

Transportation

Regional Sustainability Strategy Policy Options Series | Fall 2010

In most urban areas, increasing transportation choice has become a regional imperative. When measured against other metropolitan areas, the Capital Regional District (CRD) compares favourably — more residents are riding bikes to work and taking transit regularly and some large employers are committing to aggressive Transportation Demand Management schemes.

But, a closer look at the statistics reveals that little progress has been made in shifting travel behaviour. Almost half of children are driven to school, 78% of all trips are made by private vehicles and 58% of all Greenhouse Gas (GHG) emissions are attributable to vehicle travel. If there is a broadly-based commitment to regional sustainability, is a collective push needed to radically alter our travel patterns? Or will slow and gradual change be enough?

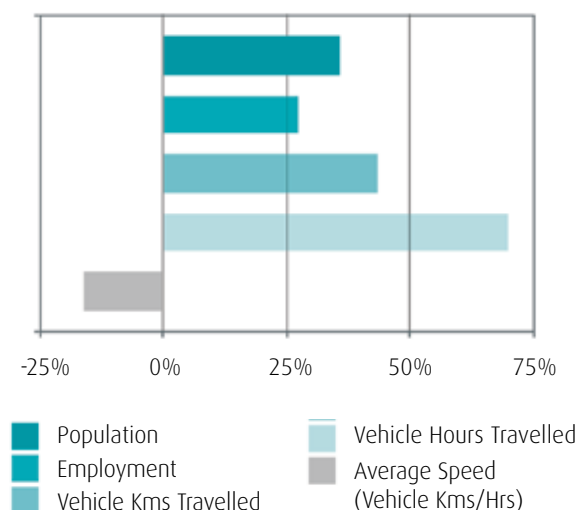
This is one of nine papers that aims to challenge our thinking about being a sustainable region. It focuses on transportation in its broadest context, outlining the current situation, identifying “drivers of change”, highlighting practices from other communities and presenting a set of policy directions.

Your feedback is welcome.

A Regional Context

Most regional households own a vehicle and the majority use it regularly to travel to work, run errands, visit friends and family, and pick up groceries. Families with children usually make many additional trips. All these trips create GHG emissions and, at peak periods, this results in congested roadways, with longer trip times for motorists, and even more GHG emissions.

Figure 1: Projected Change by Selected Indicators, 2006-2038

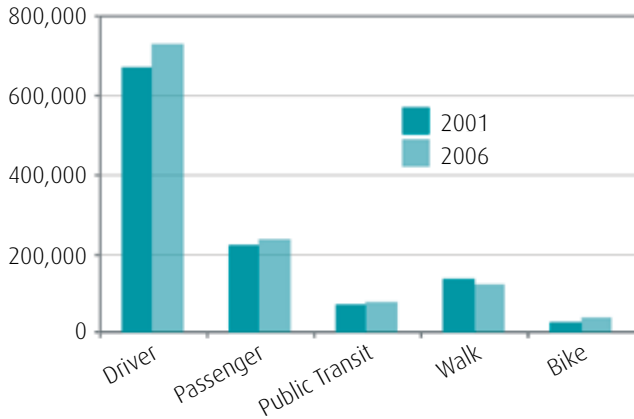


The latest projections to 2038 indicate that vehicle hours travelled will increase 65%, while average vehicle speed will drop by 15% (Figure 1). Under a “do nothing” scenario of the regional transportation model, CRD residents can expect to spend more time travelling longer distances at slower speeds.

Source: CRD Regional Transportation Model

Congestion on major arteries linking the West Shore has increased well beyond expectations, even with the mitigating measure of extensive lane expansion on Highway 1. Automobile travel has increased over the years and drivers are seeking alternative ways to avoid bottlenecks and congestion areas. The source of most of the congestion is private vehicle trips, as shown on Figure 2.

