

Central freight consolidation centres: A gateway to urban and long distance freight transport electrification

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Coop Carbone - Our Mission

**Take action in the face of the
climate emergency by
supporting the
implementation of
collaborative projects to
reduce greenhouse gases.**

We must collaborate and increase ambition to further reduce
GHG emissions.

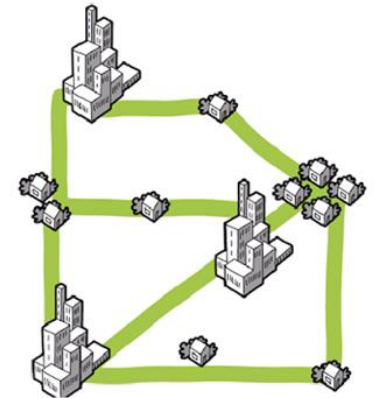
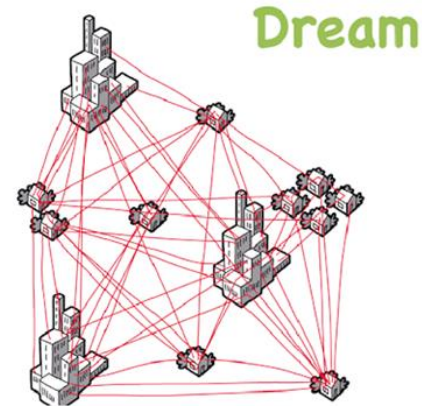
Logistics Today: Challenges & Opportunities



Warehousing & Consolidation Centres



Numerous inefficiencies at a system level



Current State of Global Logistics

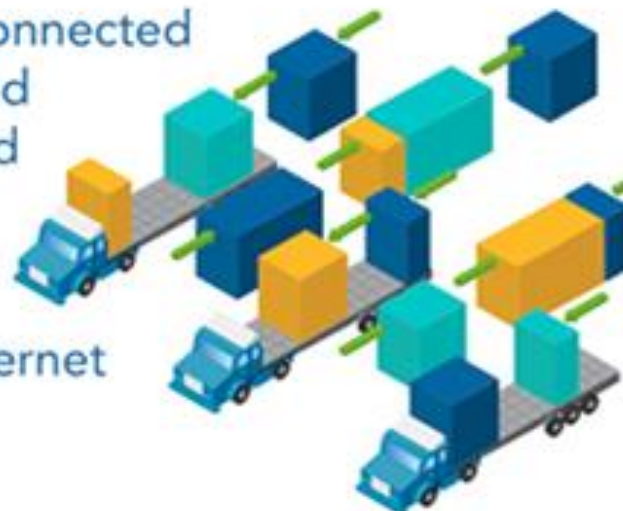
- Highly competitive & privatized environment
- Tight industry margins
- Trending towards faster deliveries at lower consumer costs
- Labour market & gig economy
- Inefficient industry-wide use of assets
- Complex regulatory environment
- Increasing urban and port congestion
- Rapid inflation
- Oil market fluctuation
- Supply chain vulnerability
- Political instability
- Real estate costs

The Physical Internet Model

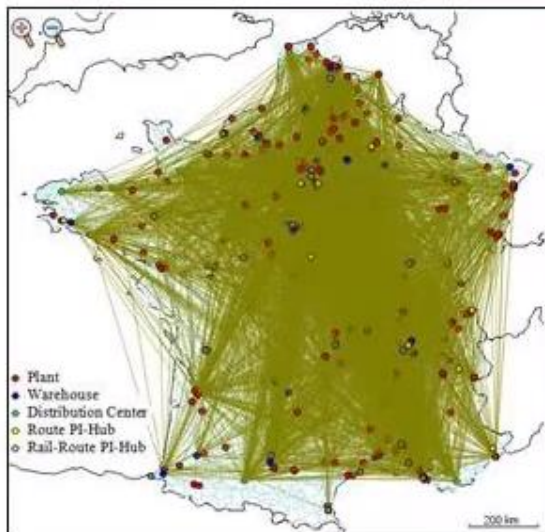
PHYSICAL INTERNET

A new way to design open and interconnected logistics leading to a more efficient and sustainable way of moving, storing and using physical goods.

