

architecture
design
urban planning
landscape

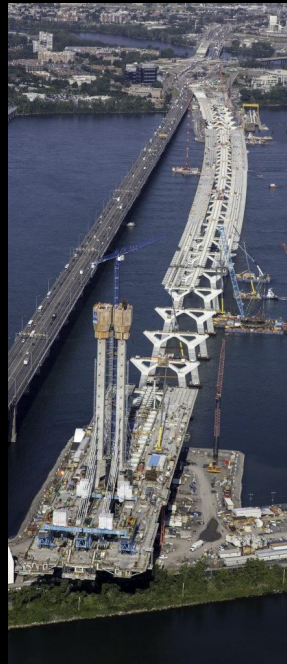
PROVENCHER_ROY

MONTREAL'S NEW CHAMPLAIN BRIDGE AND HIGHWAY CORRIDOR PROJECT

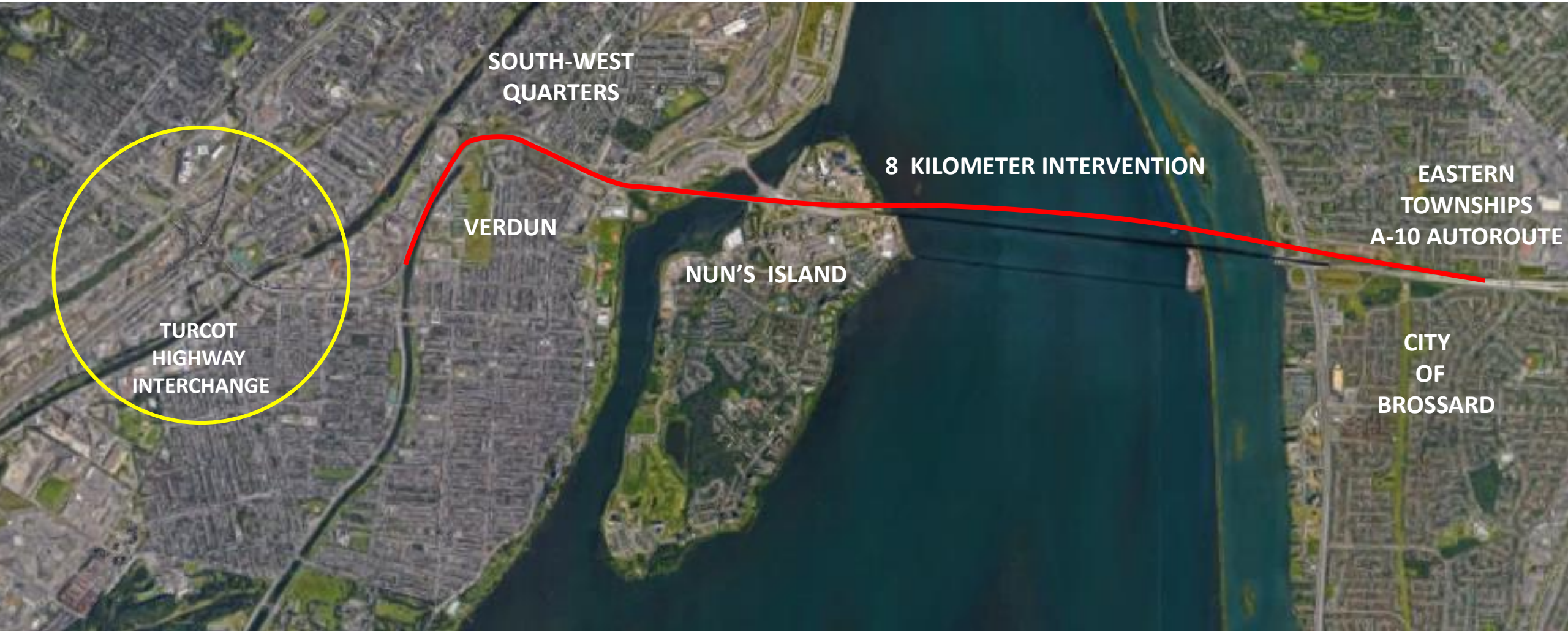
and

THE REM PROJECT, MONTREAL'S LIGHT RAIL TRAIN NETWORK

MONTREAL'S NEW CHAMPLAIN BRIDGE AND HIGHWAY CORRIDOR PROJECT



THE FULL PROJECT EXTENDS OVER 8 KM, MOVING THROUGH THE CITY OF BROSSARD AND MONTREAL'S NEIGHBOURHOODS OF NUN'S ISLAND, VERDUN AND SOUTH-WEST QUARTERS TO RECONNECT WITH THE CURRENT UNDERCONSTRUCTION TURCOT HIGHWAY INTERCHANGE AND EASTERN TOWNSHIPS A-10 AUTOROUTE



COORDINATING 10 MAJOR BUILDING SITES FOR A TOTAL INVESTMENTS OF OVER 5 BILLIONS DOLLARS
UNDER A PUBLIC – PRIVATE PARTNERSHIP

