

THE MANCHESTER PROJECT



The Post-Carbon City CIRCLE
(Centre for Innovation, Research Collaboration,
Learning and Education)

A Living Lab for Post-Carbon Cities
with a focus on Inner City Industrial Land Transitions

THE PRESENT OPPORTUNITY

- Growing interest in Low-Carbon Cities
- The Paris Climate Talks
- Provincial and Federal Climate Change Policy Review
- Our Premier has said publicly that the Oil Sands is not our future

The Challenge:

We need a more equitable economy that generates 80% less GHGs, reduces our EF by 80 %, creates jobs for the future

The Vision:

Manchester District as a living lab that makes that possible

WHY MANCHESTER?

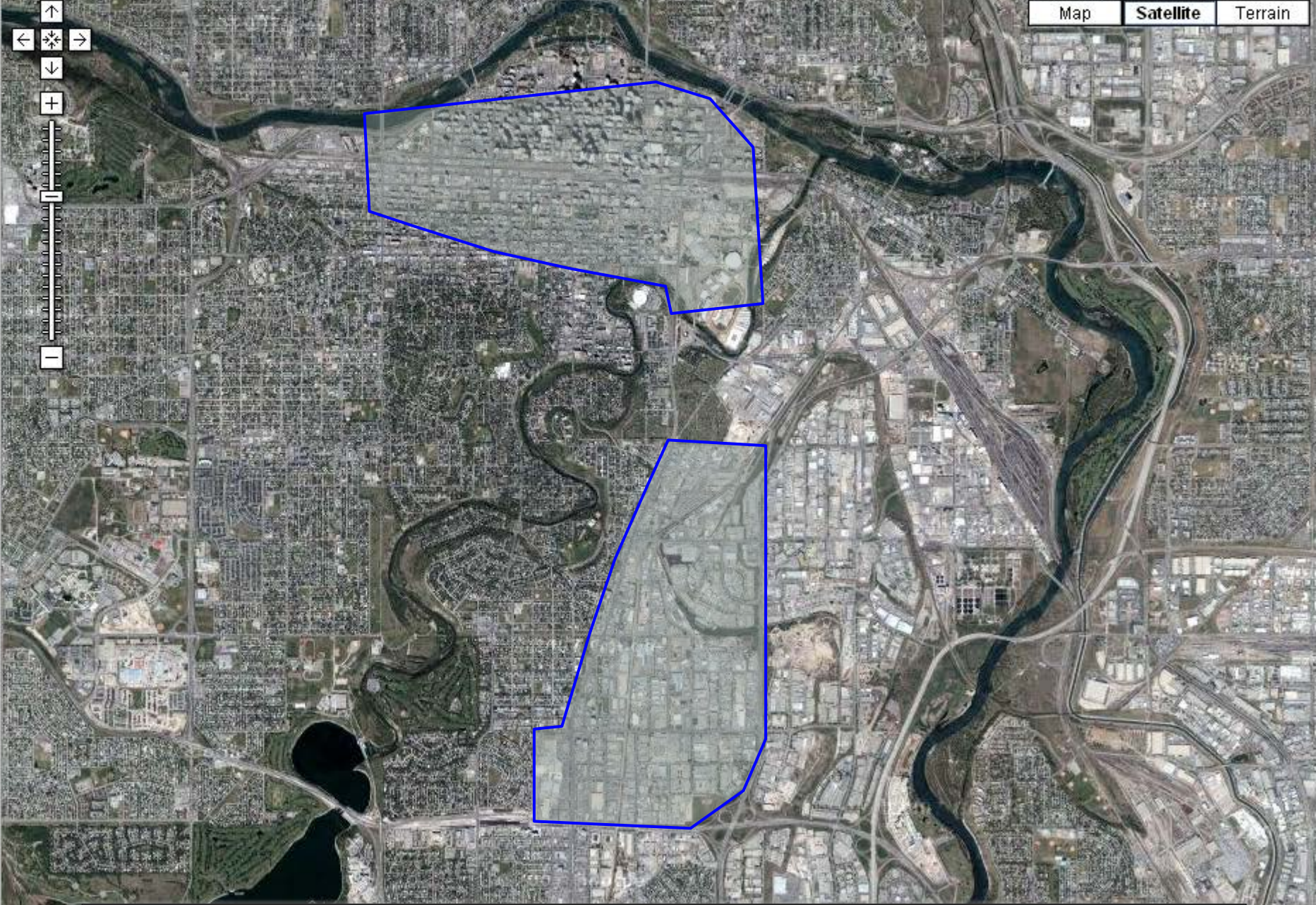
- Proximity to City Centre
- Existing Transportation Infrastructure
- Low-value building stock at or near end of lifespan
- Underutilized (60-70% asphalt; FAR of less than 1)

BUILDING FROM THE CALGARY CONTEXT

- ImagineCalgary
- The Municipal Development Plan
 - Where do we put 600,000 people?
- Ecological Footprint Initiative
- Low Carbon Economy Strategy
- Inner City Industrial Lands Strategy
- Need for Economic Diversification
- Calgary Eats
- Bicycle Strategy
- Pedestrian Strategy

WHERE WILL WE PUT 1.2 MILLION NEW CALGARIANS?

