 8 of the 18 new identified collaborative opportunities.

On Thursday November 30, 2017, Metro Vancouver hosted an inaugural annual Regional Food System Action Plan implementation meeting for local government staff. The intent was to convene local governments to discuss progress related to implementing the Action Plan. The meeting provided a round-up of specific actions Metro Vancouver and member governments are advancing. Metro Vancouver will collate the progress reported from local governments and maintain a cumulative log of activity in the region. Going forward, Metro Vancouver will convene two meetings annually of local government staff to provide an ongoing forum for peer to peer knowledge exchange and to advance Action Plan implementation.

Attachment: Summary of Metro Vancouver actions to date (2016-2017) *(Orbit Doc #24630704)*

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
Goal 1: Increase Capacity to Produce Food Close to Home				
1.1 - Protect agricultural land for food production	Respond to proposed new transportation and other infrastructure to minimize or mitigate the loss of agricultural land or capability	Regional Planning	Staff contributed to the Environmental Assessment Office Application Completeness Review for the George Massey Tunnel Replacement Project on potential impacts to agriculture.	
	Advocate for the preservation and enhancement of the ALR for food production	Regional Parks, Regional Planning	* Lease renewal for parcel west of DHAP for the pupose of haying (Loger Aure). * Metro Vancouver Board sent a lettter to the federal Minister of Agriculture with recommedation for a Food Policy for Canada	* Lease renewal for parcel west of DHAP for the pupose of haying (Loger Aure). * Federal government is anticipating completing A Food Policy for Canada in 2018 which may spurr additional correspondance.
	Lead a pilot project to seek preventative solutions to illegal fill deposition on farmland in partnership with municipalities	Regional Planning	The Agricultural Land Soil Investigation is underway to determine if fill practices that are approved by the ALC application process are benefiting the long term vialbility of land in the ALR	Sharing the results of the Agricultural Land Soil Investigation in 2018.
	Partner with the Ministry of Agriculture to update the Regional Agricultural Land Use Inventory with participation from member municipalities	Regional Planning	The 2016 Update of the ALUI is underway. Field surveys were completed this past summer. The Ministry of Agriculture is now doing data analysis on the change of land use and land cover in the ALR since 2010-11. The agricultural land use data will help inform planning, policy analysis and land use decision making.	Sharing the results of the ALUI 2016 Update in 2018.

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
	Represent regional interests in regulatory and policy changes to provincial legislation and federal development proposals impacting agriculture	Regional Planning	Participated in the consultation process for A Food Policy for Canada	Federal government is anticipating completing A Food Policy for Canada in 2018 which may spurr additional correspondance.
1.2 - Restore fish habitat and protect sustainable sources of seafood	Maintain fish programs for Capilano smolt trap and truck program to transport salmonid populations around Cleveland Dam	Water Services	Reservoir trap nets and rotary screw traps in the river were utilized to capture and and truck transport juvenile coho and steelhead downstream around Cleveland Dam for release in the lower river. Abundance and tracking monitoring studies continued.	Program will continue in 2018 with the same trapping and monitoring efforts as in 2017. Activity is focused during the outmigration period (April - June).
	Establish a fish migration & capture facilities (e.g. at Metro Vancouver new proposed hydroelectric facility at Cleveland Dam; sites in Maple Ridge)	Water Services		
	Establish, support or maintain fish hatcheries	Regional Parks	Riparian area planting along stream section at Tynehead Regional Park in Collaboration with the Serpentine Enhancement Society (Markus Merkens, Brian Titaro)	Continued habitat enhancement along Serpentine River (Markus Merkens, Brian Titaro)
1.3 - Enable expansion of agricultural production	Support, through financial or other means, the Kwantlen Polytechnic University's Southwest BC Bio-Region Food System Design Project that will explore the economic, environmental stewardship and food self-reliance of a bio-regional food system	Regional Planning	Metro Vancouver hosted two events in partnership with KPU to present and disseminate the findings of the Bio-Region Food System Design Project.	
	Investigate farm property tax policies to identify options to encourage actively farmed land or discourage non-farm use of the ALR	Regional Planning	In 2016, the Metro Board sent a letter to the Province requesting Farm Property Tax Reform based on the report Encouraging Agricultural Production through Farm Property Tax Reform in Metro Vancouver	Revising the need for farm property tax reform with the new Provincial government.