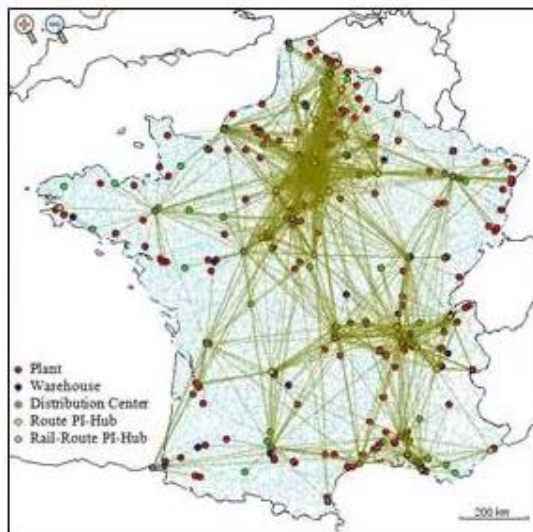
Similar to packets of information in the Digital Internet, in the Physical Internet physical goods are encapsulated in packets, π -containers.



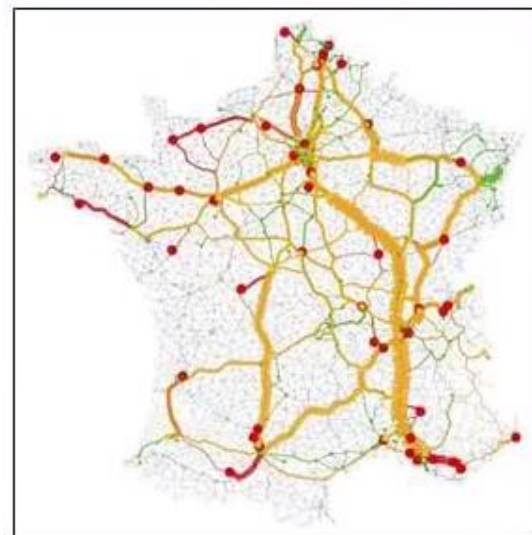
Simulation based on product distribution flow to two top retailers in France, from their 100 top suppliers