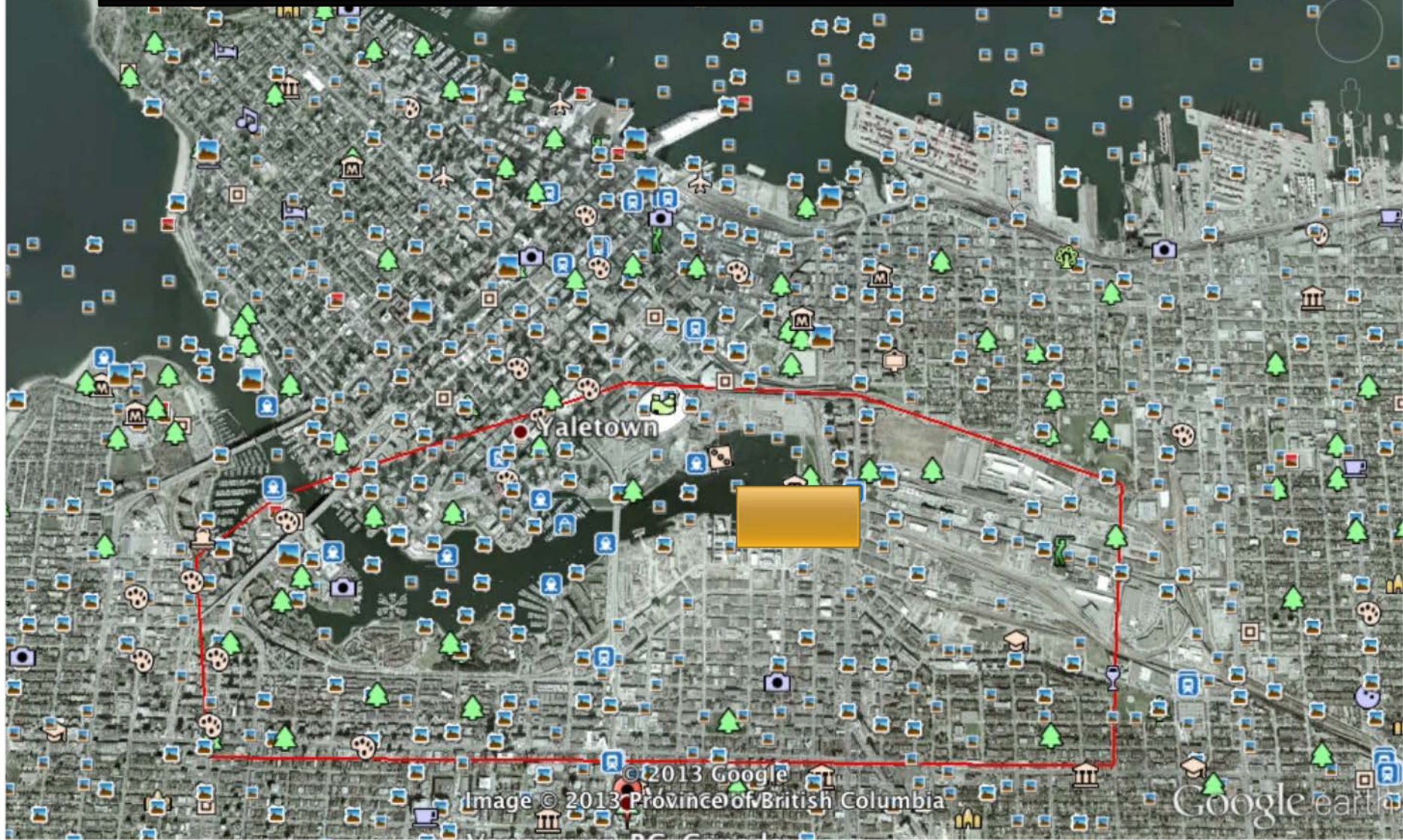




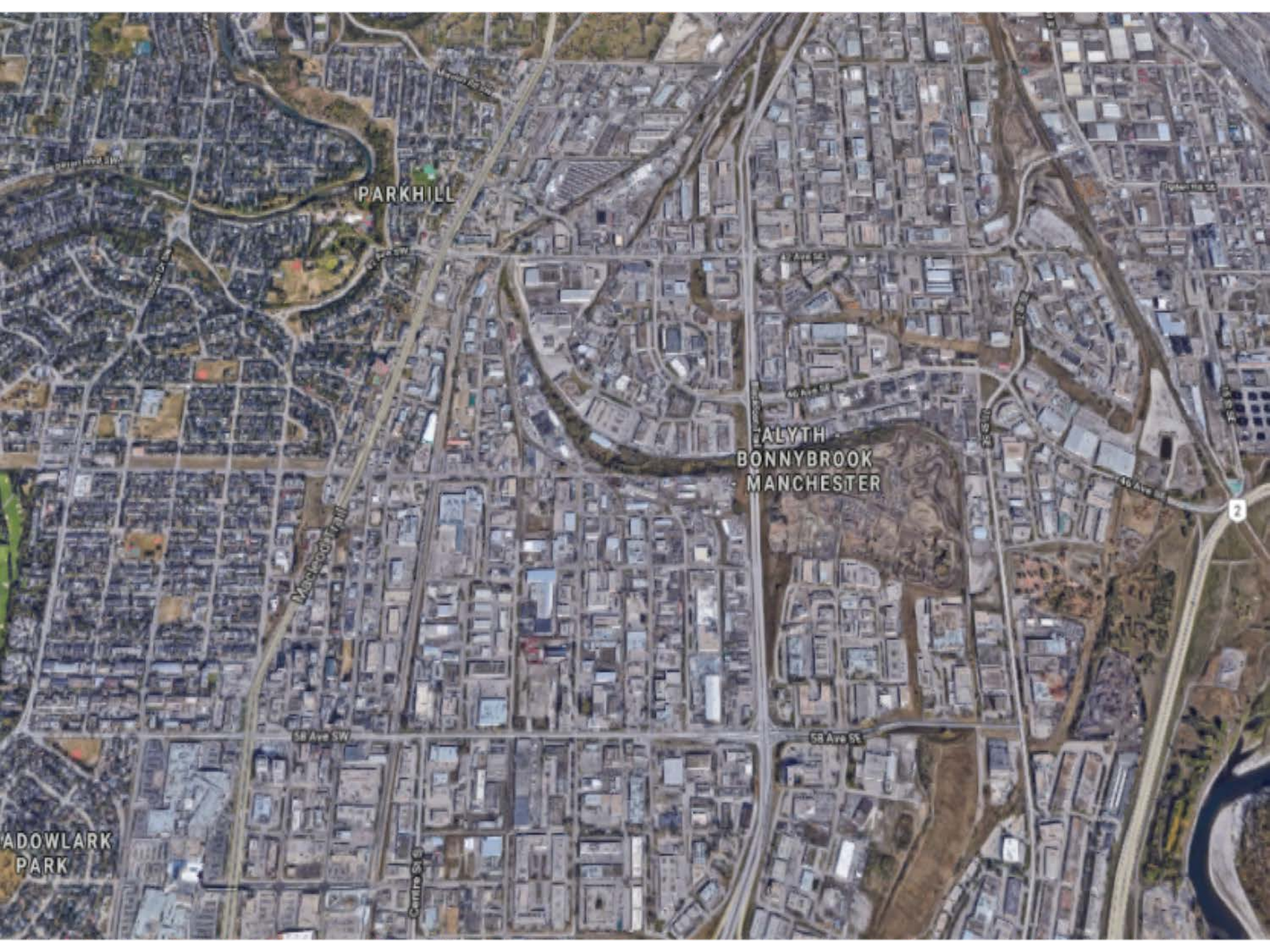
Manchester District is the size of downtown Calgary and the Beltline