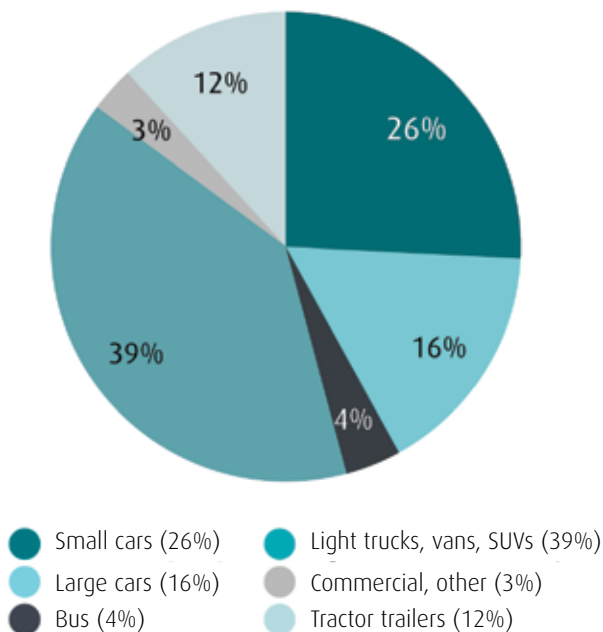
Figure 2: Number of Trips by Mode, 2001 and 2006



Source: CRD Regional Planning

Emissions. Together, on-road travel, agriculture, solid waste, and buildings generated 1.46 million tonnes of CO₂ in 2007. Of this total, on-road travel accounted for more than 58% of these emissions. From on-road emissions, only 4% was attributable to buses.

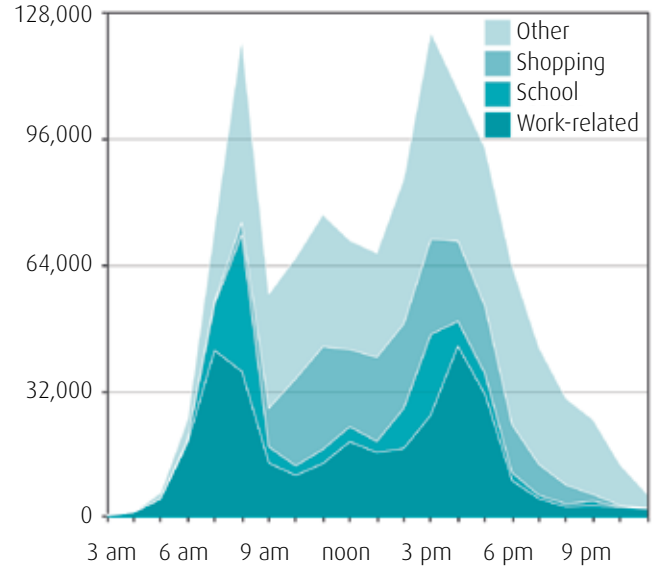
Figure 3: Percentage of CO₂ Emissions by Vehicle Type



Source: CRD Emissions Model

Peak-Non Peak Travel. Our travel patterns, as shown in Figure 4, are heavily skewed to peak periods. In the morning, between 8:00 and 9:00 a.m., there were 46,600 trips on a typical weekday.

Figure 4: Trips by Purpose, Average Weekday, 2006



Source: CRD Regional Planning

Travel Within the Region. Nearly 40% of all kilometres driven are wholly within the Core Area (Victoria, urban Saanich, Oak Bay, Esquimalt, View Royal) and another 40% are driven to and from these communities. Only 17% of trips involve travel to/from the Core Area, but those longer trips represent 41% of all kilometres driven.



What's Driving Government Involvement in Transportation?

There are several compelling reasons for taking action on transportation:

Climate Change | The climate change imperative represents a seismic shift in the global and local landscape. With the passing of BC's *Climate Action* legislation, the CRD's commitment to the Climate Action Charter, and the Province's requirement for a doubling in regional transit ridership from 6.2% to 12% by 2020, we are being compelled to change our travel habits.

Congestion | Studies by Transport Canada suggest that when demand exceeds a city's capacity to move people and goods, the costs range between \$2 and \$4 billion per year. More than 90% of this cost is associated with the time lost in traffic – an economic issue.

Changing Demographics | By 2038, nearly 30% of our population will be over the age of 65. Infrastructure Canada puts a focus on the relationship between aging and the transportation sector and its implications for urban planning. It remains to be seen whether seniors will choose to "age in place" in the suburbs or seek more densely populated areas with a "car-less" lifestyle.

