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# ***Making The Connection***

**Climate Action**

**The Provincial Transit Plan**

**and**

**BC Transit**



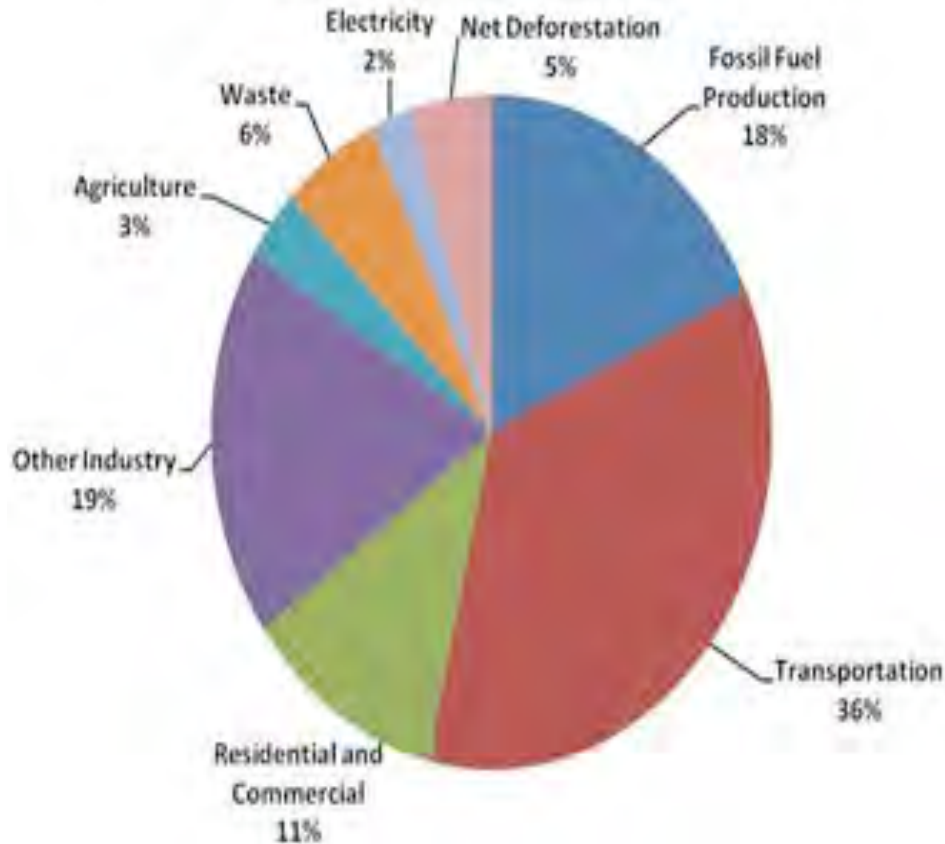
***BCTransit***

Linking Communities, Businesses & Lifestyles

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## B.C. Greenhouse Gas Emissions (2007)

Total: 67,309 kilotonnes CO<sub>2</sub>e



67 MT GHGs

24 MT Transportation

12 MT Passenger  
Transportation

0.2 MT Urban Transit

Transit buses less than  
1% of transportation  
GHGs

- BC Transit – role & responsibility
- Supporting and Shaping Liveable Communities
- Carbon Neutrality
- Sustainability with clean and energy efficient transit vehicles