1 km
2000 ft

Manchester District compared to Olympic village, Vancouver



Source: Google Earth, May 8, 2013



PARKHILL

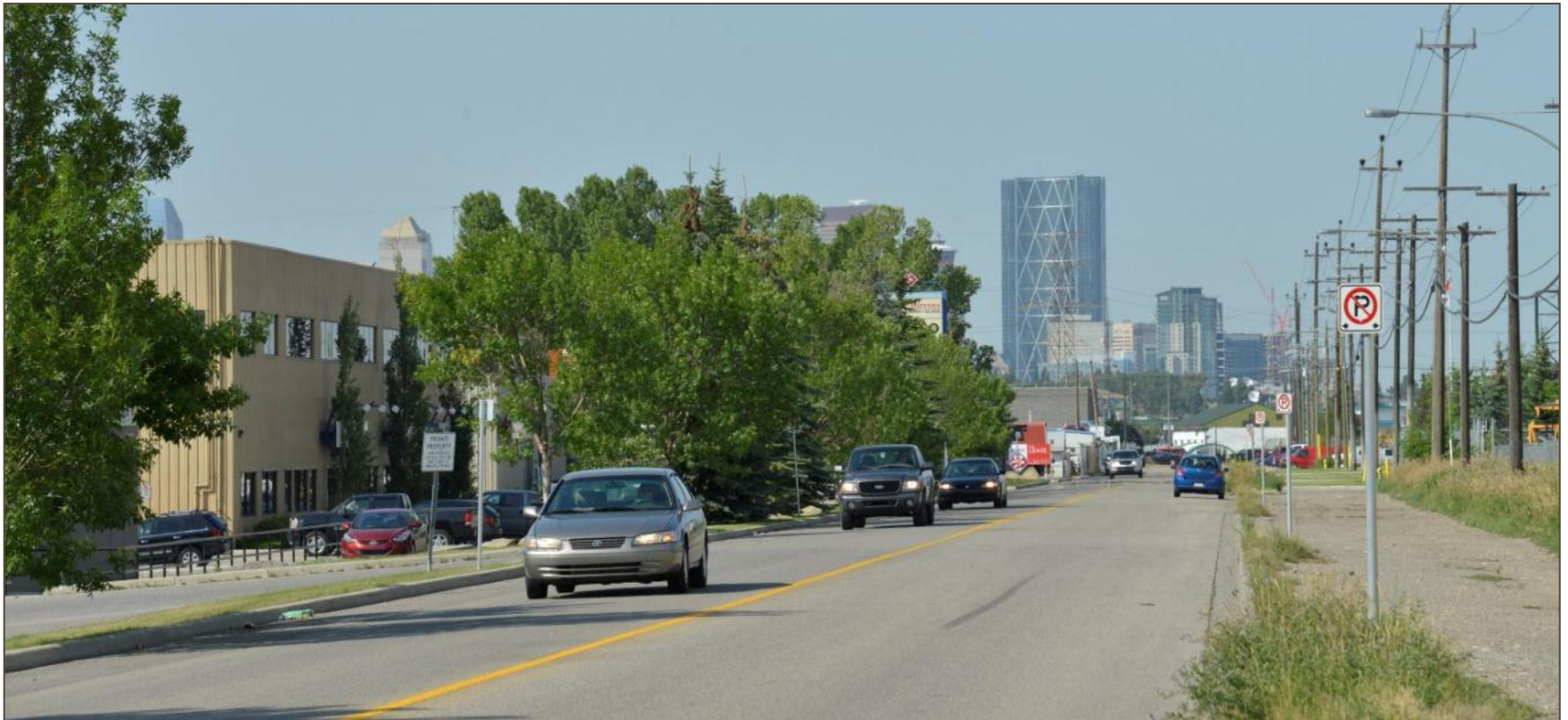
ALYTH
BONNYBROOK
MANCHESTER

MADOWLARK
PARK

8

THE MANCHESTER DISTRICT

CALGARY, ALBERTA , CANADA



WIDE VEHICLE-ORIENTED STREETS



HEAVY RAIL CONNECTIONS

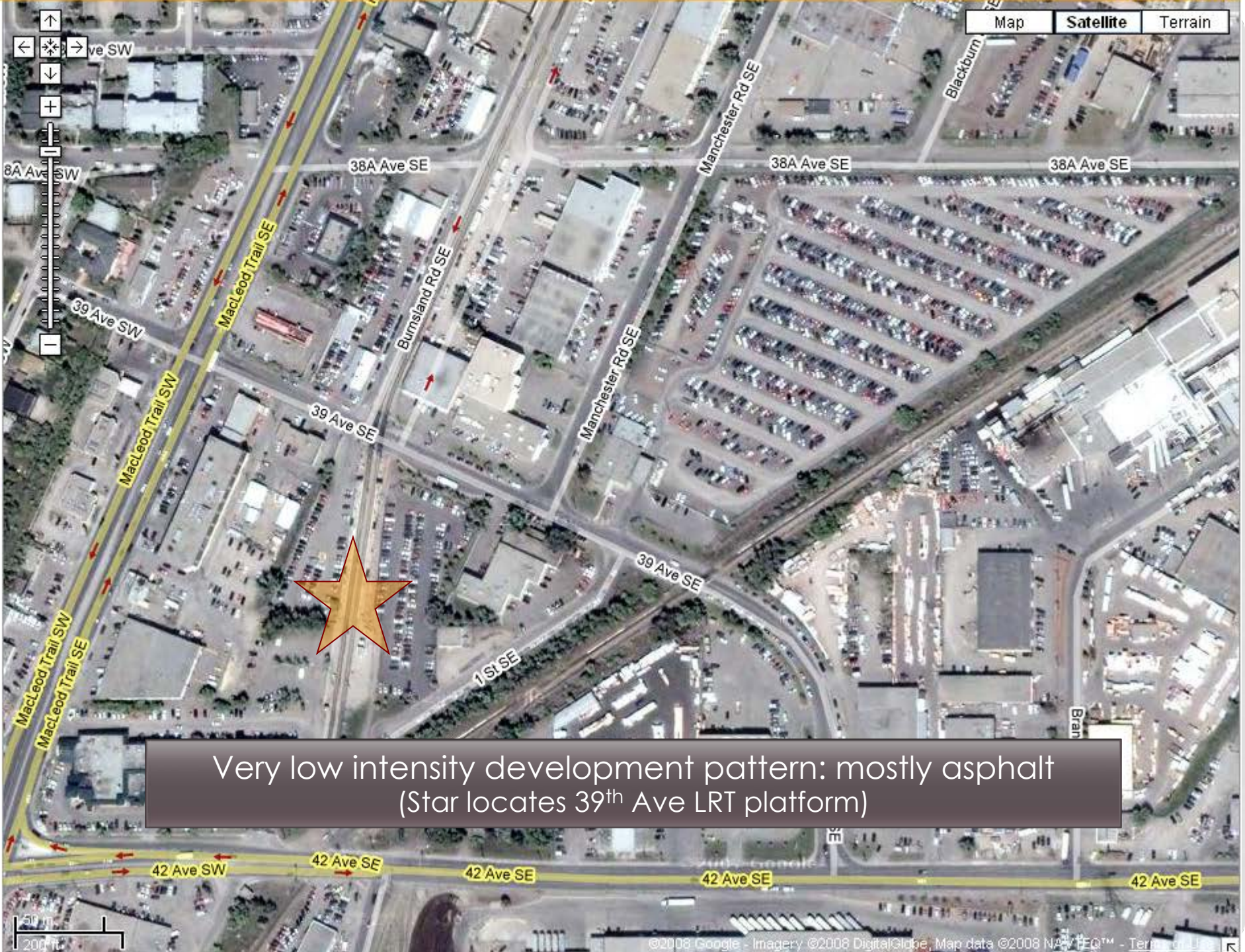


OLD RESIDENTIAL BUILDING STOCK



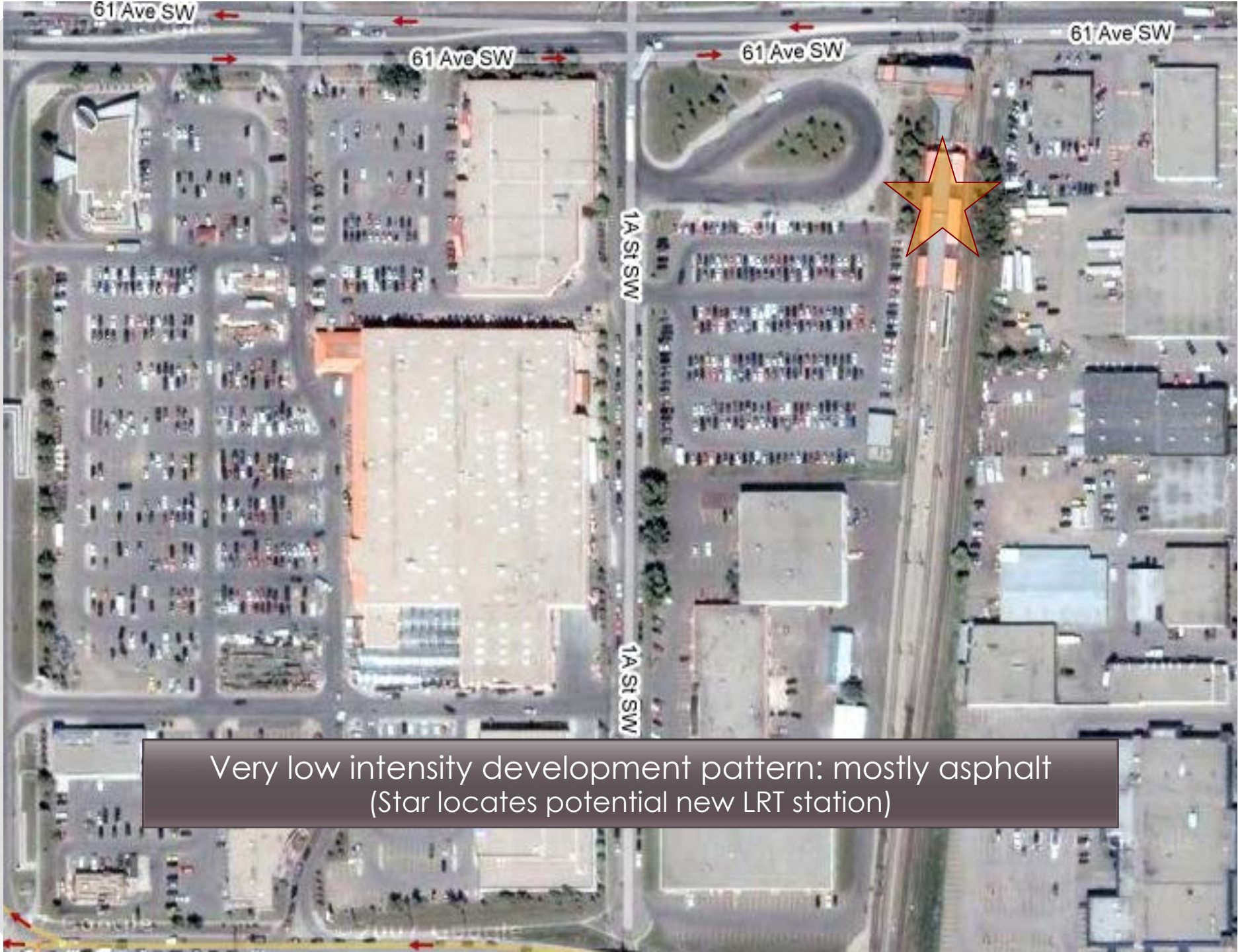
TWO EXISTING LRT STATIONS





Very low intensity development pattern: mostly asphalt
(Star locates 39th Ave LRT platform)