**NUN'S ISLAND
TEMPORARY BRIDGE**

**REBUILDING A-15 AUTOROUTE
INTERGRATING VISUAL
AND SOUND BARRIERS**

**REBUILDING A-10 AUTOROUTE
CONNECTION**

NEW CHAMPLAIN BRIDGE

NUN'S ISLAND NEW BRIDGE

REBUILDING LABERGE OVERPASS

REBUILDING WILLINGTON OVERPASS

REBUILDING LABERGE OVERPASS

REBUILDING ATWATER OVERPASS

REBUILDING A-15 AUTOROUTE



MONTREAL'S NEW CHAMPLAIN BRIDGE CONCEPT

DESIGN TEAM

ARUP / engineering

POUL OVE JENSEN / DISSING + WEITLING / architecture

PROVENCHER_ROY / architecture and urban design

NIP PAYSAGE / landscape architecture

Smi / road geometry

MONTREAL'S NEW CHAMPLAIN BRIDGE CONCEPT

DESIGN STRATEGY

RATHER THAN A REFERENCE DESIGN, CREATE A DEFINITION DESIGN
EDICTING SPECIFIC DESIGN GEOMETRY AND FEATURES TO BE
STRICTLY IMPLEMENTED

PERSUE INTEGRATED DESIGN METHODOLOGY

ENSURE INTERDISCIPLINARY ACTIONS

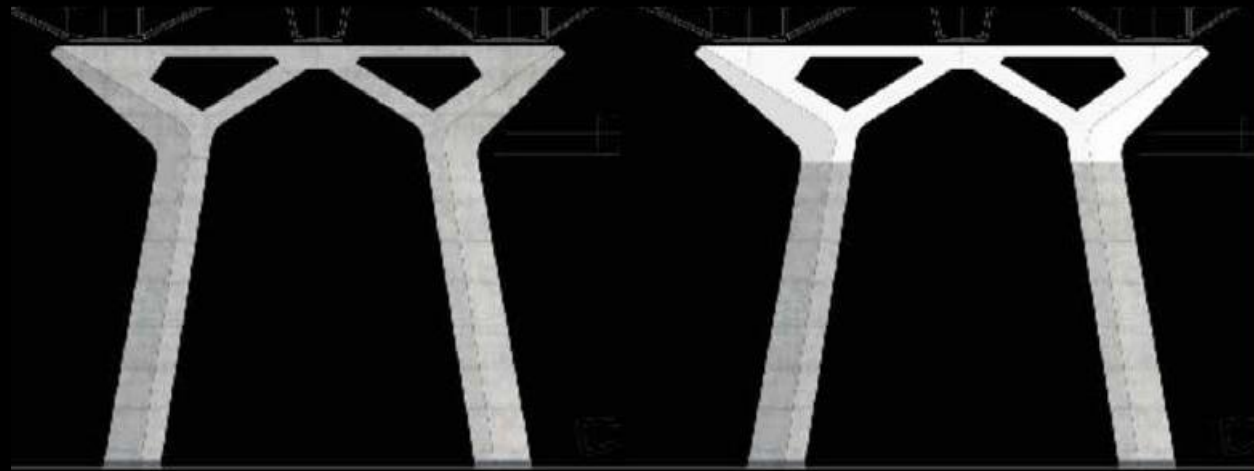
DECIDING ON STRATEGIC GEOMETRY



INCLINED PILE STUDIES



SEPARATED ROADWAY BOX GIRDERS



CONCRETE

VERSUS

STEEL AND CONCRETE

MAIN TOWER STUDIES



BEFORE



AFTER













BRIDGE CALENDAR

Nun's Island and Brossard approaches

Prefabrication operations : **fall 2015 to spring 2017**

St-Lawrence river excavation : **fall 2015 to fall 2016**

Foundations, piles and pile trimmers : **winter 2016 to summer 2017**

Superstructure box girders, trimmers and bridge aprons : **fall 2016 to winter 2018**

