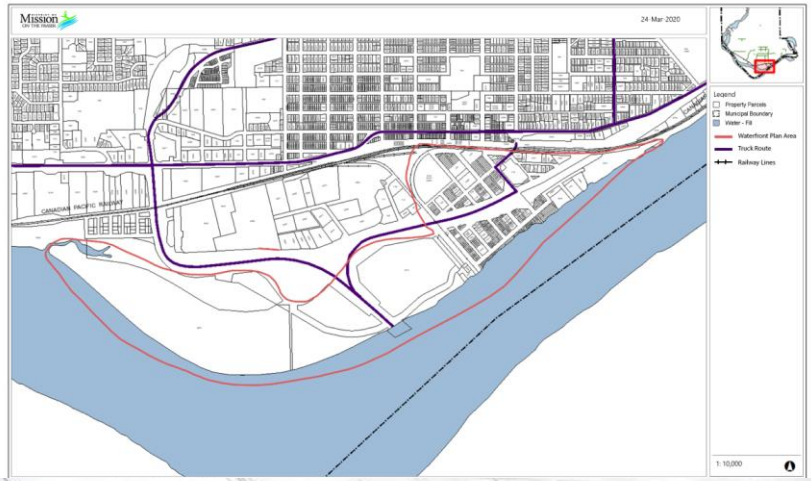


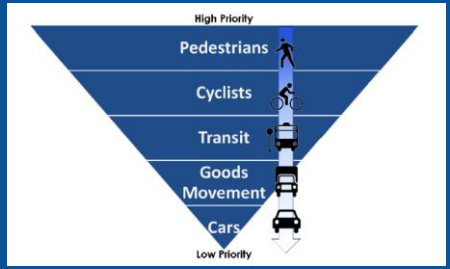
MISSION WATERFRONT

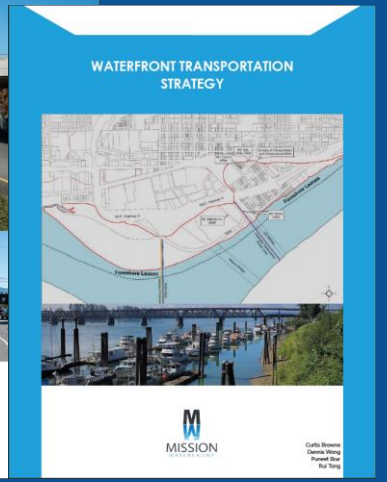
Waterfront Transportation Strategy

Curtis Browne
Dennis Wong
Puneet Brar
Rui Tong

Envisioning Transportation on The Waterfront

- Pedestrian Priority
- Enhanced Cycling Network
- Rework Road Network
- Include bypass considerations
- Based on Master Transportation Plan
- Well designed and aesthetically pleasing





Contents of Strategy

- 4 sections (Pedestrian, Cycling, Road Network, Environmental Concerns)
  1. Existing considerations
  2. Planning strategies used to consider new initiatives
  3. Envisioned designs to facilitate idea brainstorming in future opportunities
  4. Environmental topics tie into other sections




Pedestrian Plan

Pedestrian Plan - Existing System

- Explains what, how waterfront is currently
- Important information from Master Transportation Plan adopted
- Pedestrians need space and a destination to want to walk

Pedestrian Plan - Planning Strategies

- Gather accurate statistics on how many, why, and where
- Align with other municipality plans
- Land use is integral to pedestrian usage
- Review and amend Official Community Plan for the area into mixed use
- Destinations to the waterfront and other areas should be strategically placed
- Don’t just look horizontally, look vertically as well
- Look to other cities worldwide for similar problems / solutions