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
	NEW ACTION	Regional Planning	Implementing the Sustainability Innovation Fund initiative to support an urban agriculture demonstration project for educational activity and local food production in a ROW.	Reporting project outcomes to the Board.
1.4 - Invest in a new generation of food producers	NEW ACTION	Regional Planning	Metro Vancouver is working with Young Agrarians and member municipalites to develop a regional approach to the Land Matching program	Continue to investigate avenues to sustain the Land Matching Program
1.5 - Expand commercial food production in urban areas	n/a			
Goal 2: Improve the Financial Viability of the Food Sector				
2.1 - Increase capacity to process, warehouse and distribute local foods	n/a			
2.2 - Include local foods in the purchasing policies of large public institutions	n/a			

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
2.3 - Increase direct marketing opportunities for local foods	n/a			
2.4 - Further develop value chains within the food sector	n/a			
2.5 - Review government policies and programs to ensure they enable the expansion of the local food sector	n/a			
Goal 3: People Make Healthy and Sustainable Food Choices				
3.1 - Enable residents to make healthy food choices	Develop partnerships with community groups and health authorities to deliver outreach and workshops on healthy eating and growing food			
3.2 - Communicate how food choices support sustainability	n/a			

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
3.3 - Enhance food literacy and skills in school	Update and develop new K-12 resources to support teachers and students to become "Food Systems Thinkers and Leaders"	External Relations	A. Metro Vancouver Sustainability Toolbox 2017 Regional Youth Leadership Field Course delivered to students from across region, and B. Youth4Action Love Food Hate Waste (Regional) Leadership Clinic delivered to 40+ high school youth leaders/students,	A. Delivery of Metro Vancouver Sustainability Toolbox 2018, B. Y4A Love Food, Hate Waste Leadership Clinic, C. Collaborate with MV School Districts to support regional Teacher Professional Development
	Collaborate with K-12 schools and partners to increase food literacy of students and/or parents	External Relations		
	Integrate Food Systems Thinking literacy into Metro Vancouver School & Youth Leadership Programs – in support of actions for sustainable schools.	External Relations		
3.4 - Celebrate the taste of local foods and the diversity of cuisines	Award agricultural awareness grants to non-profit organizations across the region.	Regional Planning	Awarded $40,000 to 11 nonprofit groups across the region for agriculture awareness	$40,00 is available in 2018 to non-profits groups to support agriculture awareness activities
	Host or partner on food related events and educational activities that celebrates food:	Regional Parks	Apple Fest in Crippen Regional Park	Apple Fest in Crippen Regional Park
Goal 4: Everyone has Access to Healthy, Culturally Diverse and Affordable Food				
4.1 - Improve access to nutritious food among vulnerable groups	NEW ACTION	Regional Parks	Partnership with LEPS (Langley Environmental Partners) on their community harvest program. Tree fruit is harvested by volunteers from Campbell Valley Regional Park and donated to local foodbanks. Rotin – Parks East Area)	
4.2 - Encourage urban agriculture	n/a	Regional Parks	Ongoing licence with Colony Farm Community Gardens Society for community garden at Colony Farm Regional Park	Licence will continue.

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
4.3 - Enable non-profit organizations to recover nutritious food	Participate in promotion of food recovery guidelines with the BC Centre for Disease Control	Solid Waste Services, External Relations	Revision of the BC Guide to food donation is completed	
	Explore tax incentives to support food recovery	Solid Waste Services, External Relations	The promotion of a federal tax incentive for food donation is a cornerstone of the Food Waste Reduction Strategy currently undergoing Canada-wide stakeholder engagement by the National Zero Waste Council.	
	Educate the public on how to reduce unnecessary discards of edible food	Solid Waste Services, External Relations	Love Food Hate Waste campaign	