Seaway section

Main tower: **fall 2015 to fall 2018**

Back bay, St-Lawrence river side : **fall 2015 to spring 2017**

Main bay, above seaway : **spring 2017 to winter 2018**

Finishing work : **winter 2018**





Nun's Island site Approach



Nun's Island site Approach



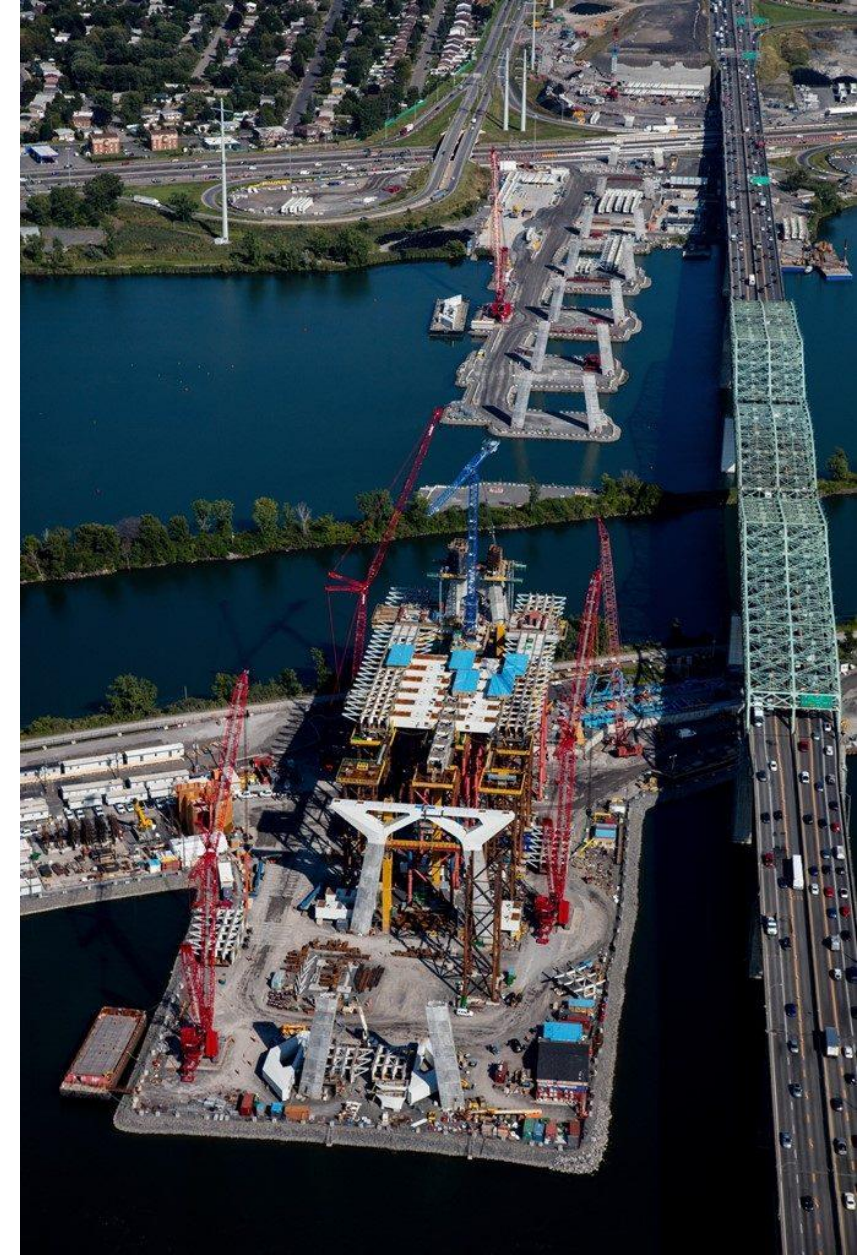