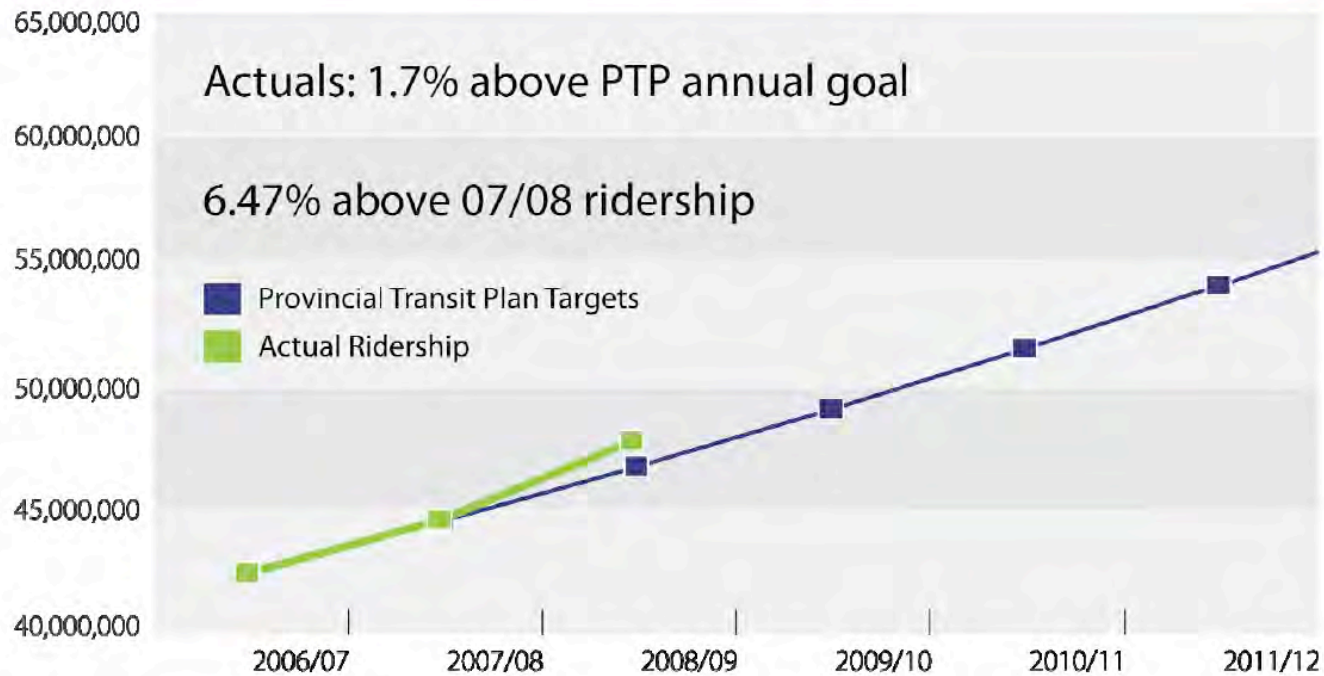
## BC Transit Systems



- 81 transit systems
- 958 vehicles
- 1.5+ M population served
- 57 local governments
- 40 operating organizations
- \$259 M operating budget
- 50 M passengers

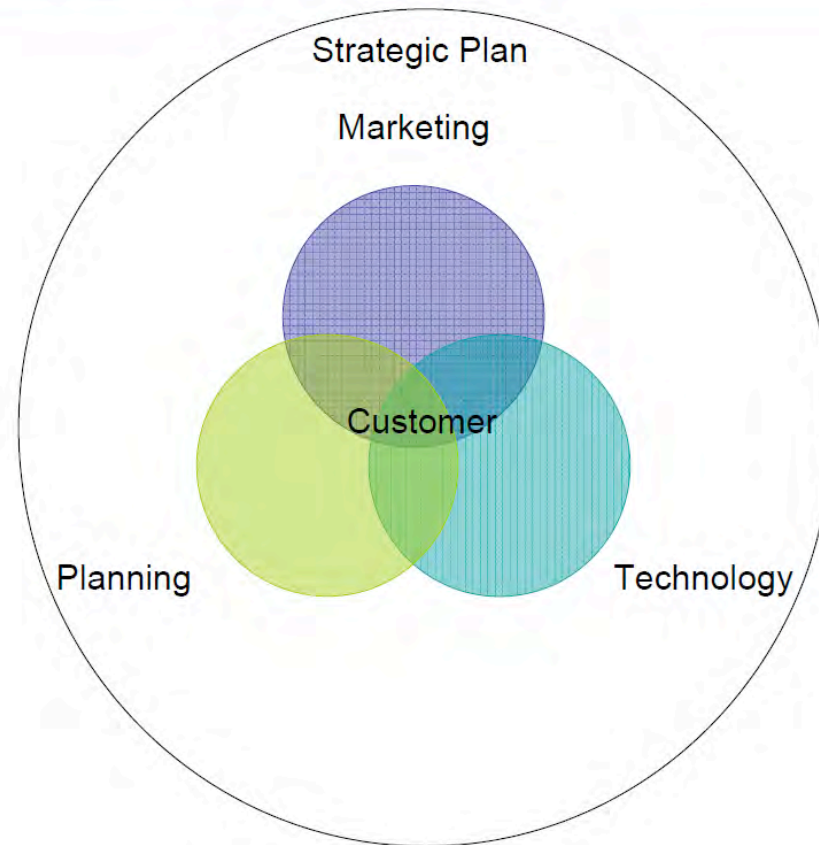
- Announced 2008
- Increase transit ridership across the province
- Reduce greenhouse gas emissions and other air contaminants from cars
- Support increased population and employment densities near transit hubs and along transit corridors, changing urban forms, which will further decrease GHG emissions
- Ease traffic congestion and help make communities healthier places to live and easier places to get around.