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
Goal 5: A Food System Consistent with Ecological Health				
5.1 - Protect and enhance ecosystem goods and services	Create and enhance pollinator habitat through research, new policies and on-the ground projects	Regional Parks	Various habitat creation / restoration projects which enhance and create pollinator habitats. These include but are not limited to: * wetland and wet meadow creation at Campbell Valley Regional Park, Aldergrove Regional Park; and * planting projects at Brae Island Regional Park and Kanaka Creek Regional Park (Contact Janice Jarvis / Lydia Mynott – Parks East Area). * Various public programs which highlight the importance of pollinator habitats: Butterfly Tea Party at Campbell Valley Regional Park, Heritage Apple Days at Derby Reach Regional Park, Country Celebration at Campbell Valley Regional Park (Contact Vanessa Lee – Parks East Area). * Various Habitat creation / restoration projects which support native pollinators. These include but are not limited to native species planting at Burnaby Lake Regional Park, Colony Farm Regional Park, Tynehead Regional Park, and Surrey Bend Regional Park (Contact Markus Merkens, Brian Titaro Parks Central Area).	Ecosystem restoration projects will continue in many Regional Parks
		Regional Planning	Grow Green	

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
5.2 - Reduce waste in the food system	Develop a position statement on residential & commercial garburators including commercial digesters and macerators	Liquid Waste	Metro Vancouver developed a position statement on residential and commercial food grinders.	Staff to undertake review of regulatory options for the commercial sector.
	Develop a new bylaw for fermentation operations (grains/fruits, breweries, wineries and distilleries) discharging to the sewer system	Liquid Waste	Metro Vancouver adopted a fermentation bylaw in 2016.	Staff to undertake review of bylaw fees in 2018
	Promote the use of available commercial programs, to enable restaurants to measure, and then reduce food waste by improving food purchasing, storage and preparation methods	Solid Waste Services	Metro Vancouver concluded its program of loaning food waste reduction hardware and software to local restaurants and food service organizations. The hardware is currently on long-term loan to a food preparation kitchen operated by the Greater Vancouver Food Bank through to November 2017.	The food waste reduction hardware will be available for loan to other commercial and non-profit kitchens in 2018.
	Develop outreach programs for residential and commercial operations to keep grease out of the sewer	MV Housing Corporation	* Information memo to housing sites where there are known problems with grease accumulation . * Include as a Cleaning Tip in the Fall/Winter 2017 Tenant Newsletter	Create a Home Sweet Home flyer on the subject
	Participate in the National Zero Waste Council's food working group in revising food labelling (best before/use buy/sell by dates)	Solid Waste Services, External Relations	Revisions to federal food labelling is a key part of the Food Waste Reduction Strategy currently undergoing Canada-wide stakeholder engagement by the National Zero Waste Council.	Potential for further lobbying
	Implement a 3-year "Love Food Hate Waste" campaign to help residents reduce food waste through menu planning, buying	MV Housing Corporation External Relations	* Promote campaign at tenant meetings; * Include as an item in the Fall/Winter 2017 Tenant Newsletter	Continue to raise awareness
5.3 - Facilitate	Minimize environmental impacts from pesticides through Integrated Pest Management educational programs			

Strategies	MV Actions in Regional Food System Action Plan	Dept	Activity in 2017	Anticipated activity 2018
adoption of environmentally sustainable practices	Determine whether to exempt pest management from the proposed outdoor burning regulation			
	Conduct outreach to small & medium size enterprises to reduce energy and GHG emissions from food processors, wholesalers, and retailers.			
5.4 - Prepare for the impacts of climate change	NEW ACTION	Air Quality & Climate Change Policy	Participated in corporate Climate 2050 planning process	

To: Regional Planning Committee

From: Heather McNell, Director, Regional Planning and Electoral Area Services, Parks, Planning and Environment Department

Date: March 2, 2018 Meeting Date: March 9, 2018

Subject: **Manager's Report**

RECOMMENDATION

That the Regional Planning Committee receive for information the report dated March 2, 2017, titled "Manager's Report".

Regional Planning Committee 2017 Work Plan

The attachment to this report sets out the Committee's Work Plan for 2018. The status of work program elements is indicated as pending, in progress, ongoing or complete. The listing is updated as needed to include new issues that arise, items requested by the Committee, and changes to the schedule.