Nun's Island site Approach



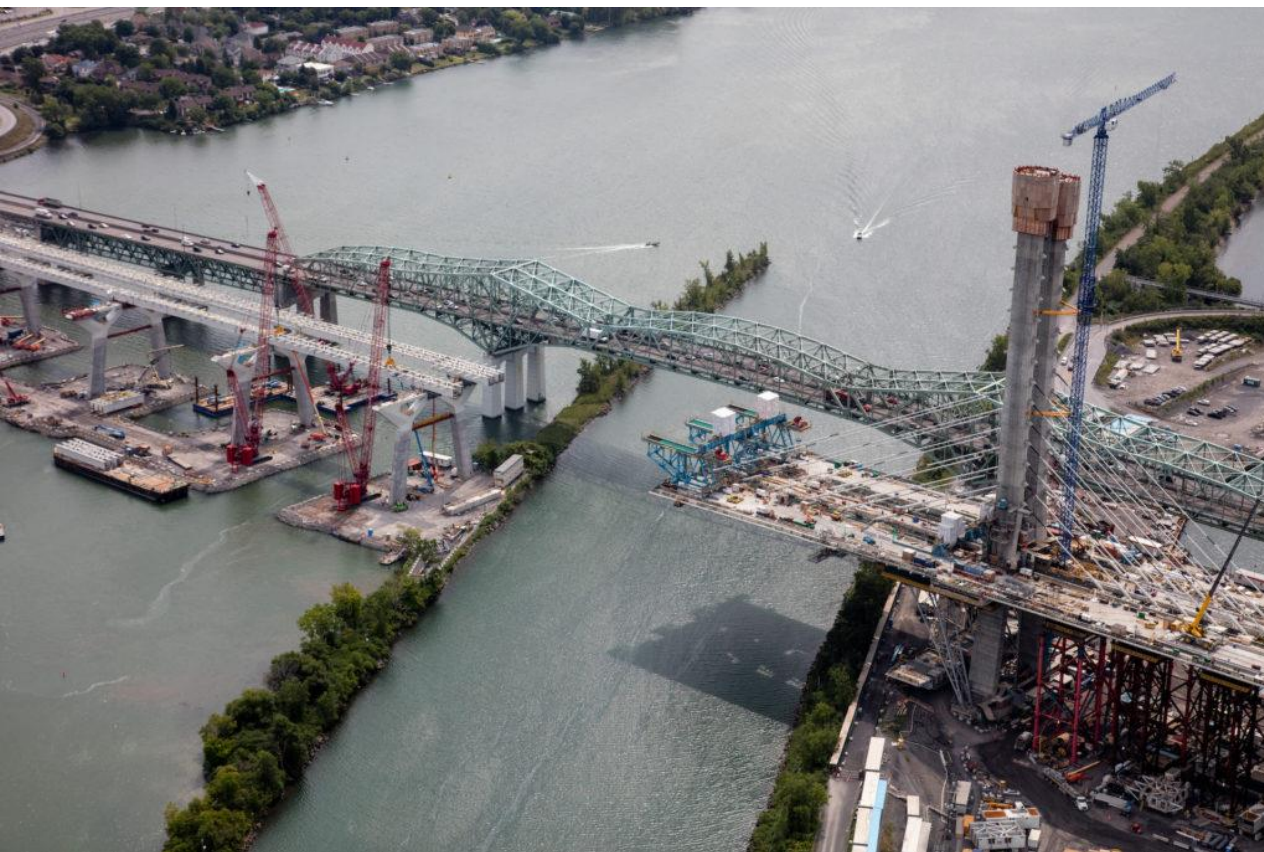
Building across the river



Box girders and trimmers



Main Tower Section



Main Tower Section







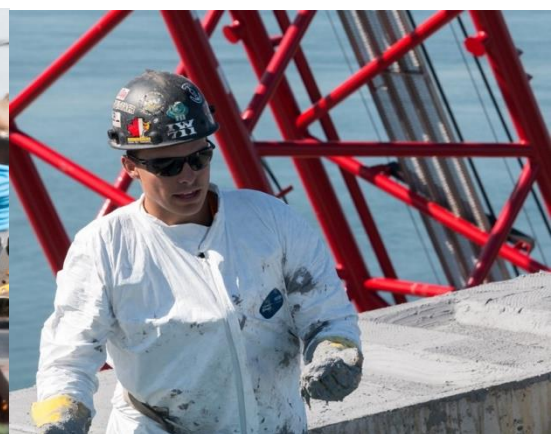
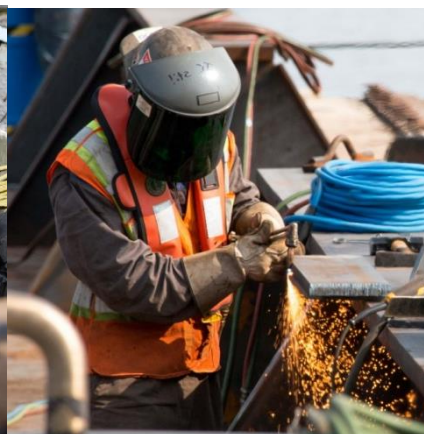
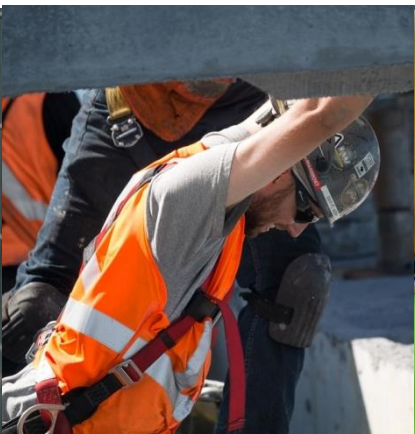