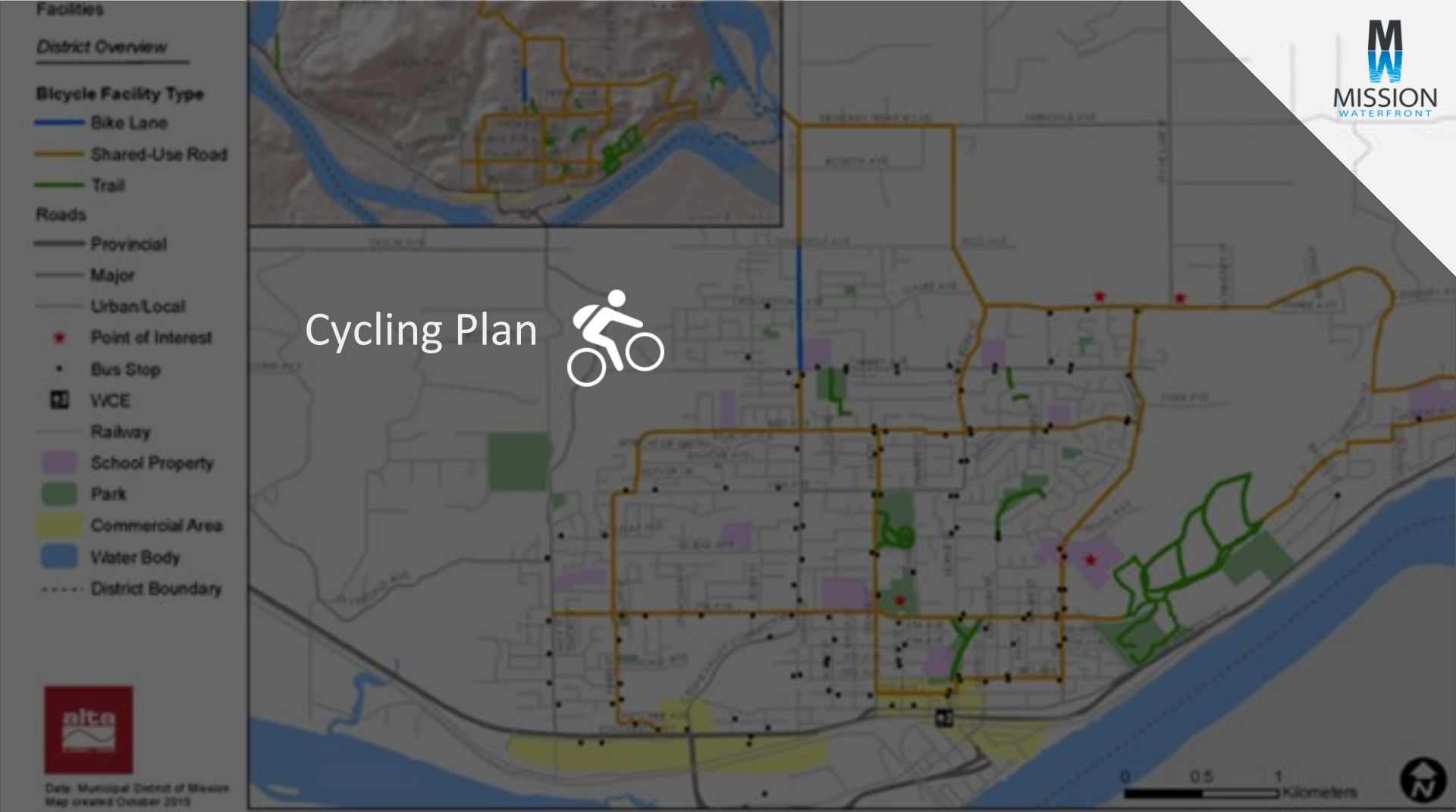
Pedestrian Plan - Waterfront Example

Zaha Hadid Architects
Niederhafen Flood Protection Barrier Waterfront - Hamburg, Germany

Pedestrian Plan - Envisioned Designs

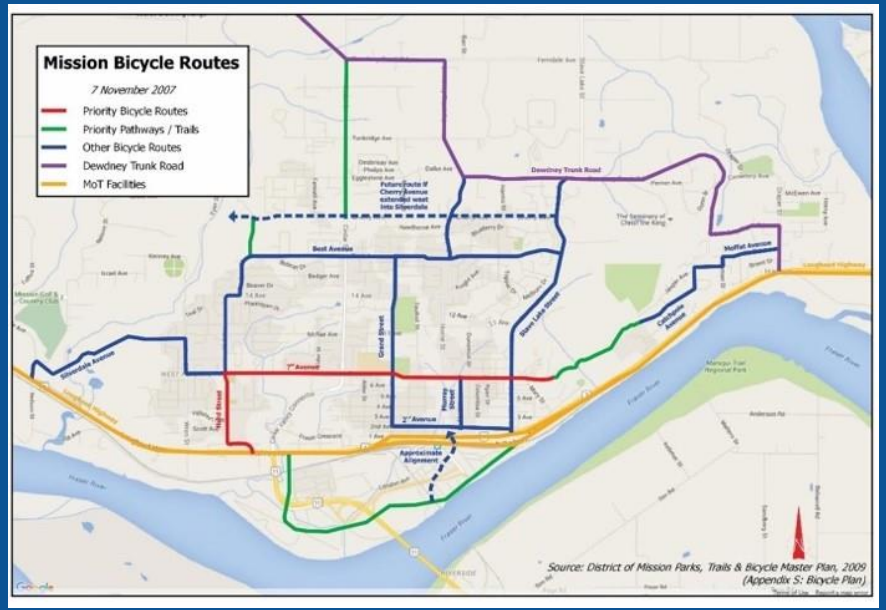
- Safety requires planning and design
  - Crime Prevention Through Environmental Design
  - Mixed land use for variety / natural surveillance
  - Pedestrian scrambles allow for efficiency and safety
- Aesthetically pleasing areas to enjoy
  - Pleasing Foliage
  - Public art
  - Cultural designs
- Useful Destinations