Very low intensity development pattern: mostly asphalt
(Star locates potential new LRT station)

RESEARCH AND DESIGN STRATEGIES

- Industrial Ecology
- Post-Carbon City
- Sustainable City
- Circular City
- Back-Casting
- Scaling up of Precedents
- Investigate existing Innovations
- Just City – Affordable Housing
- Mix commercial/retail/industrial AND residential (sustainable consumption, production and reproduction)

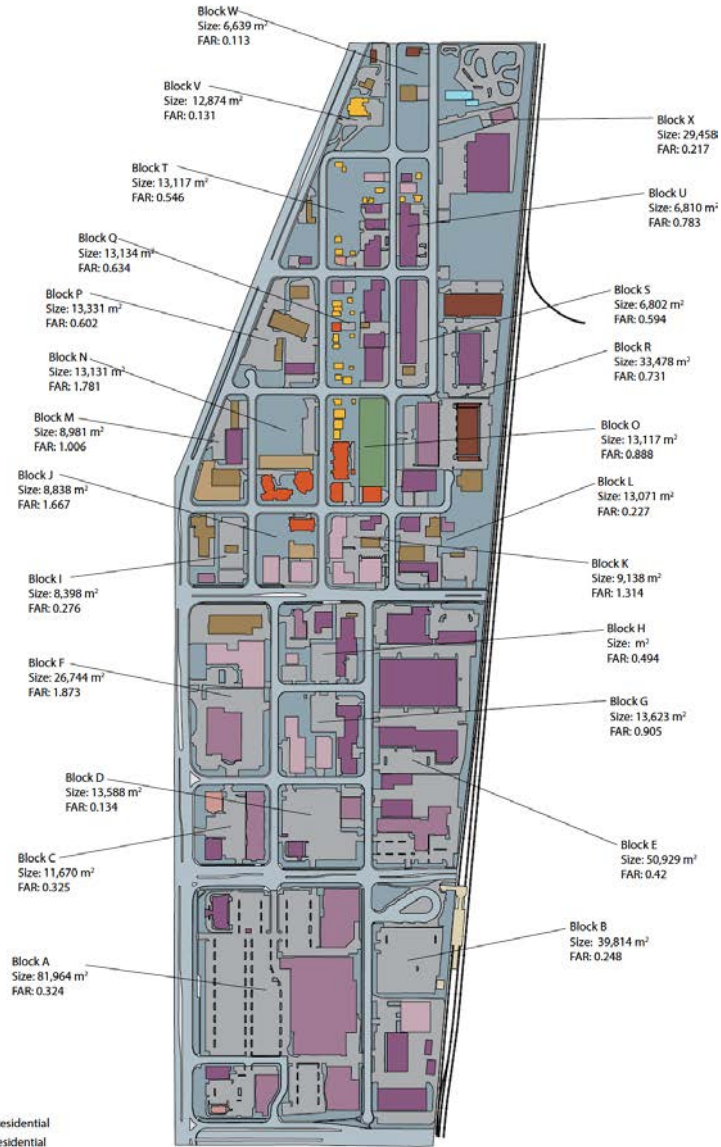
DESIGN CONCEPT

SOME METRICS

- 100,000 residents
- 30-40000 “industrial jobs”
- CO2 emissions 20% of 2015
- Ecological Footprint 20% of 2015
- Oil and Gas Reliance Index - 10% (current ~ 35%)
- Net Zero Energy – Net Zero Waste – Net Zero Water
- Pedestrian First • Auto-Optional
- Income Ratio equivalent to that of Scandinavia

LEGEND

- Commercial
- Retail
- Office
- Restaurant
- High Density Residential
- Low Density Residential
- Industrial/Utilities
- Automotive
- Parkade
- Transit
- Recreation
- Parks
- Sidewalks
- Roads
- Surface Parking



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MANCHESTER DISTRICT

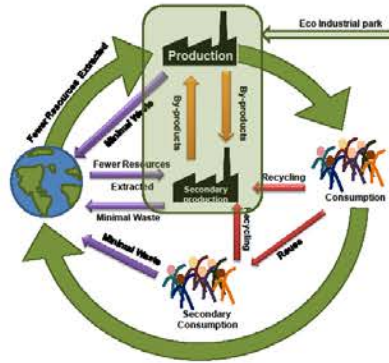
Driving Industrial Evolution



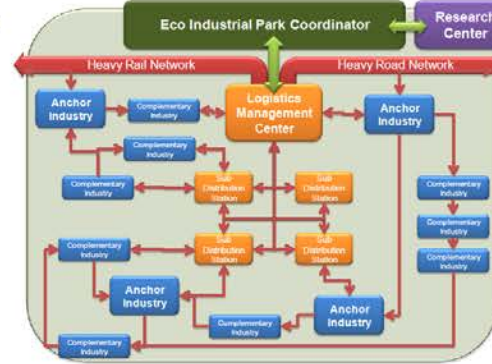
Industrial Ecology

- Symbiotic Industrial System
- Enhancing Material Flows and better Resource Utilization.
- Minimal Waste Production.
- Promoting Sustainability.

Industrial Ecology Process



Manchester Eco-Industrial Park



Milestones

1. Institute Project Leadership and Acquire Political Support.
2. Creation of Coordination Agent, Logistics Management and Research Structures.
3. Establishing Anchor Industries and Identify Existing and Potential Linkages.
4. Generate Symbiotic Linkages Between Anchors and Complementary Industries.
5. Accomplishment of Significant Industrial Symbiosis.

Park Coordinator

- Finding new connections for cooperation.
- Enhancing the dialogue between shareholders.
- Maintaining and managing services .
- Supporting material and energy flows.
- Recruiting new companies .
- Improving the environmental performance of the park and individual companies.
- Maintaining an information system.
- Informing companies in the park.
- Linking companies and public organizations.
- Developing marketing .
- Provide and manage shared park services.

Logistics Management

- Centralized Logistics Management Center assisted by Sub Distribution Stations .
- Inventory management , performance and productivity enhancement strategies.
- Specialized Multi-Modal Logistics Management.
- Fixed infrastructure, rail, motorized and human powered material exchanges.
- Facilitate better relationships between industrial firms
- Promote connectivity between internal and external industrial and commercial activities.
- Manage material and products inputs, outputs and transfers.
- Create ad-hoc high efficiency logistic solutions.