Main Tower Section and Approaches coming together





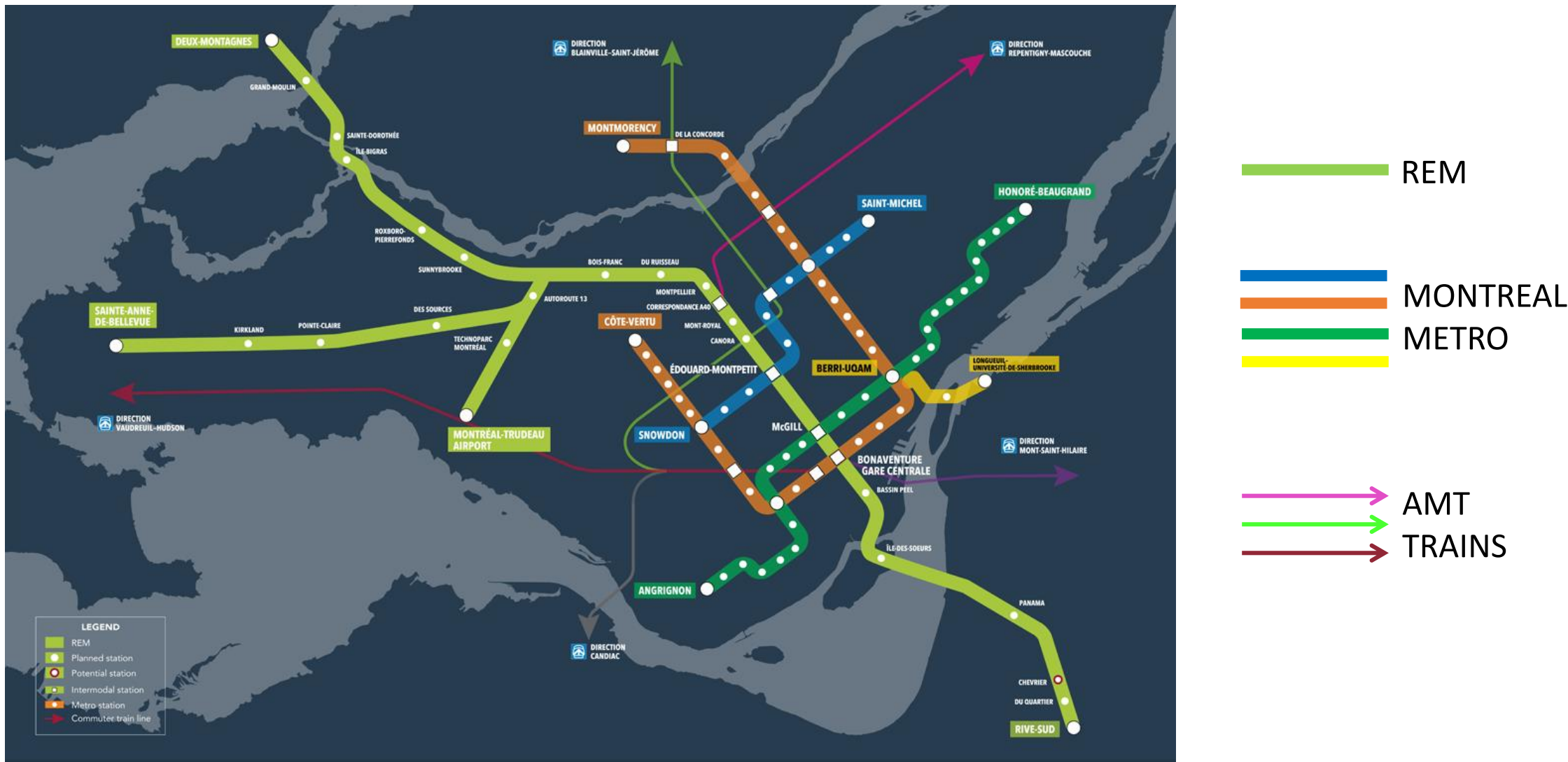
The New Champlain Bridge



THE REM PROJECT, MONTREAL'S LIGHT RAIL TRAIN NETWORK



THE FULL PROJECT EXTENDS OVER 65 KM, MOVING THROUGH MANY CITIES OF THE GREATER MONTREAL REGION. THE REM NETWORK WILL HOST 26 INTERMODAL STATIONS CREATING A UNPRECEDENTED COLLECTIVE TRANSPORTATION FABRIC, LINKING MONTREAL'S CENTRAL CORE TO THE SOUTH SHORE BROSSARD AREA, TO THE NORTH SHORE DEUX-MONTAGNES AREA AND TO MONTREAL AIRPORT, ALL WITHIN MINUTES. THE 3RD MOST IMPORTANT AUTOMATED LIGHT TRAIN NETWORK IN THE WORLD.