2016 Data Profiles – Custom Census Geographies

As part of the *Metro 2040* Urban Centres and FTDA Policy Review staff are preparing Data Profiles for every Urban Centre and FTDA based on the 2016 census. Staff will be ordering custom Census data for the geographies set out below. In addition to supporting the producing of the Data Profiles this information will also support regional monitoring and projections for growth as well as inputs to other project work. The 2016 Data Profile Report will further support member jurisdictions in their plan monitoring efforts. Finally, the 2016 Data Profiles will provide an indication of progress towards the regional targets of directing 40% of dwelling unit growth and 50% of employment growth to Urban Centers and 28% of dwelling unit growth and 27% of employment growth to FTDAs.

2018 Custom Census Request Years collected: 2006, 2011, 2016			
Geography	**Buffer distance***	**Indicators Collected**	**Indicators Reported**
Urban Containment Boundary Area	n/a	Whole Census	As per *M2040* Performance Monitoring Program
All Urban Centres	n/a	Whole Census	As per 2011 Data Profiles & *M2040* Performance Monitoring Program
All FTDAs	n/a	Whole Census	As per 2011 Data Profiles & *M2040* Performance Monitoring Program
2011 FTDC	n/a	Whole Census	Not reported

Remaining General Urban	n/a	Whole Census	Not reported
Current FTN (minus stations)	400m from roadway	Whole Census	Not reported
Future Expanded FTN	400m from roadway	Whole Census	Not reported
Rapid Transit Stations Skytrain + Surrey LRT + Broadway-Arbutus Extsn.	800m from stations	Whole Census	Not reported
B-Line Corridor - Current	400, 600, 800, and 1000m from roadway	Whole Census	Not reported
B-Line Corridor – Phase 1	400, 600, 800, and 1000m from roadway	Whole Census	As per Marine-Main Monitoring Program
B-Line Corridor – Phase 2	400, 600, 800, and 1000m from roadway	Whole Census	Not reported
B-Line Corridor – Phase 3	400, 600, 800, and 1000m from roadway	Whole Census	Not reported
Marine Main Corridor	n/a	Whole Census	Reported to partners
**Undevelopable sections of the buffer area will not be included in growth rate calculations, e.g. ALR*			

Regional Parking Study

Metro Vancouver and TransLink are currently collecting data on vehicle and bike parking demand and supply in neighbourhoods and apartments across the region. The results of the study will provide updated information to municipalities and developers on the amount of vehicle parking supply that is being utilized and form the basis for a discussion on what is appropriate to require for new apartment developments. The 2018 study builds on the 2012 Metro Vancouver Apartment Parking Study, and should be completed by Spring 2018.

At the time of writing, 80 apartment sites have been surveyed (comprising surveys of the parking facility and nearby streets), and approximately 1,400 responses to the household questionnaire have been received. Staff are also in the process of requesting BC Hydro and ICBC data to account for unoccupied dwellings and registered vehicles, respectively. The consultant, Acuere Consulting, is now reviewing the data quality and undertaking the analytics.

Staff will convene the municipal project advisory group in March to review topline findings, and will be providing the findings to RPAC and RTAC later in the Spring.

A project page has been created to provide background information about regional parking studies: http://www.metrovancouver.org/services/regional-planning/transportation/regional-parkingstudies/Pages/default.aspx

Agricultural Advisory Committee Minutes

As per the Metro Vancouver Agricultural Advisory Committee (AAC) terms of reference, the AAC meeting minutes will be forwarded to the Regional Planning Committee, once the minutes are adopted by the AAC members. The minutes from the December 1, 2017 AAC meeting are provided in Attachment 2. The AAC passed three resolutions at the December meeting that will be addressed by staff at the next AAC meeting on April 13, 2018.