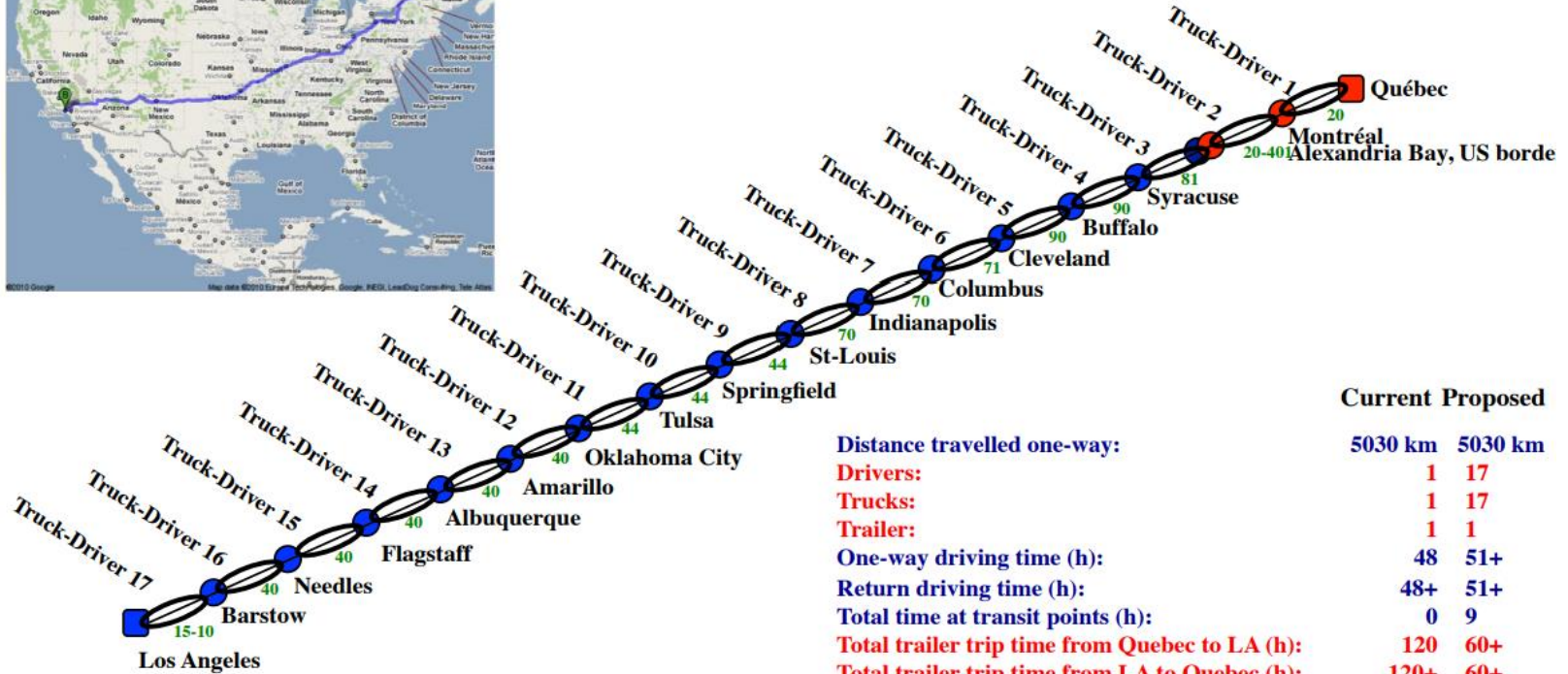
Current flows



Physical Internet flows



Physical Internet traffic

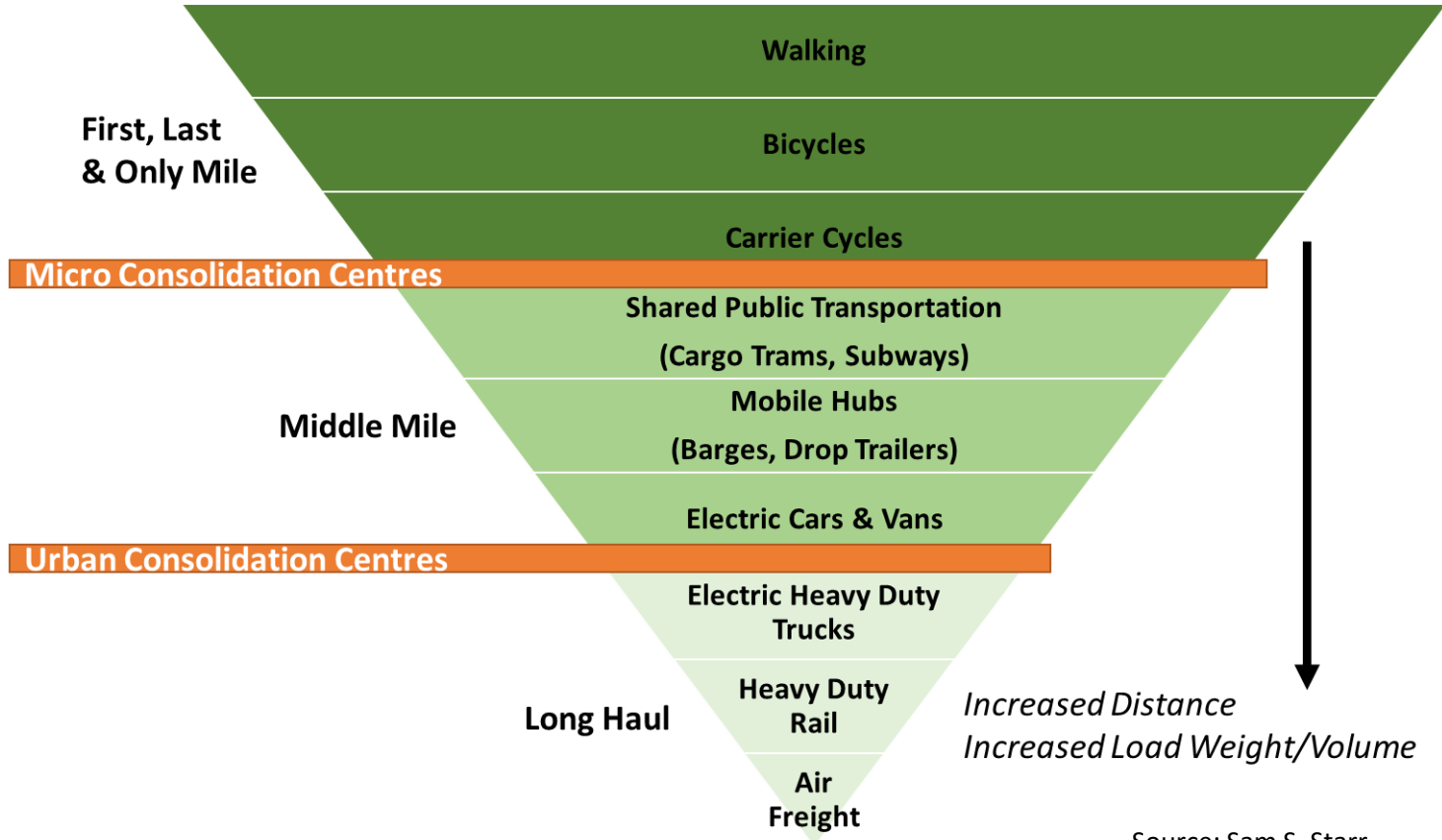


	Current Proposed	
Distance travelled one-way:	5030 km	5030 km
Drivers:	1	17
Trucks:	1	17
Trailer:	1	1
One-way driving time (h):	48	51+
Return driving time (h):	48+	51+
Total time at transit points (h):	0	9
Total trailer trip time from Québec to LA (h):	120	60+
Total trailer trip time from LA to Québec (h):	120+	60+
Total trailer round trip time (h):	240+	120+
Average driving time per driver (h):	96+	6
Average trip time per driver (h):	240+	6,5

Source: Benoît Montreuil, "Towards a Physical Internet: Meeting the Global Logistics Sustainability Grand Challenge", CIRRELT, January 2011