MONTREAL'S REM PROJECT

DESIGN TEAM

SNC, AECOM / engineering

LEMAY / architecture et paysage

PROVENCHER_ROY / architecture

MONTREAL'S REM CONCEPT

DESIGN STRATEGY

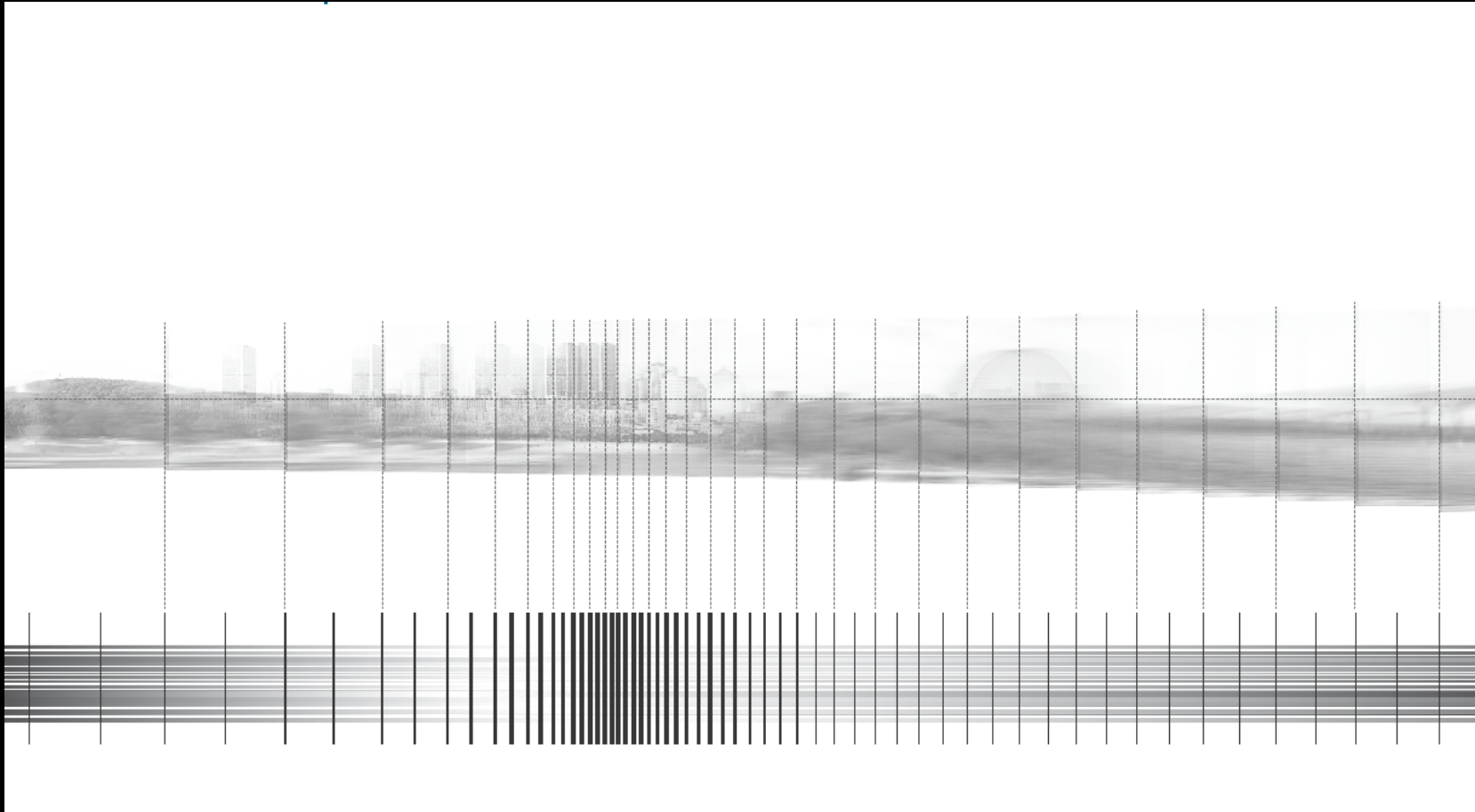
EDIT A COMPREHENSIVE DESIGN CHARTER

PERSUE INTEGRATED DESIGN METHODOLOGY

ENSURE INTERDISCIPLINARY ACTIONS

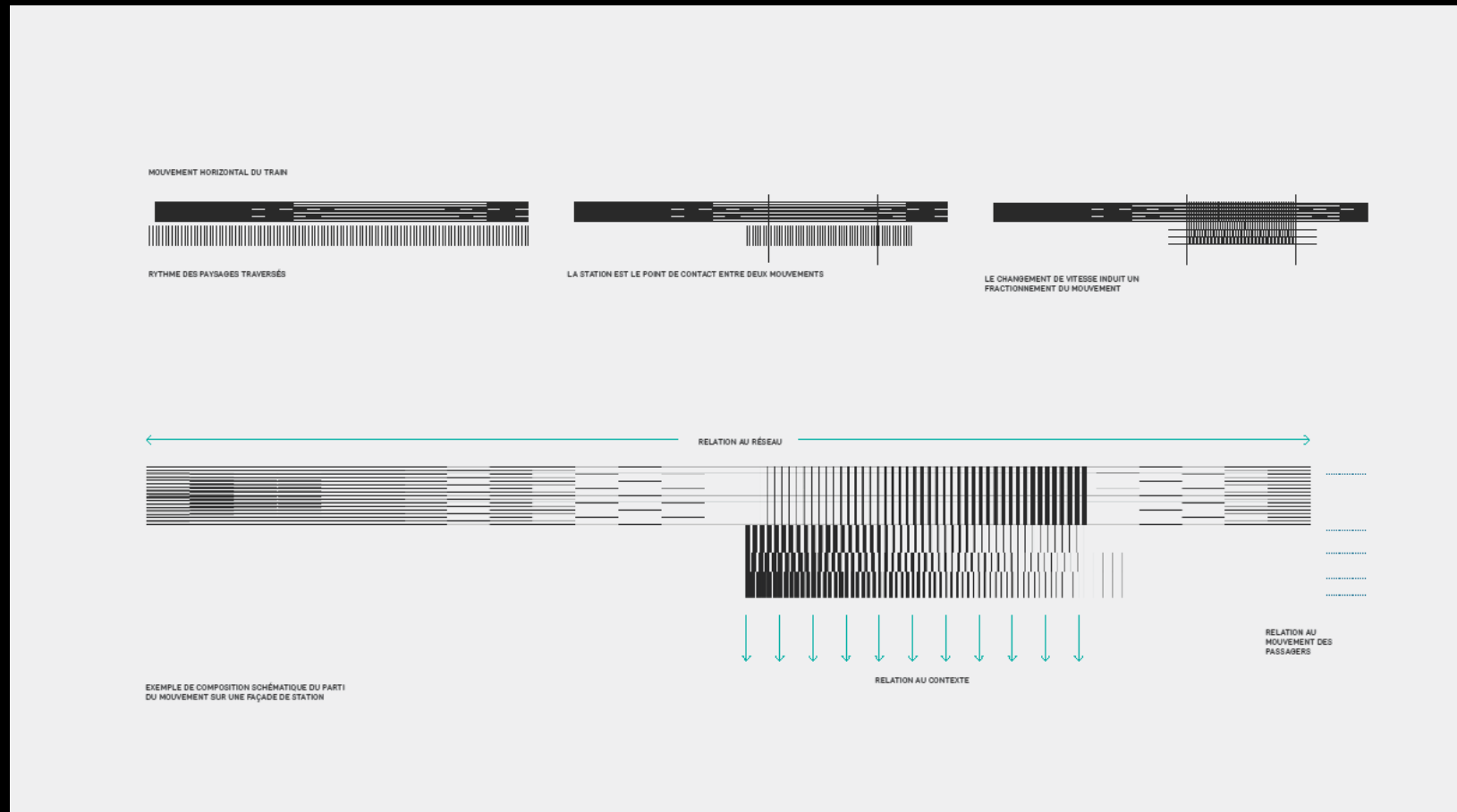
DESIGN PRINCIPLES

MOVEMENT – ACCELERATION – DECELERATION – HORIZONTALITY - VERTICALITY



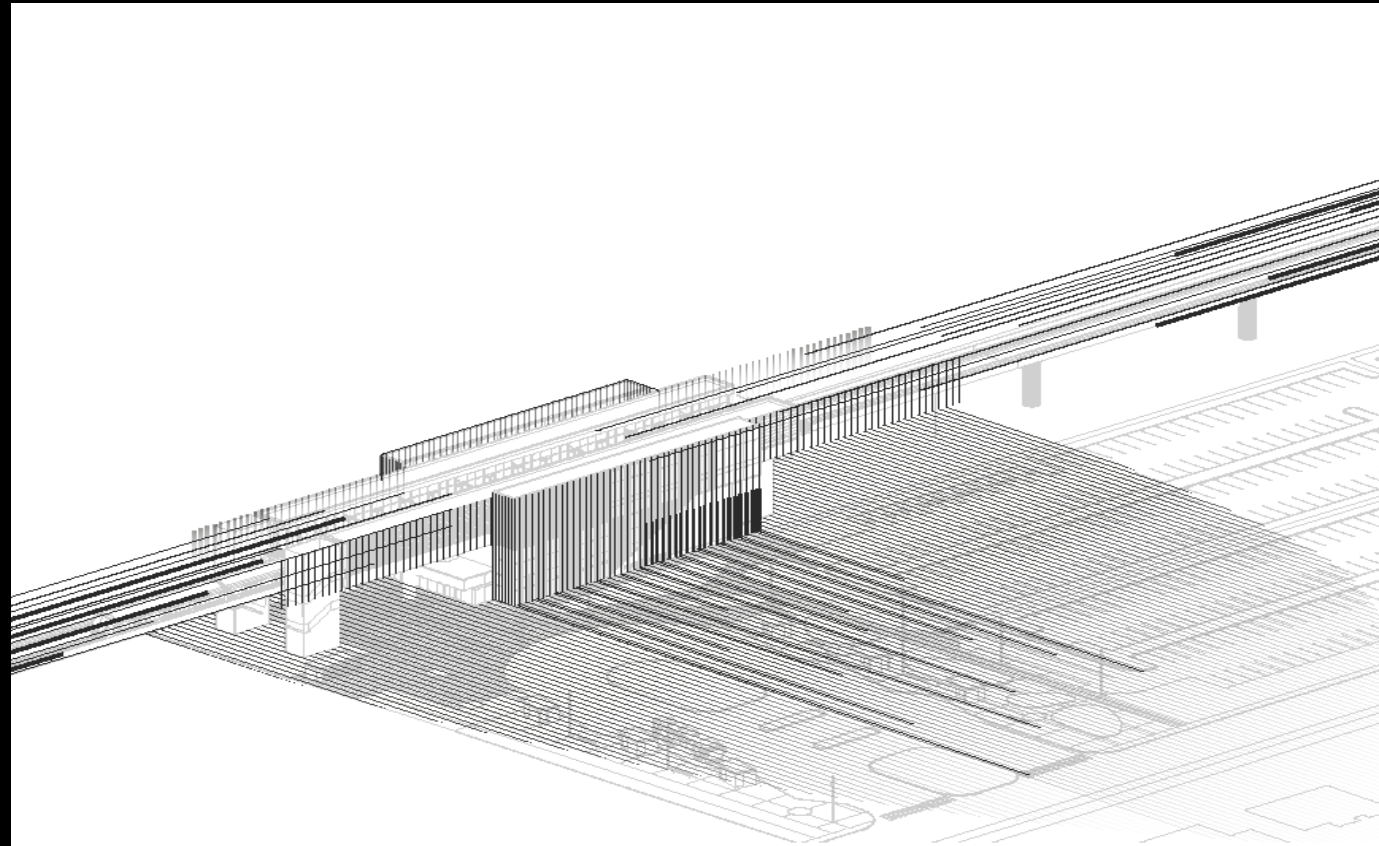
DESIGN PRINCIPLES