Cost of Infrastructure | With aging transportation infrastructure, the potential costs of repair and upgrades are significant. The "smarter", more efficient use of existing infrastructure will potentially delay some of these costly expenditures.

Reliance on Food Imports | Only 4% of our food is produced on Vancouver Island – the remainder is trucked or flown from overseas or US suppliers, adding to GHGs.

Gas Tax Fund | The Government of Canada's \$2 billion-per-year incentive program encourages local governments to pool, bank and borrow for investments in public transit and road infrastructure.

Taking Steps Regionally

Transportation issues have long been in the forefront of regional discussions:

2003 | The Regional Growth Strategy (RGS) identified "Increased transportation choice" as one of eight key initiatives, which led to the development of a transportation sub-strategy.

2003-10 | Member municipalities are updating official community plans with policies that relate to transit-oriented development and pedestrian-friendly communities. There is consistent use of supply-side approaches, but little use of incentives or disincentives to influence behaviour.

2005 | The Travel Choices Strategy represents a strong start in identifying how to shift more trips to sustainable modes. Very modest, and seemingly attainable, mode share targets are established.

2007 | CRD and member municipalities sign the *Climate Action Charter*.

2009-10 | BC Transit plans a direct rapid service between the West Shore and the Core.

2010 | BC Transit is developing Transit Future Victoria to retrofit the existing network to meet Provincial targets.

2010-11 | The CRD and member municipalities are undertaking three major strategies:

- The **Regional Corridor Plan** has been developed to ensure that the efficiency and long-term integrity of the regional network is maintained.
- The **Transportation Demand Management Strategy** has region-wide policies and actions that serve to make our regional centres attractive places to shop, live, work and recreate.
- A **Regional Pedestrian and Cycling Master Plan** outlines a seamless network as a competitive alternative to the vehicle network and will help coordinate resources and actions for infrastructure, education and promotion.

What's Happening Elsewhere?

Leading practices in sustainable transportation fall into three areas – corridor identification, transportation demand management and active transportation. The CRD is engaged in each to some degree. But, the detail and levels of commitment and participation are important. As evidenced world-wide, greater benefits come when communities systematically and incrementally implement strong measures.

Best practice strategies fall into nine categories:

1. **Pricing and taxes**, which serve to raise the cost of private vehicle use.
2. **Land use and smart growth**, which focus on creating more efficient settlement patterns, thereby reducing the reliance on private vehicles.
3. **Non-motorized transport**, which encourages greater levels of walking and cycling.
4. **Public transportation improvements**, which serve to expand the use of transit.
5. **Commute-based measures**, such as ride-sharing, car-sharing and other incentives for work-based trips.
6. **Regulatory strategies**, which focus on laws that moderate vehicle travel and speed to achieve greater fuel efficiency.
7. **Intelligent transportation systems**, which improve the efficiency of the operations.
8. **Capacity expansion**, which reduces congestion, thereby improving the efficiency of travel and reducing idling emissions.
9. **Multi-modal freight sector strategies**, which better integrate the movement of goods and services with various modes.



The effectiveness of each strategy depends on how broadly it is supported, how quickly it is implemented and how aggressively it is structured.

Strategy | Seattle, USA

In 2005, a Mayor's "Green Ribbon Commission" developed a strategy to "meet or beat" the Kyoto target. Adopted recommendations include increased supply of frequent, reliable and convenient public transportation; significantly expanded cycling and pedestrian infrastructure; a road pricing system; a commercial parking tax; and efforts to create compact neighbourhoods.

Parking Policies | Portland, USA

The predominantly business Lloyd District shifted drive-alone trips from 72% in 1994 to 33% in 2005 through a bundle of measures, including maximum parking ratios, on-street pay parking, and limited surface parking. (http://www.eltis.org/study_sheet.phtml?study_id=2517&lang1=en)

Transit-Oriented Design | New Jersey, USA

The "Transit Village" initiative seeks to revitalize selected communities with transit as an anchor. By-product benefits include reduced congestion, improved air quality, growth in housing stock, greater community engagement and increased pedestrian activity and bicycle use.