Attachments:

1. Regional Planning Committee 2017 Work Plan
2. Metro Vancouver Regional District Agricultural Advisory Committee minutes dated December 1, 2017 *(Orbit Doc 24733537)*

Regional Planning Committee 2018 Work Plan
Report Date: March 2, 2018

Priorities

1st Quarter	**Status**
Confirm Work Program	Complete
Long Range Growth Scenarios – Base Case	In Progress
Frequent Transit Corridor Studies – North Shore Marine Main	Complete
Shaping our Communities – Phase II Survey Results	Complete
Transit Oriented Affordable Housing Study – Introduce Phase II	Complete
Industrial and Mixed Employment Lands Policy Review	In Progress
Urban Centres and FTDA Policy Review – Lit Review	Complete
Agricultural Land Soil Investigation Results	Complete
Respond to Proposed Amendments to Metro 2040 - Flavelle, Hazelmere	Ongoing
Respond to Requested Changes to, or new, Regional Context Statements	Ongoing
2nd Quarter	
Apartment Parking Study	In Progress
Transit Oriented Affordable Housing Study – Report out on Phase I Activity 3	In Progress
Long Range Growth Scenarios – Land Capacity	Pending
Frequent Transit Corridor Studies – Lougheed Corridor	In Progress
Urban Centres and FTDA Policy Review – Knowledge Sharing	In Progress
Health and Economic Outcomes of Transit Investment Study - Update	In Progress
Walkability Index - Update	In Progress
Agricultural Land Use Inventory – Results	In Progress
Respond to Proposed Amendments to Metro 2040	Ongoing
Respond to Requested Changes to, or new, Regional Context Statements	Ongoing
3rd Quarter	
Industrial and Mixed Employment Lands Policy Review	Pending
Frequent Transit Corridor Studies – Lougheed Corridor	Pending
Urban Centres and FTDA Policy Review – Growth Overlay Structure	Pending
Food Flow – Agri Food Distribution Study	Pending
Long Range Growth Scenarios – Land Capacity	Pending
Respond to Proposed Amendments to Metro 2040	Ongoing
Respond to Requested Changes to, or new, Regional Context Statements	Ongoing
4th Quarter	
Long Range Growth Scenarios - Update	Pending
Urban Centres and FTDA Policy Review	Pending
Health and Economic Outcomes of Transit Investment Study - Results	Pending
Walkability Index - Results	Pending
Regional Growth Modeling, Projections and Data Support – Summary	Pending
Respond to Proposed Amendments to Metro 2040	Ongoing
Respond to Requested Changes to, or new, Regional Context Statements	Ongoing

GREATER VANCOUVER REGIONAL DISTRICT
AGRICULTURAL ADVISORY COMMITTEE

Minutes of the Regular Meeting of the Agricultural Advisory Committee (AAC) held at 10:00 a.m. on Friday, December 01, 2017 at Meeting Room 2505 (25th Floor) Metrotower III, 4730 Kingsway, Burnaby, BC.

MEMBERS PRESENT:
Daryl Arnold, Chair, BC Chicken Growers Association
Peter Levelton, Vice Chair, BC Landscape and Nursery Association
Director Harold Steves, Metro Vancouver Regional District Board
Jack Bates, Municipality of Delta
Margaret Daskis, City of Maple Ridge
Linda Delli Santi, BC Greenhouse Growers Association
Stephen Easterbrook, City of Richmond
Dieter Geesing, BC Ministry of Agriculture
Kamelli Mark, Agricultural Land Commission
Kent Mullinix, Kwantlen Polytechnic University
Carol Paulson, Township of Langley
Corine Singfield, BC Association of Regenerative Agriculture
Hannah Wittman, UBC Faculty of Land and Food Systems

MEMBERS ABSENT:
Bob Audette, City of Port Coquitlam
Pat Harrison, City of Surrey
Henry Hendriksen, Delta Farmers' Institute
Mike Manion, City of Pitt Meadows

GUESTS
Ken Ingram, Sustainable Food Alliance of BC
Clarence DeBoer, Delta Farmers' Institute
Brent Kelly, Delta Farmers' Institute
Jerry Keulen, Delta Farmers' Institute
Jeff Fitzpatrick, Division Manager, Regional Parks, West Area
Patrick Spillner, Operations Supervisor, Regional Parks, West Area

STAFF:
Marcin Pachcinski, Division Manager, Parks, Planning and Environment Department
Theresa Duynstee, Regional Planner, Parks, Planning and Environment Department
Viktor Panfilenok, Program Assistant, Parks, Planning and Environment Department

_____

1. ADOPTION OF THE AGENDA

1.1 December 01, 2017 Regular Meeting Agenda

That the Agricultural Advisory Committee adopt the agenda for its regular meeting scheduled for December 01, 2017 as circulated.