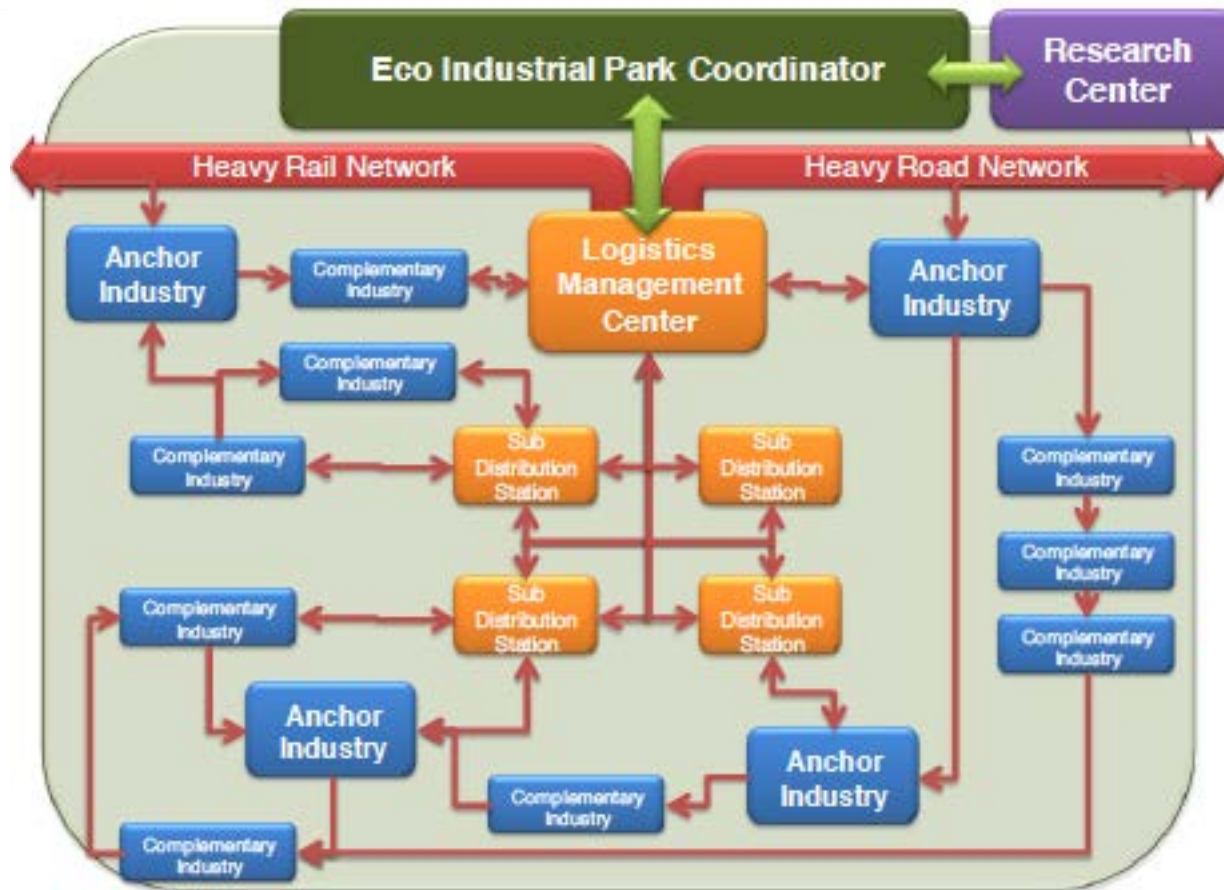
Industrial Activities

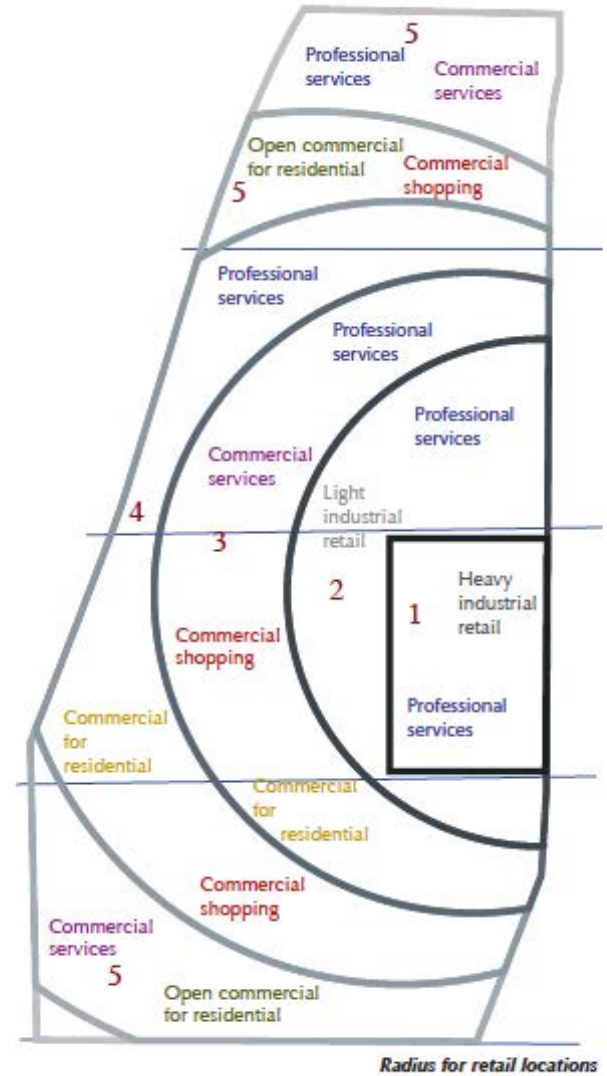
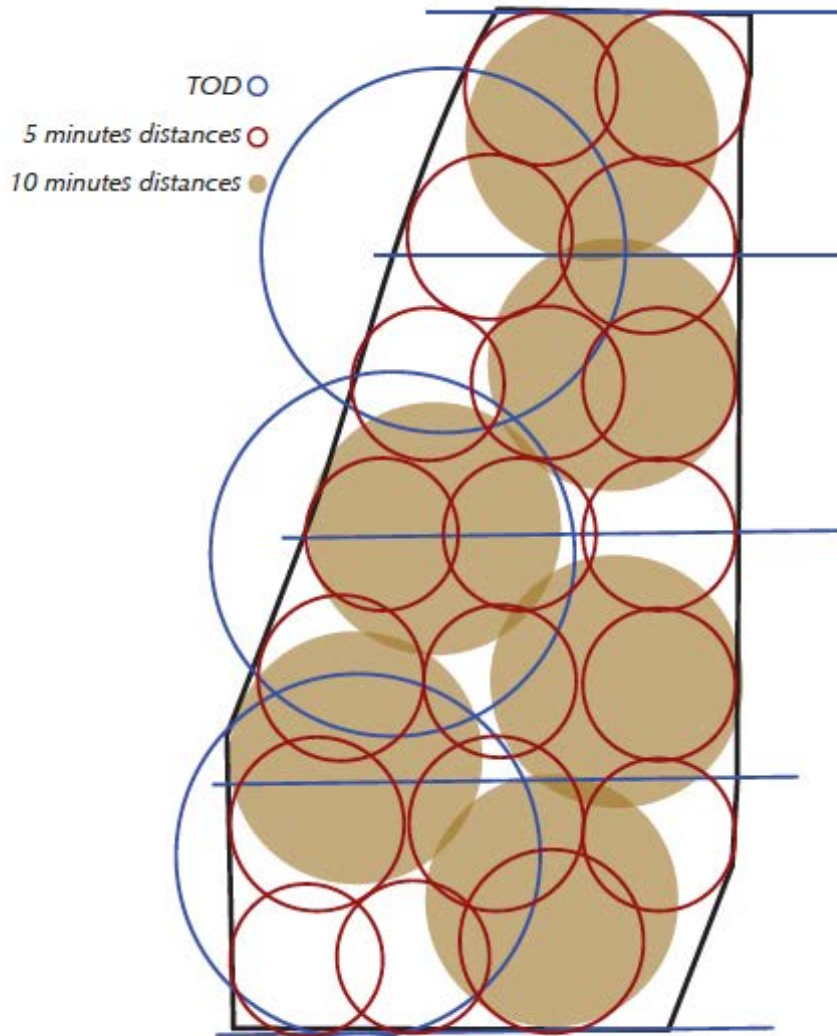
- Create employment sources and economic growth for the district.
- Cooperate with Eco Industrial Park Initiatives.
- Design products that can be incorporated into new processes after intended life cycle as technical nutrients.
- Develop new processes that incorporate industrial ecology principles.
- Utilize low pollution and risk materials in all manufacturing processes.
- Focus on production of local demanded products and services.
- Supply sufficient production to comply with the district's needs.