"Moving Cooler" Strategies | USA

This study, "Moving Cooler – An Analysis of Transportation Strategies for Reducing Greenhouse Gas Emissions", was commissioned by a diverse group of US stakeholders to inform debate around potential legislation. It examines the effects, costs and benefits of deployment of a variety of cutting-edge technologies and techniques for reducing emissions. (<http://www.movingcooler.info/resources>).



Setting the Policy Options Framework

Transportation trends tell us that our collective drive to establish a sustainable transportation system will not evolve with visionary language and good intentions alone. In keeping with the BC government’s goal of a 33% reduction in emissions, the region would need to reduce single-occupant trips by 81%.

Transportation Demand Management (TDM)

- Results in some cities show employer-based TDM programs reduce single occupancy trips by 5% to 20%. Applying this locally, with only 30% of all trips being employer-based, and knowing that only 20-30% of employers will implement TDM, the impact of a region-wide TDM strategy is likely to be a reduction of 0.4% to 1.5% car-use kilometres travelled.
- While the impacts of most TDM measures are small, road pricing is the exception. This is the most effective and reliable measure for generating change, but the most challenging to implement.

Additional Density and Connectivity

- Additional density, especially at, or near, transportation hubs and regional growth centres will yield a reduction in vehicle trips. This will take many years to put in place.
- Supporting measures can be initiated to reward compact living with walkable, cycling-friendly urban areas.

Rapid Transit Planning

There are aggressive changes being considered for the regional transit system. The CRD can support these pivotal initiatives through three strategies – corridor management, TDM, and pedestrian and cycling master planning.



Travel Choices Strategy

The CRD’s existing Transportation Sub-strategy, Travel Choices, was adopted by the Board in 2005. The policy direction is clearly stated as: “Pursue strategies that achieve shift in mode share away from single occupancy vehicles.” Specific targets and objectives are set out as benchmarks:

- **Target:** Pedestrian mode share from 11% in 2011 to 15% by 2026.
- **Target:** Bicycling mode share to be greater than 5%.
- **Objective:** Implement TDM measures to further promote use of priority modes.
- **Objective:** Maximize mobility for all forms of transportation to the greatest extent possible within the existing roadway system.

Policy Options: Where Are We Now?

The Status Quo approach assumes the steady expansion of existing practices, as outlined in the 2003 Regional Growth Strategy.

| Travel Choices Goals | Travel Choices Implementation | Status Quo |
|--|--|--|
| <p>Better integration of land use and transportation policies.</p> | <p>Corridor Management Plan</p> | <p>TravelChoices outlines regional targets for shifting from single occupant vehicles to alternate modes of transportation. Municipalities and transportation agencies support corridor planning objectives to best serve travel demand, support urban centres and advance the Transit and Pedestrian Cycling Master Plans.</p> |
| <p>Identify incentives and penalties to shift travel behaviour to priority modes.</p> | <p>Transportation Demand Management (TDM)</p> | <p>Provide information to member municipalities through a TDM Toolkit, act as a clearinghouse for information about innovations and best practices and facilitate knowledge sharing of local initiatives.</p> |
| <p>Enhance alternatives to driving alone by developing walkable, compact urban areas.</p> | <p>Pedestrian and Cycling Master Plan (PCMP) BC Transit Future Plan</p> | <p>Identify and establish a regional active transportation network; expand and upgrade the regional trail system and continue to access federal gas tax funding.</p> <p>Collaborate with member municipalities to prioritize completion of priority gaps.</p> <p>Pursue appropriate complementary standards for facilities and signage among municipalities by way of agreed upon design guidelines.</p> |
| <p>Manage roadways and congestion to achieve improved mobility through priority investments in corridors.</p> | <p>TravelChoices Investment and Implementation Plan Corridor Management Plan</p> | <p>Identify priorities for regional transportation investment decisions based on criteria that support TravelChoices strategies.</p> <p>Utilize regionally allocated strategic priority gas tax funding for priority initiatives.</p> |

Policy Options: Where Could We Go?