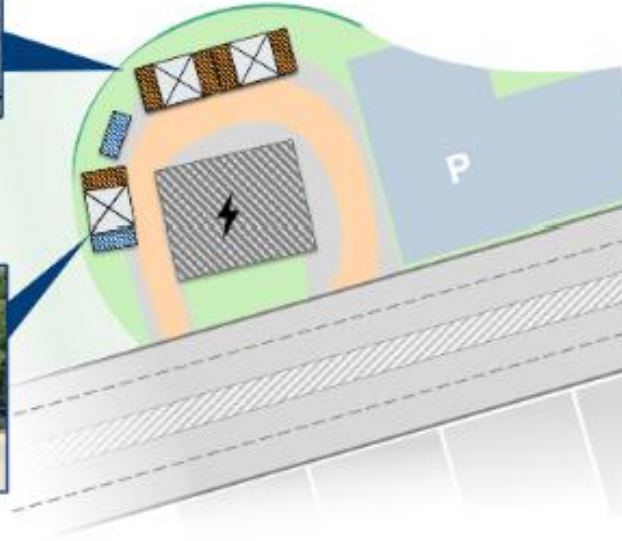
From Theory to Action

Freight Electrification: A Framework



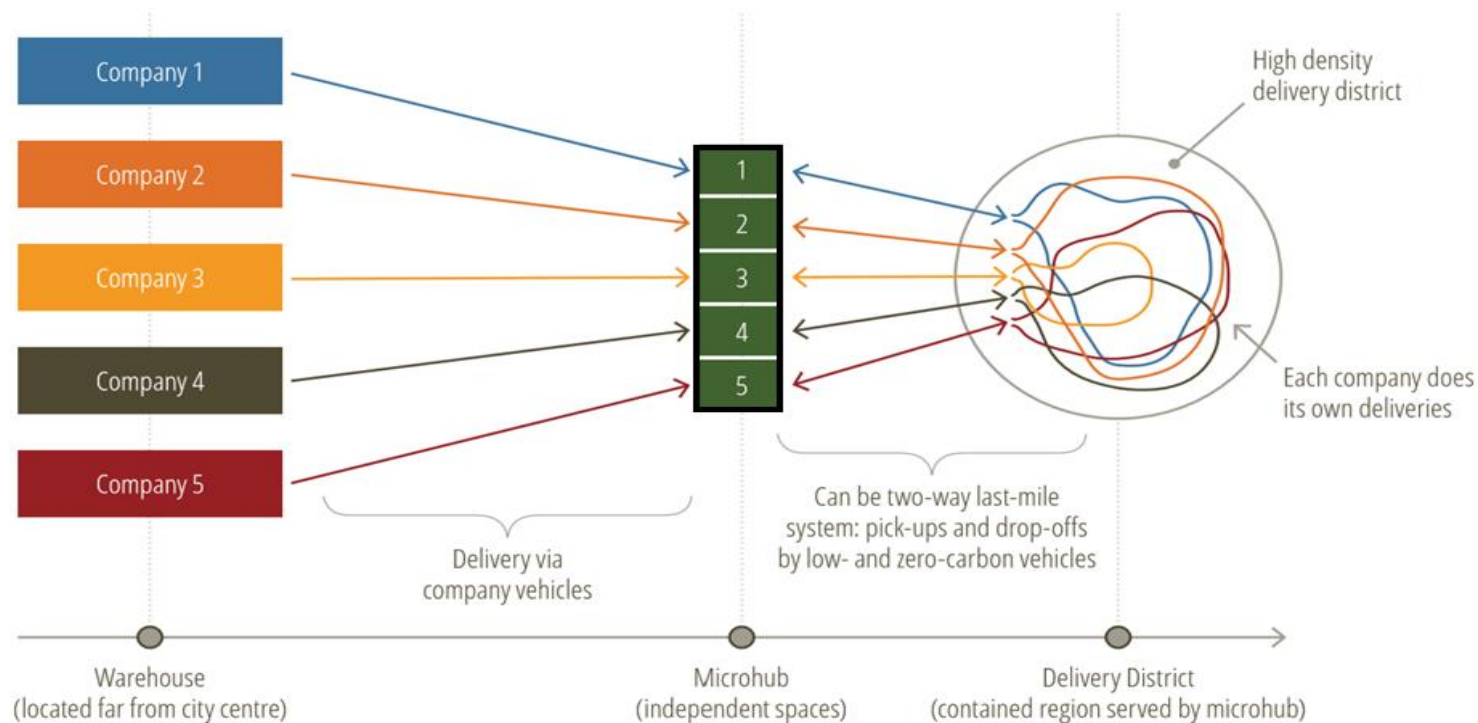
Source: Sam S. Starr

Today's urban cycle logistics centre pilots



Source: KoMoDo Berlin

Mixed Consolidation Model Pilots: Colibri Montreal, KoMoDo Berlin, Prague



Source: Adapted from Pembina Institute, 2019

CULT & City of Antwerp

Driving reduced by 25% and emissions by 90% through combined city deliveries in Antwerp

Tuesday 15 March 2022



Source: <https://press.bpost.be/driving-reduced-by-25-and-emissions-by-90-through-combined-city-deliveries-in-antwerp>