Research and Development

- Research Center
- Promote industrial innovation.
- Incentive open source research.
- Create solutions for emerging challenges in the application of industrial ecology.
- Develop new applications for low risk, higher ecological materials for existing industrial processes.
- Encourage multi firm cooperation and evolution of industrial activity in the district.

Manchester Eco-Industrial Park





Spatial Strategy for Retail, Commercial and Industrial



Low-Carbon Energy Solutions

Street Typologies

S1 Streetcar/Automobile



G2 Streetcar Greenway



R3 Neighbourhood Street (Woonerf)



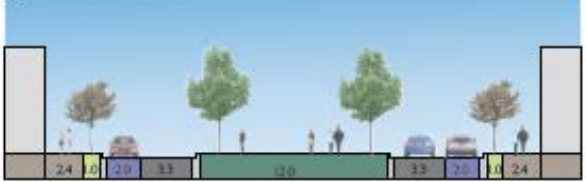
S2 Streetcar/Pedestrian



G3 Neighbourhood Greenway



R4 Commercial Boulevard (La Rambla)



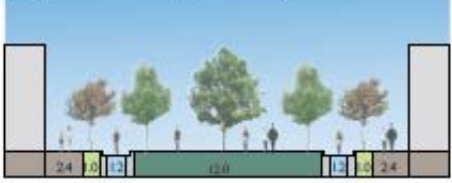
S3 Streetcar/Retail Corridor (La Rambla)



R1 Collector Street



R5 Retail Pedestrian (La Rambla)



G1 Manchester Bluff



R2 Neighbourhood Street



R6 Neighbourhood Pedestrian (Woonerf)



Enhanced Street Palette

DEVELOPMENT STRATEGY: SCALE UP PRECEDENTS

- Vancouverism
- Portland
- Malmo, Sweden
- Hammerby Sjostad, Stockholm
- Helsinki, Finland
- Freiburg, Germany
- Copenhagen, Denmark
- Blatchford, Edmonton

Vancouver Community Land Trust



Vancouver Community Land Trust Foundation

The Vancouver Community Land Trust Foundation was established in 2014 as a non-profit society to acquire, create and preserve affordable housing for future generations. The Land Trust is the lead organization for the project.

The Co-op Housing Federation of BC (CHF BC)

A co-operative association made up of member housing co-ops and related organizations in British Columbia. The Land Trust is a non-profit organization established by CHF BC.

Sanford Housing Society

A non-profit organization providing quality supported housing to persons living with a mental illness and / or an addiction.

Tikva Housing Society

A non-profit organization that works to provide safe, affordable housing primarily for working-age Jewish low-income adults and families.

Terra Special Projects Ltd.

A development management firm that works with organizations seeking to provide housing and associated services to low- and middle-income households.

Vancity Credit Union

A credit union that has as one of its primary objectives, to increase its impact lending by focusing on affordable housing and social purpose real estate.

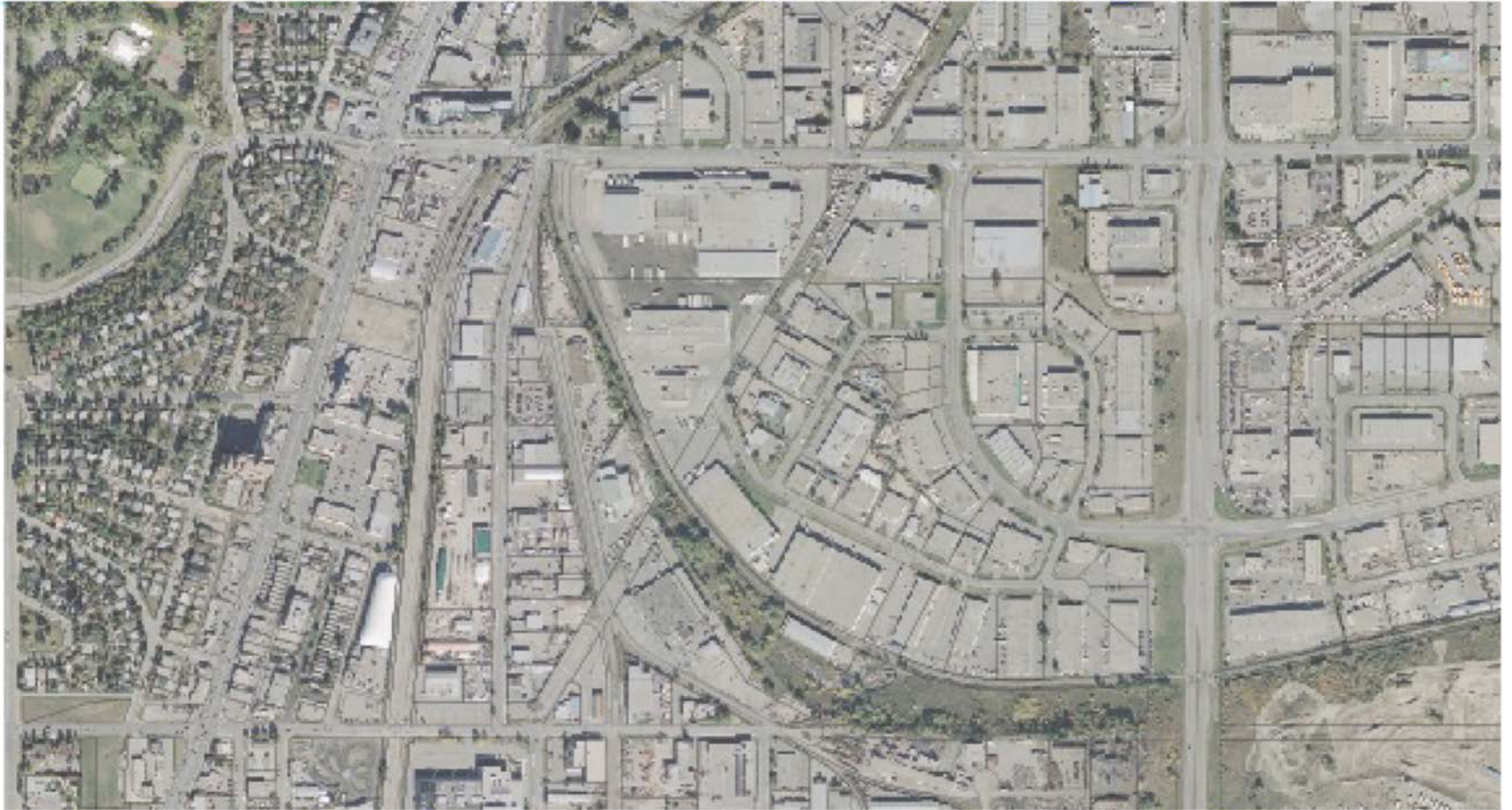
Fraserview Co-op

A new co-operative, Fraserview Co-op, was later created to operate co-op units as part of the project.