## Accomplishments



Goal of doubling ridership by 2020 (84.4 million)

## Strategic Plan



- **Reduced:**
  - infrastructure costs
  - congestion costs
  - environmental impacts
  
- **Improved:**
  - development of liveable communities
  - economic and social development
  - mobility, accessibility and civic participation
  
- **Increased:**
  - independent living

## Accomplishments

- Initiated a new master planning process and rapid transit plans
- Kelowna and Victoria
- Central Fraser Valley in partnership with Ministry of Transportation & Infrastructure
- Prince George, Nanaimo and Kamloops to follow

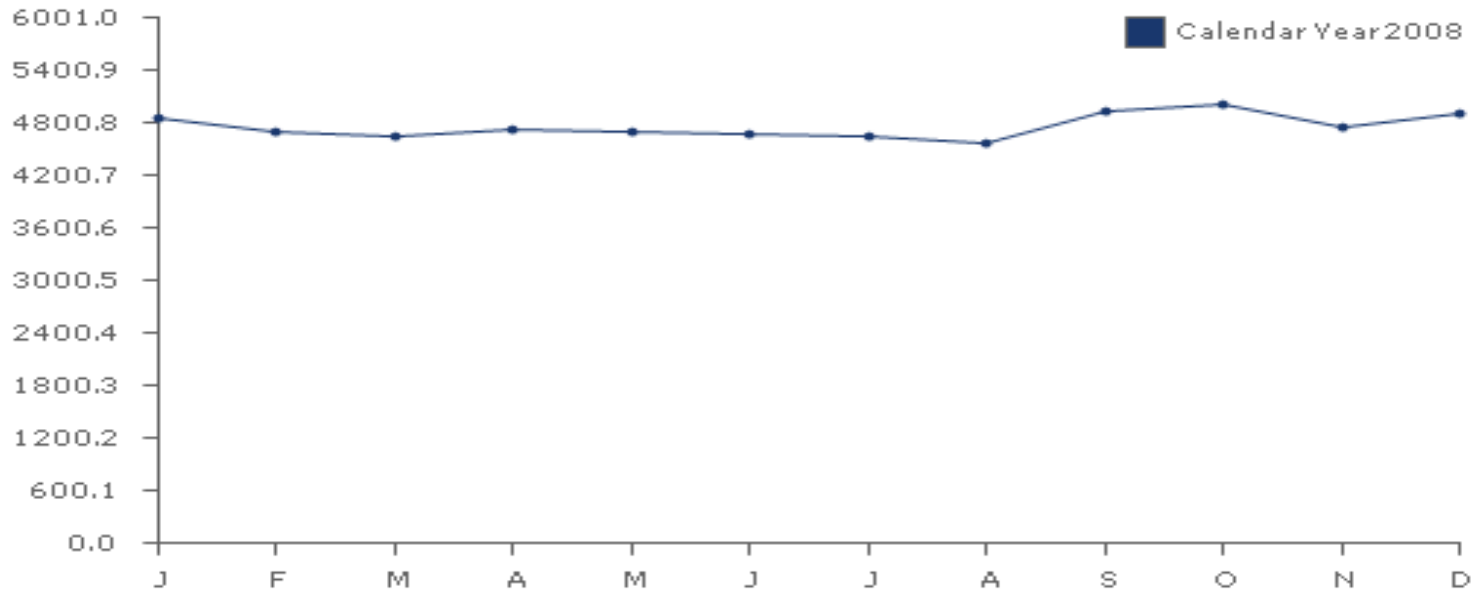


- BC Transit's carbon costs
- Other valuations
- Full Life Accounting

- Does not mean zero GHG emissions
- BC Transit must:
  - report on current GHG emissions as a baseline,
  - reduce these emissions as much as possible, and
  - invest in projects through the Pacific Carbon Trust
- All new BC Transit owned or leased facilities must provide healthy workspaces while managing GHG emissions.
  - new buildings must be compliant with government direction on performance standards

- **Emissions from Fleet  
Calendar Year 2008  
BC Transit**

Metric tonnes  
CO<sub>2</sub> equivalent (tCO<sub>2</sub>e)



Click on the points to view data for each month

- Pacific Carbon Trust - <http://www.pacificcarbontrust.ca/>
- Offset GHGs at indicative \$25 / tonne
- Emissions from service buses must be recorded but are excluded from BC Transit's offset obligation

- BC Air Action Plan
- BC Transit diesel engine after - treatment emissions reduction retrofit program
  - diesel particulate filters
  - diesel oxidation catalysts
  - fleet impacts

| Vehicle type               | Vehicle price | Life-time cost (€ Euro) |                 |        |       |       | Vehicle price + lifetime costs |
|----------------------------|---------------|-------------------------|-----------------|--------|-------|-------|--------------------------------|