Activation through Collaboration: The Role of Public-Private Partnerships



Public

Freight Policy
Curb Policy
Parking Policy
Land Allocation
Equity



P3

CCC Management
Vehicle Charging
MaaS & Cargo Bike Rental
NGO/Neutrality

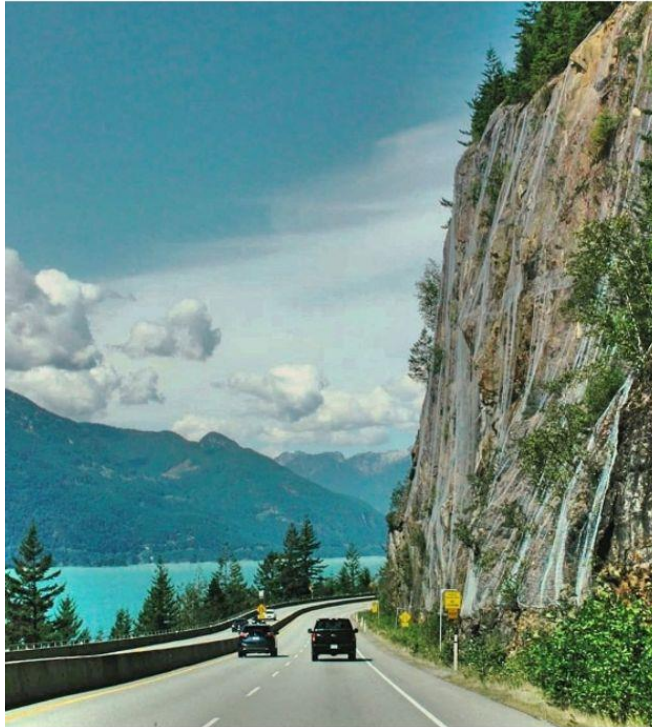


Private

Freight Services
Local Courier Services
Parcel Lockers

Can we electrify long haul
and urban freight for
smaller communities?

British Columbia's Sea to Sky Region



Lillooet

Pemberton

Whistler Village

Function Junction

Squamish

Hwy 99

Britannia Beach

Furry Creek

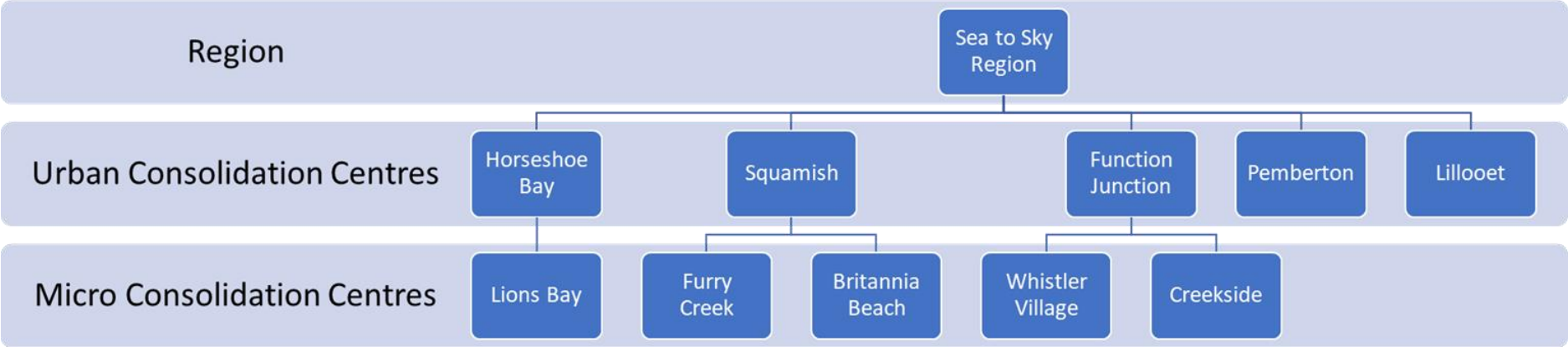
Lions Bay

Horseshoe Bay

West Vancouver

Vancouver

Electrifying the Region through CFCs



Source: Sam Starr

Getting to Zero in Squamish, BC



Source: Zero Logistics

It's the 'Wild, Wild West' in logistics today!

Perspectives for urban logistics

Three approaches to keep the Wild West scenario at bay



Source: Roland Berger

Merci

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