It was MOVED and SECONDED
That the Agricultural Advisory Committee adopt the agenda for its regular meeting scheduled for December 01, 2017 as circulated.

CARRIED

2. ADOPTION OF THE MINUTES

2.1 October 6, 2017 Regular Meeting Minutes

That the Agricultural Advisory Committee adopt the minutes of its regular meeting held October 06, 2017 as circulated.

It was MOVED and SECONDED
That the Agricultural Advisory Committee adopt the minutes of its regular meeting held October 06, 2017 as circulated.

CARRIED

3. INVITED PRESENTATIONS

The order of the presentations was changed.

3.1 Trans Canada Trail Designation at Boundary Bay Regional Park

Invited Speakers: Clarence DeBoer, Brent Kelly and Jerry Keulen, Delta Farmers' Institute.

Clarence introduced the delegation and explained that between the three farmers, they manage all the agricultural land adjacent to the Boundary Bay dyke from 104th Street to Boundary Bay Airport. They use the dyke on a regular basis to move their large farm equipment as there are no other options to move between the fields. Conflicts between the farmers and dyke recreational users are becoming more problematic during the growing season. They are concerned about public safety as park visitors at times have to step off the dyke into the brambles and rocks to enable the farm equipment to pass by.

The farmers explained that it is frustrating to see the linear park being promoted when conflicts with the farmers persist due to small-sized signage, inadequate staging areas and illegal parking that restricts farm vehicle access. While only 10% of the visitors are causing problems, they felt that inviting more people through the Trans Canada Trail designation will make matters worse. Their major concerns are public safety and legal liability (who is responsible when an incident occurs?). The farmers avoid conflicts with the park visitors by adjusting their work schedule whenever possible. Also, food safety is at risk when garbage is thrown into the fields.

Discussion:

- The public does not understand that agriculture is an industry with requirements to move equipment and undertake farm practices.
- Since the interface issues are seasonal, perhaps enforcement should be increased during the growing season.
- Signage alone is not adequate to resolve these issues.

- The BC Ministry of Agriculture has not been consulted on these conflicts between agriculture and recreation. A multi-stakeholder working group should be formed to address these issues and develop some creative solutions.
- The dyke could be widened to accommodate both the park visitors and farm vehicles (i.e. there is room outside the dyke between 96th Street and 112th Street) or create a separate trail adjacent to the dyke.
- The issue of farming conflicts on the roads and dykes will likely increase in the years to come as population growth continues. In Europe, farming equipment is able to move around without conflict on the roadways. Public education can help prevent conflicts.

3.2 Trans Canada Trail Designation at Boundary Bay Regional Park
Invited Speaker: Jeff Fitzpatrick, Division Manager, Regional Parks, West Area.

Jeff Fitzpatrick introduced himself and acknowledged the concerns raised by the farmers. He explained that Regional Parks is a long-time supporter of the Trans Canada Trail (TCT) as it encourages healthy active living. The new TCT designation to the Tsawwassen Ferry Terminal and along Boundary Bay Regional Park was approved by the Metro Vancouver Regional District Board on June 23, 2017. The only physical change on the park site was the addition of sign tabs on existing posts. No changes were made to the dyke trail, park use, staging area or access. He explained that the various trail designations in Regional Parks do not typically result in increased park visitation and increased activity is usually attributed to population growth.

Jeff explained that Regional Parks collaborates with the City of Delta on managing the agriculture – recreation interface, and more could be done on parking. There is "Share the Trail" signage posted at the entry points along the dyke to inform the public that the farming vehicles have the right-of-way. There is also restricted vehicle access to the dyke, waste receptacles, educational signage, dyke pullouts as well as park patrols. A copy of Jeff's presentation is available on the AAC website here.