|                            |               | Fuel                    | CO <sub>2</sub> | NOx    | NMH C | PM    |                                |
| Bus<br>(1 million km)      | 150,000       | 313,500                 | 30,210          | 87,780 | 2,622 | 9,918 | €594,030                       |
| Diesel car<br>(200,000 km) | 17,000        | 5,500                   | 530             | 220    | 10    | 435   | €23,695                        |
| Petrol car<br>(200,000 km) | 15,000        | 7,700                   | 669             | 70     | 20    | 87    | €23,547                        |

| Table 2: Shadow Price (£) per Tonne of Carbon in 2002 prices - Values for Chosen Years |       |       |       |        |        |        |        |
|----------------------------------------------------------------------------------------|-------|-------|-------|--------|--------|--------|--------|
| Year                                                                                   | 2000  | 2002  | 2006  | 2010   | 2020   | 2040   | 2060   |
| Central Estimate                                                                       | 71.00 | 73.87 | 79.96 | 86.55  | 105.50 | 156.77 | 232.95 |
| Upper Estimate                                                                         | 85.20 | 88.64 | 95.95 | 103.86 | 126.60 | 188.12 | 279.54 |
| Lower Estimate                                                                         | 63.90 | 66.48 | 71.96 | 77.89  | 94.95  | 141.09 | 209.66 |

# Sustainability with Clean & Energy Efficient Vehicles

Sustainability  
co-benefits of Transit

Public health benefits  
Social inclusion  
Community integration  
Smart Growth  
Public realm  
Reduced noise  
Policy integration



## Buses

Clean Diesel

Hybrid

Hydrogen

Other low carbon solutions

- Leading provincial public transit change initiatives
- Continuously improving community, social, economic and financial sustainability
- Supporting rural and first nations communities
- Continuously improving the accessibility and inclusiveness of communities

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