The **Moderate Change** policy has some new measures, but with more emphasis on implementing existing practices sooner, as well as more broadly and aggressively. Importantly, these policies focus on region-wide regulatory approaches that serve to effectively shift mode share, such as transit priority route identification and parking standards. The **Significant Change** policy assumes the Moderate Change policies are implemented and establishes a financial commitment to implementation.*

| Moderate Change | Significant Change |
|---|--|
| <p>Regional Corridor Plan used as a basis for a voluntary inter-jurisdictional agreement on regional corridors network, standards and funding plan.</p> <p>Corridor priorities are identified that best serve travel demand, support urban centres and advance the Transit and Pedestrian/Cycling Master Plans.</p> <p>Develop and agree upon a corridor plan that: identifies regional roads, cycling & pedestrian routes; sets functions and standards; plans for modal shift; guides infrastructure investment to accommodate existing and future populations.</p> | <p>Regional Corridor Plan approved and implemented by inter-jurisdictional agreement with agreed on priority functions and standards for corridors and a binding inter-jurisdictional management and funding framework.</p> <p>Adopt policies that require medium and high density housing(including affordable housing) development and redevelopment within 400m of rapid transit station.</p> <p>Adopt policies requiring medium density housing within 400m of frequent transit corridors.</p> |
| <p>In cooperation with BC Transit, focus on TDM measures that specifically support transit such as park and ride planning, transit oriented development policies (e.g., parking policies that achieve alternate transportation mode targets).</p> | <p>Implement agreed on TDM measures that promote alternative transportation networks, promote employer-based TDM program support and enable social marketing and partnership development.</p> <p>Implement appropriately located park & rides, transit stations, bike storage and other facilities associated with rapid transit.</p> <p>Work with BC Transit and municipalities to expand policies & programs that promote a mode shift.</p> |
| <p>Advance policies that implement active transportation network improvements, utilizing an updated TravelChoices Investment Plan to implement PCMP priorities, both regionally and locally.</p> <p>Incorporate land use policies that support BC transit rapid transit (busway or rail) project, to fully implement transit priority.</p> <p>Incorporate land use policies that support the BC transit plan for frequent transit service on corridors consistent with the Region's corridor plan.</p> | <p>Implement active transportation with agreed on route functions and standards together with program support to achieve the objectives of the PCMP through an inter-jurisdictional management and funding framework.</p> |
| <p>Utilize an updated TravelChoices Investment Plan to collectively leverage regional and municipal funding and complete priority initiatives.</p> <p>Implement inter-jurisdictional agreements to direct grant funding to priorities as available.</p> | <p>Implement updated TravelChoices and agreed on Corridor priorities and investments through a binding inter-jurisdictional management and funding framework.</p> <p>Leverage regional investment and funding from senior government to address identified priorities for road, transit and cycling/pedestrian facilities and routes</p> |

*The Significant Change approach builds upon and enhances the options presented under Moderate Change. The effect is often cumulative, with policies under Moderate Change generally assumed to be included under Significant Change.

What Do You Think?

The CRD Board recently emphasized sustainable transportation in strategic planning, corporately and for the region. There is a collective understanding that we cannot build our way out of traffic congestion, continue to increase on-road GHG emissions and spend increasing funds on aging infrastructure — but the alternative options are complex and require thoughtful debate.

- A shift in policy direction is anticipated. Would you recommend a moderate or significant shift in the CRD’s approach to transportation?
- The establishment of a Corridor Plan is the most critical, foundation-building action the CRD can initiate. How can the CRD further enhance the TravelChoices strategy through a regional corridor plan?
- How can Transportation Demand Management measures support the CRD’s sustainable transportation objectives?
- How can we most effectively implement the Pedestrian and Cycling Master Plan?

Notes:

Feedback

The CRD values your input in developing the Regional Sustainability Strategy. Please submit your comments on this policy paper via sustainability@crd.bc.ca.

For in-depth information, **visit www.crd.bc.ca/sustainability** to view notices on upcoming consultations, discussion papers, and the overall progress of the Regional Sustainability Strategy.

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Regional Sustainability Strategy

The CRD, together with member municipalities, stakeholder groups and residents, is working to developing a vision and a planning framework to promote sustainability and create a lasting legacy for future generations. This will lead to the CRD’s first Regional Sustainability Strategy, a broadly ranging document that charts a course to a complete and inclusive community, committed to sustainable practices socially, environmentally, economically and financially.

The Strategy has its foundations in earlier commitments by the CRD Board and member municipalities through the Regional Growth Strategy, adopted in 2003.



Making a difference...together