Discussion

- Signs should be made larger to be clearly visible.
- The TCT did not consult with the Delta Farmers' Institute.
- Any changes within 300 meters from agricultural land should consider if there are potential impacts to the local farms.
- The ALC should receive notification when changes in ALR occur, even when consultation with stakeholders is not required.
- Clarence DeBoer asked if the Trans Canada Trail designation can be removed until progress has been made in addressing the issues raised.
- The City of Richmond rejected the idea of the trail when it was recognized the recreational users cause problems for the farming community.
- These issues need to be brought to the attention of Board.

It was MOVED AND SECONDED

"That the BC Ministry of Agriculture lead a working group, that includes representatives from the Agricultural Land Commission, Metro Vancouver Regional Planning and Regional Parks, Delta Farmers' Institute and other relevant stakeholders to recommend solutions to alleviate the conflicts arising from recreational activities adjacent to agricultural land."

CARRIED

It was MOVED AND SECONDED

"That Metro Vancouver departments forward to the Agricultural Advisory Committee, initiatives that can potentially impact active farming, especially if located 300 meters adjacent to, or within, the Agricultural Land Reserve."

CARRIED

It was MOVED AND SECONDED

"That Metro Vancouver staff report back to the AAC with an update on the barriers to farming at Colony Farm Regional Park."

CARRIED

4. REPORTS FROM STAFF OR COMMITTEE

4.1 Regional Food System Action Plan Update

Designated Speaker: Jaspal Marwah, Regional Planner, Parks, Planning, and Environment Department

Jaspal Marwah provided a staff report on table with an attachment containing the Metro Vancouver Actions in the Regional Food System Action Plan (RFSAP). The RFSAP included 160 planned actions for implementation by municipalities and the regional district, as well as 3 actions on emerging issues and 18 new collaborative actions.

Jaspal briefly described the progress made on 21 of the 30 actions for Metro Vancouver as listed in the attachment. He also mentioned that member municipalities attended an inaugural RFSAP Food Forum on November 30th, 2017 to provide updates on their agriculture and food related activities.

Discussion:

- Today's conversation about the agriculture – recreation interface fits under Goal 2, Strategy 2.5 to "review government policies and programs to ensure they enable the expansion of the local food sector".
- Updates on the Regional Food Action Plan (RFSAP) should be shared with the municipal AAC's in the region.
- Most of the municipalities with agriculture attended the RFSAP Food Forum including Surrey, Delta, Richmond, Langley Township and Maple Ridge.
- A question whether future RFSAP Food Forums should include broader stakeholders such as educational institutions that could potentially help municipalities address some of their common challenges in the food system.

4.2 Regional Planning 2018 Agri-Food Initiatives

Designated Speaker: Theresa Duynstee, Regional Planner, Parks, Planning, and Environment Department

Theresa spoke about Regional Planning's agriculture and food initiatives that are either planned or being considered for 2018. First she explained that two projects are near completion and the results will be presented to the AAC early next year:

- The Agricultural Land Soil Investigation was initiated in partnership with the ALC. A consultant was hired to look at previous fill applications to see whether they are benefiting the long term viability of agricultural land.
- The Agricultural Land Use Inventory (ALUI) 2016 Update, being led by the BC Ministry of Agriculture, is being analyzed to identify the changes in land use and land cover in the ALR since the first detailed ALUI of Metro Vancouver was completed in 2010-11.

There are 2 new projects being initiated in 2018:

1. The Food Flow Agri-food distribution study aims to identify the key businesses, land use, and transportation infrastructure that support the distribution food. The scope of work is still being developed and may include food entry points, transportation corridors, volume of food distributed locally (if possible) and the vulnerabilities of food businesses. The concept of the Food Flow study arose after seeing similar work being completed in New York City (a description of the Five Borough Food Flow Study is provided in the report attachment).
2. The Agriculture Data Book will be a one-stop shop for information on agriculture in the region and may include the results from the 2016 Census, ALUI 2016 Update and other data sources.