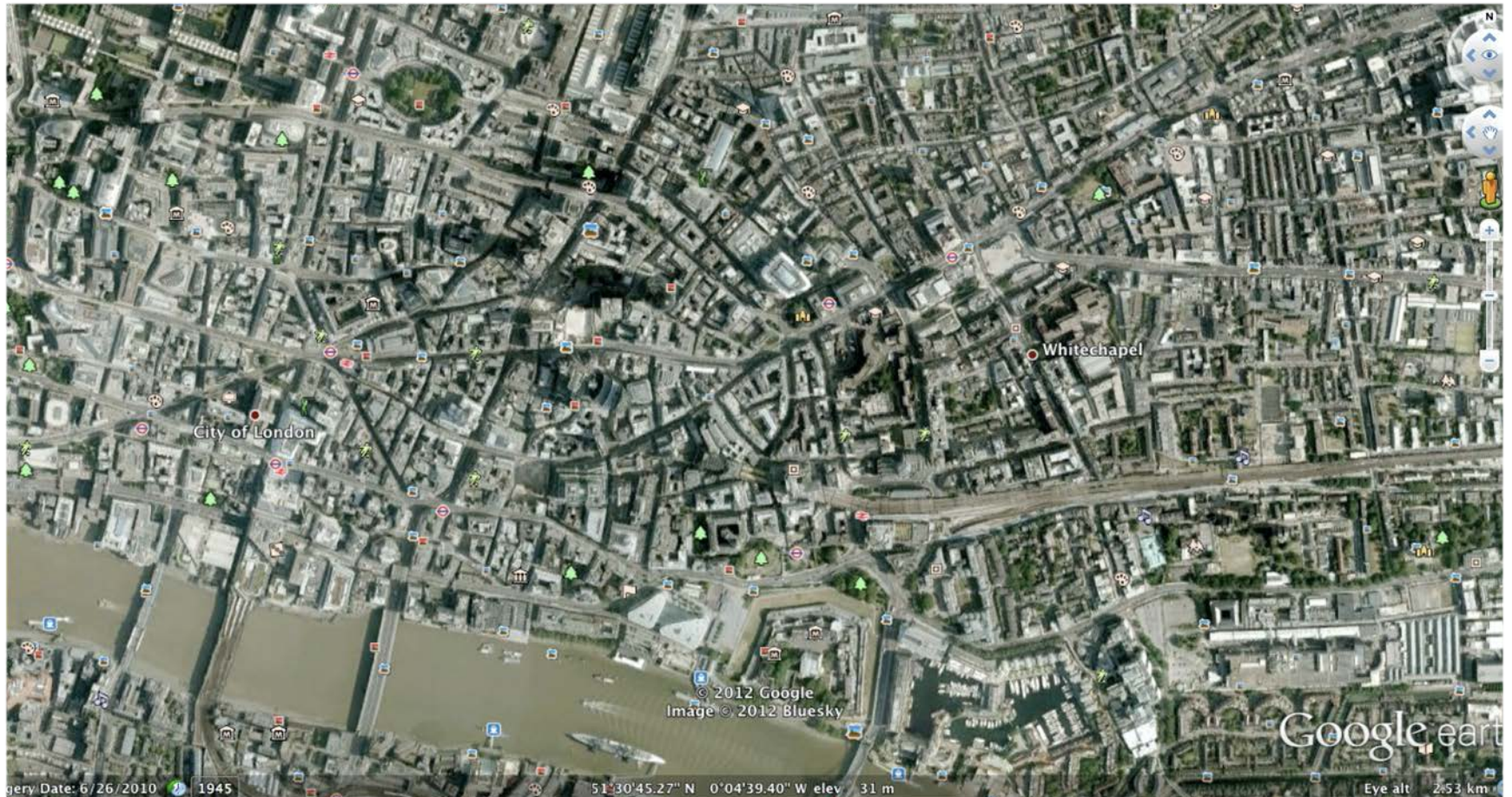
Other professional partners

Other partners included COHO Management Services, DYS Architects, Performance Construction and Colliers International.