CREATE A LANGUAGE MERGING HORIZONTAL AND VERTICAL MOVEMENT DYNAMICS



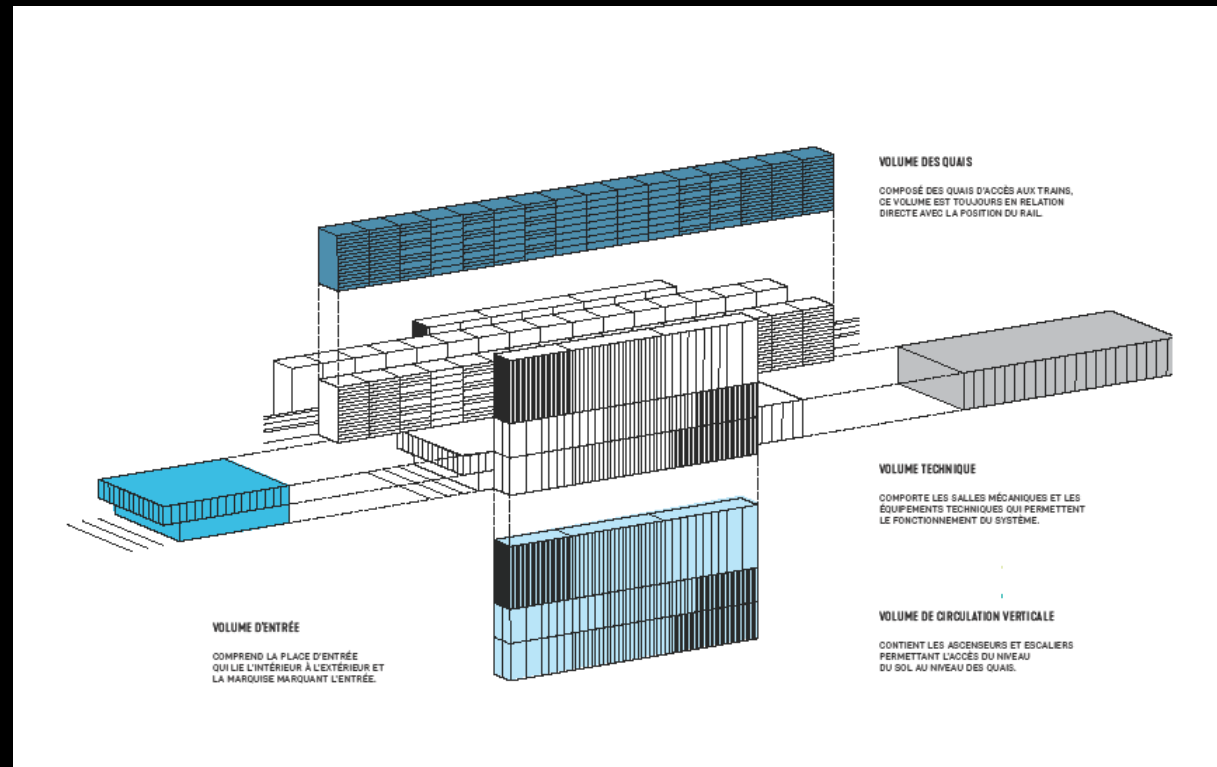
DESIGN PRINCIPLES

EXPANDING INTO THREE DIMENSIONAL SPATIAL FEATURES



DESIGN PRINCIPLES

EXPLODING INTO THREEDIMENSIONAL COMPONENTS AND GENERATING POTENTIAL TECTONIC EXPRESSIONS



DESIGN PRINCIPLES

ACTING UPON LANDSCAPE DEFINITION AND CHARACTER



COMING TOGETHER INTO MULTIDISCIPLINARY EXPRESSIONS AND SIGNATURE PUBLIC ENVIRONMENTS



AND SIGNATURE INTERIORS THROUGHOUT REM STATIONS



LINKING INTERMODAL PUBLIC TRANSPORTATION TOGETHER WITH MAJOR PUBLIC INFRASTRUCTURES SUCH AS THE MONTREAL METRO AND CENTRAL STATION



AND INFLUENCING DESIGN APPROACHES TO URBAN AND ARCHITECTURAL INTEGRATION OF BRIDGES AND OTHER ENGINEERING STRUCTURES



INFLUENCING DESIGN APPROACHES TO URBAN AND ARCHITECTURAL INTEGRATION OF BRIDGES AND OTHER ENGINEERING STRUCTURES



AND FINALLY INTEGRATES ITS POSITION AT THE HEART NEW CHAMPLAIN BRIDGE



architecture
design
urbanisme
paysage

PROVENCHER_ROY