One of the initiatives under consideration is a workshop on land trusts and other options to provide secure land tenure for new farmers. The Capital Regional District Board recently approved a feasibility study for establishing a regional food and farmland trust in their region. The other is to consider options to support ecosystem services on agricultural land.

Discussion:

- What about adding a project on determining foreign ownership of agricultural lands? What actually is foreign ownership?
- The foreign ownership issue may be irrelevant, as long as the land is used for agricultural purposes.
- The real problem is the movement of global capital into the region, which increases speculation and the cost of agricultural land.
- It is nonfarm use that is driving the speculative use in the ALR.
- Kwantlen Polytechnic University will be releasing a 15 page White Paper on the ownership and agricultural land use trends in the Lower Mainland on December 15th, 2017. In BC, the government doesn't keep records on the beneficial land ownership, only the legal land ownership.
- Farmers are concerned about additional restrictions on agricultural land and need to be consulted more.

4.3 Tipping Fee Bylaw Changes for Invasive Species

Designated Speaker: Allen Jensen, Assistant Project Engineer, Solid Waste Services

The item was postponed until the next meeting.

4.4 Role of AAC Chair and Vice Chair

Chair Daryl announced that Vice Chair Peter Levelton is retiring from the AAC, as of this meeting. A warm thank you was extended to Peter for his years of service as the AAC Vice Chair, and a token of appreciation was presented to him on behalf of Metro Vancouver. Peter has participated in the AAC since 2009 and will be continuing his volunteer activities as a Board member of BC Agriculture Council.

Theresa noted that the AAC Chair and Vice Chair are elected each year and 2018 is the last year of this term for this AAC membership. She explained that the main role of the Vice Chair is to step in when the Chair is not available. The Chair presides over the AAC meetings and attends sub-committee meetings when warranted. On rare occasions, the Chair speaks at the Regional Planning Advisory Committee on behalf of the AAC.

4.5 Agricultural Advisory Committee Members Roundtable

Agricultural Advisory Committee Members are invited to provide updates or discuss issues on agriculture related activities in their municipality or sector.

- BC will be hosting an international blueberry conference in August 2019 with 300 delegates/producers from all over the world. The venue has yet to be determined, but will probably be in Surrey or the Fraser Valley.
- UBC researchers were recently awarded a large grant to develop an app enabling UBC Farm and other producers to track farming activities and their operations.
- Question about what farmers can do when their neighbours are noisy late into the night or horses are allowed to run freely onto neighbouring properties?
- There has been lots of interest from realtors who have clients that want to purchase farmland in Maple Ridge for cannabis production.
- The Township of Langley is investing funds in the Young Agrarians' Land Matching Program. They also have pressure from realtors to sell agricultural land.
- The City of Richmond is updating the Agricultural Viability Strategy with a focus on identifying important actions that have not been addressed to date.
- There have been recent changes to ALC Commissioners and regulations pertaining to breweries.
- Kwantlen Polytechnic University launched a BC agriculture and food database on existing government policies and legislation, which is easy search.
- A lot of greenhouses are being converted into cannabis productions. Cannabis is very lucrative and can generate more revenue than other types of agriculture, therefore those growers are able to pay higher wages to employees.
- Peter Levelton noted how much he enjoyed being a part of the AAC.

4.6 Metro Vancouver Updates

The item was postponed until the next meeting.

5. INFORMATION ITEMS

5.1 **Tynehead and Boundary Bay Regional Parks and Delta-South Surrey Greenway – Trans Canada Trail Designation.** Report to the Parks Committee dated May 9, 2017**.**

5.2 **The Countryside and You** Understanding what it means to live in a Farming Community. A brochure published by the Ministry of Agriculture and the Agricultural Land Commission. A copy of the brochure was provided on table to the AAC members.

5.3 **Revising the Evaluation Criteria and Funding for Agriculture Awareness Grants.** Report to the Regional Planning Committee dated October 18, 2017.

6. OTHER BUSINESS

7. ADJOURNMENT

That the Agricultural Advisory Committee conclude its regular meeting of December 01, 2017.

The Agricultural Advisory Committee Meeting adjourned at 1:01 p.m.