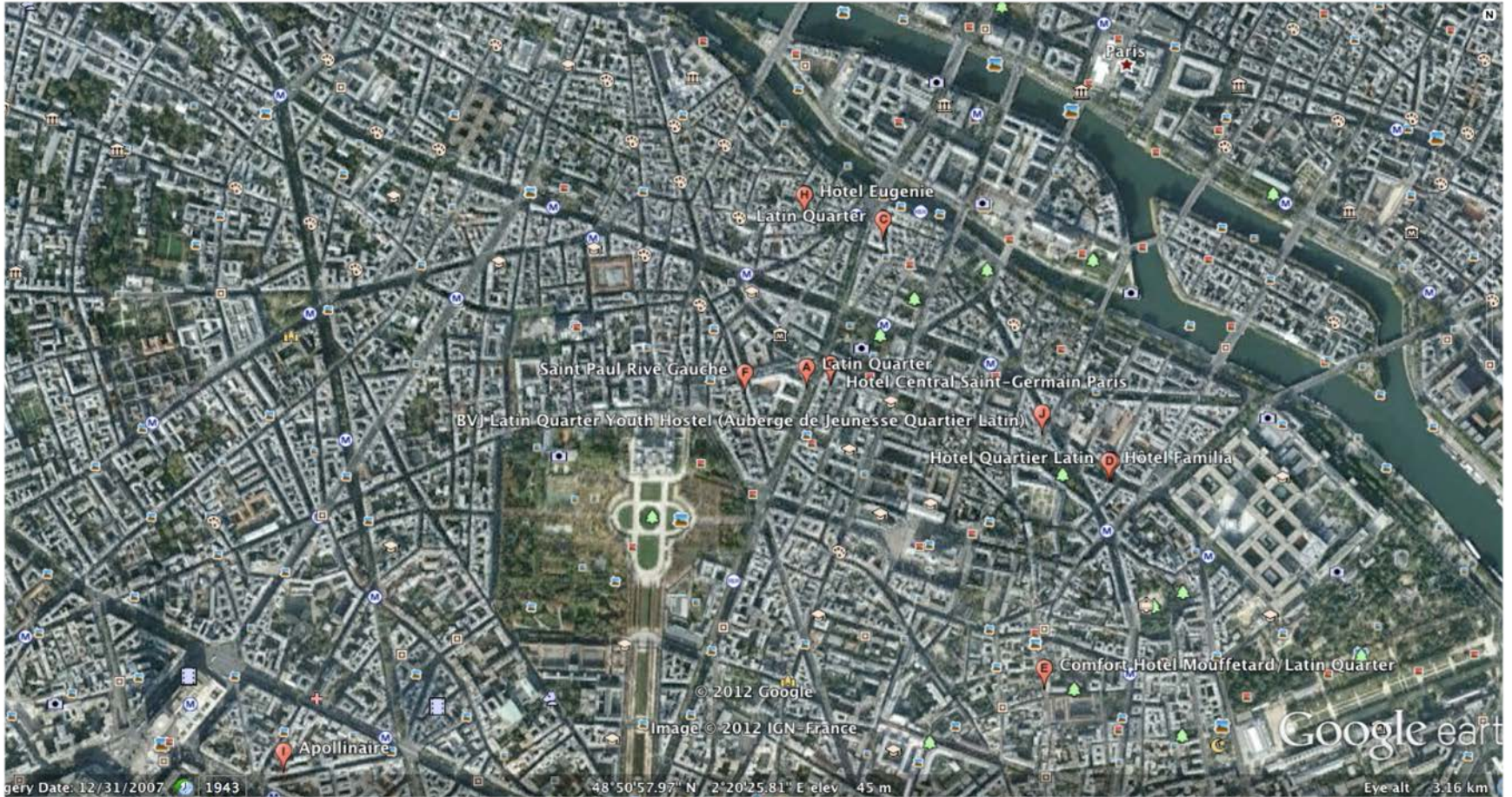
Manchester District



LONDON



PARIS



VENICE



VIENNA



LISBON



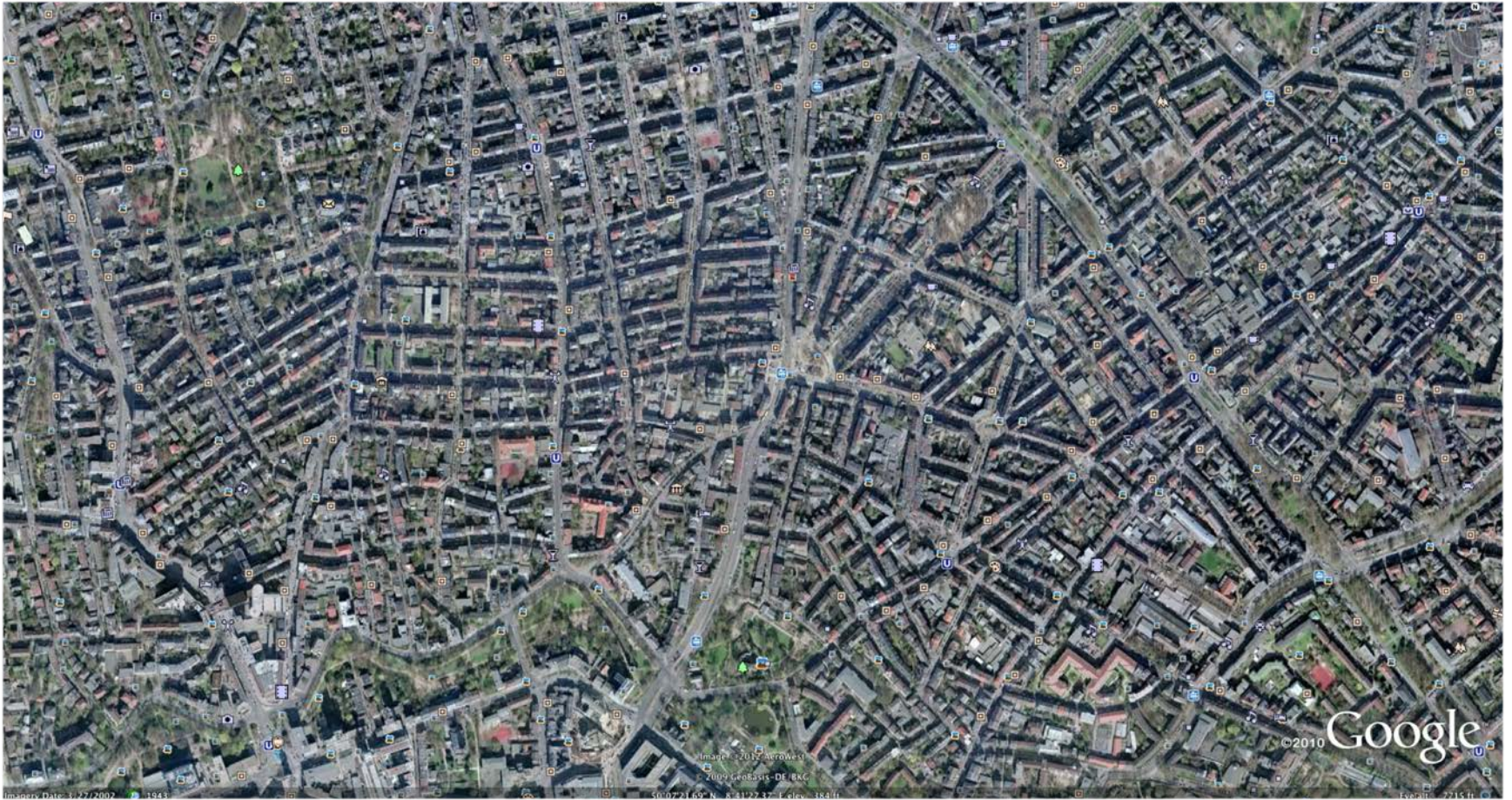
MADRID



ROME



FRANKFURT



BERLIN



BARCELONA



Venice, Italy



Malmö, Sweden



LONDON



SEA WALL, VANCOUVER



Vancouver Sea Wall
Coal Harbour



Olympic Village, Vancouver







LUFA Farms, Montreal



Copenhagen, Denmark



space required to transport 60 people



car



bus



bicycle

Strathcona Village, Vancouver – North America's first residential, retail, industrial



The Bullitt Building – Seattle – Net Zero Energy and Water



The N3 Condo
East Village
Calgary's First zero
parking stall condo



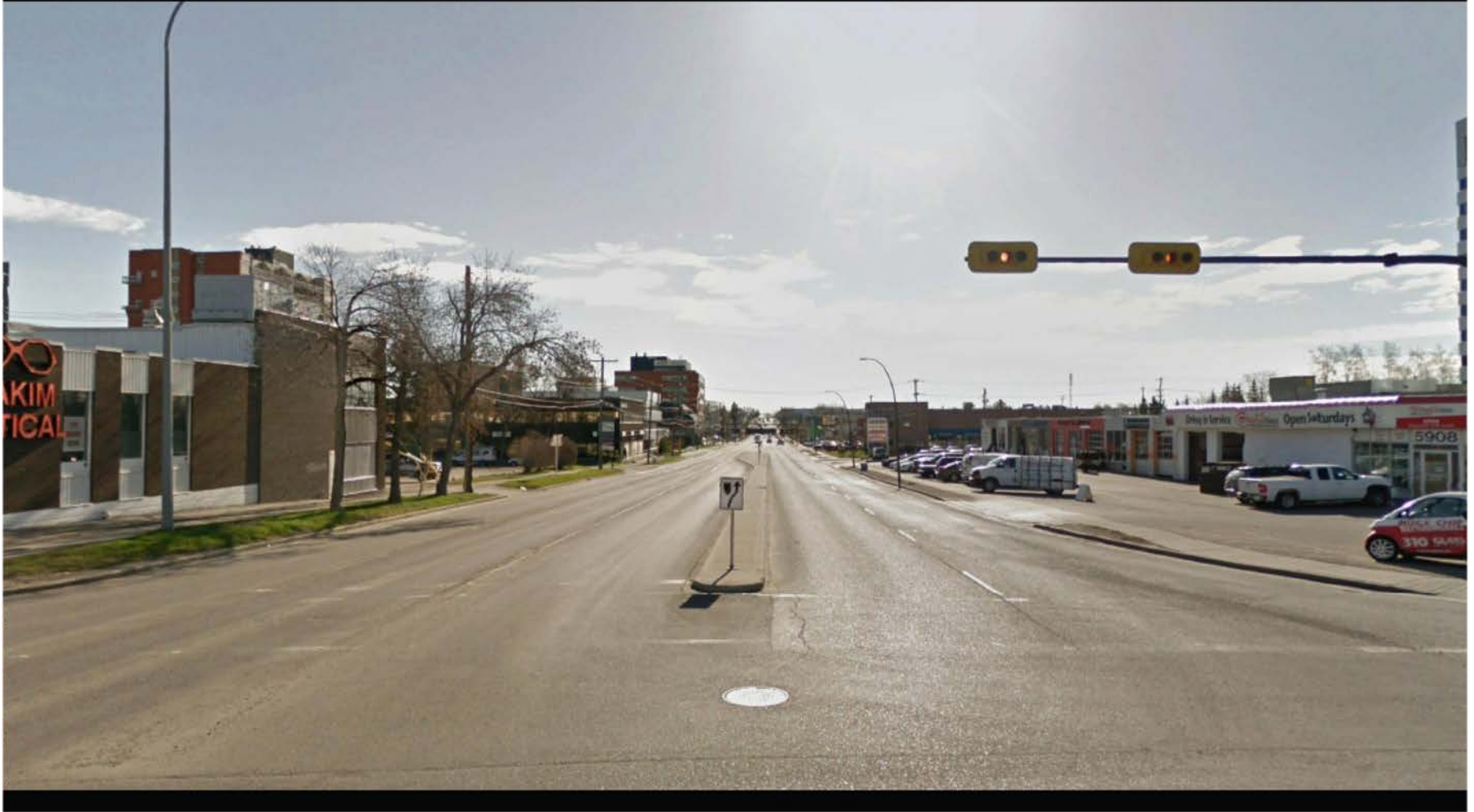
Seattle StreetCar (Tram)



Volkswagen Assembly Plant, Dresden



EXISTING SITE





EXISTING SITE





EXISTING SITE





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The Post-Carbon City CIRCLE
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and Education)
Research Program Elements

A Mixed Use (Residential, Commercial/Retail, Industrial) Urban Form
A Regulatory Framework to Facilitate Innovation
Optimizing Scale of Energy and Water Infrastructure

Non-Auto Transportation Systems
Affordable Housing
Goods Movement Logistics

Construction Logistics
Effective and Cost-Efficient Land Remediation
Cultural Transitions to a Sustainable Lifestyle
Multi-Model Vehicle Design
Financing Innovation
Land Assembly

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