Cycling Plan



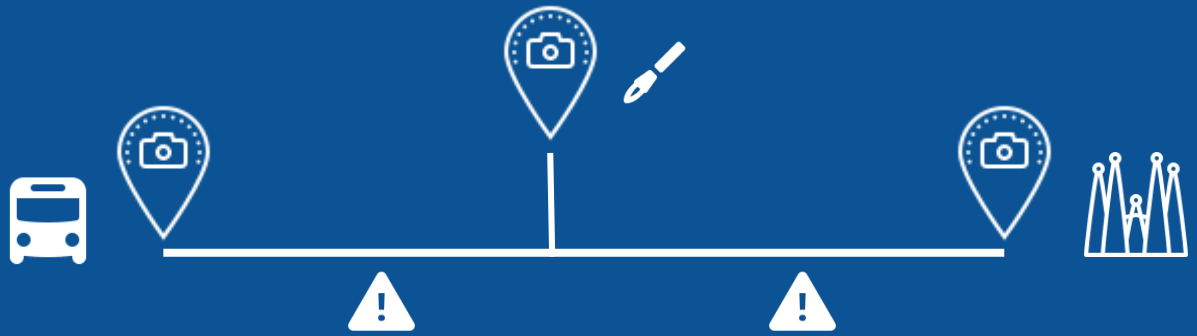
Cycling Plan - Existing System

- Not a defined system
- Can’t support new potential
- Not useful other than recreation
- No facilities or destinations
- Lack of separation from motor vehicles



Cycling Plan - Planning Strategies

- Enhancement and expansion of local cycling network
- Connection and coordination with neighbouring communities
- Increase network usability as transportation rather than recreation
- Increase safety for all levels of cyclists



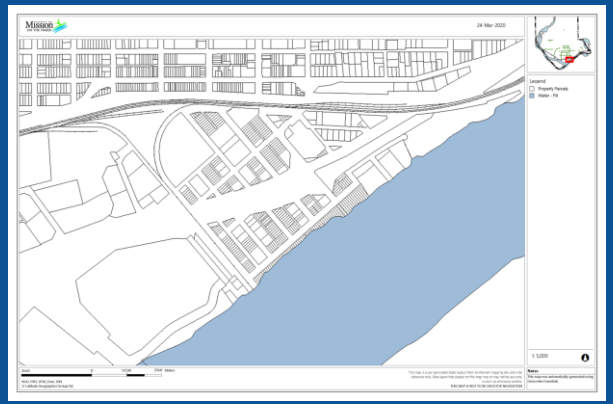
Cycling Plan - Envisioned Designs

- Connectivity
  - Enhance routes via dedicated bike lanes and multi-use paths
  - Expand cycling trails along waterfront bank
  - Connect waterfront cycling routes to north Mission cycling route developments
- Facilities upgrades
  - Develop facilities that are useful to riders
  - Mission City Centre train station and Jack Poole Harbourside Park upgrades
- Public Transportation Integration
  - Connect cycling routes with public transportation hubs
  - Explore potential for bike sharing-programs as component of infrastructure


MISSION
WATERFRONT
Road Network

Road Network - Existing Network

- Highways makes intersections dangerous
- Waterfront area half “connector”, half local road
- Railways intersect and block pathing
- Road network is constrained

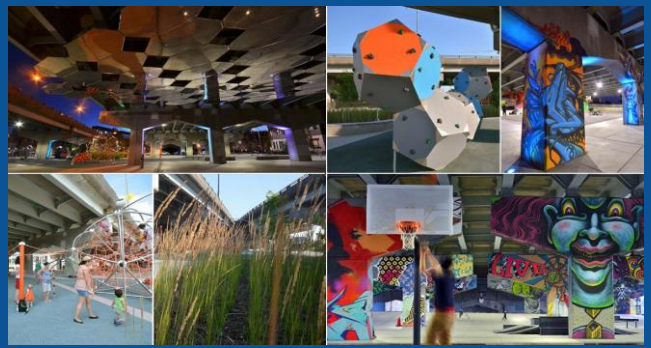


Road Network - Planning Strategies

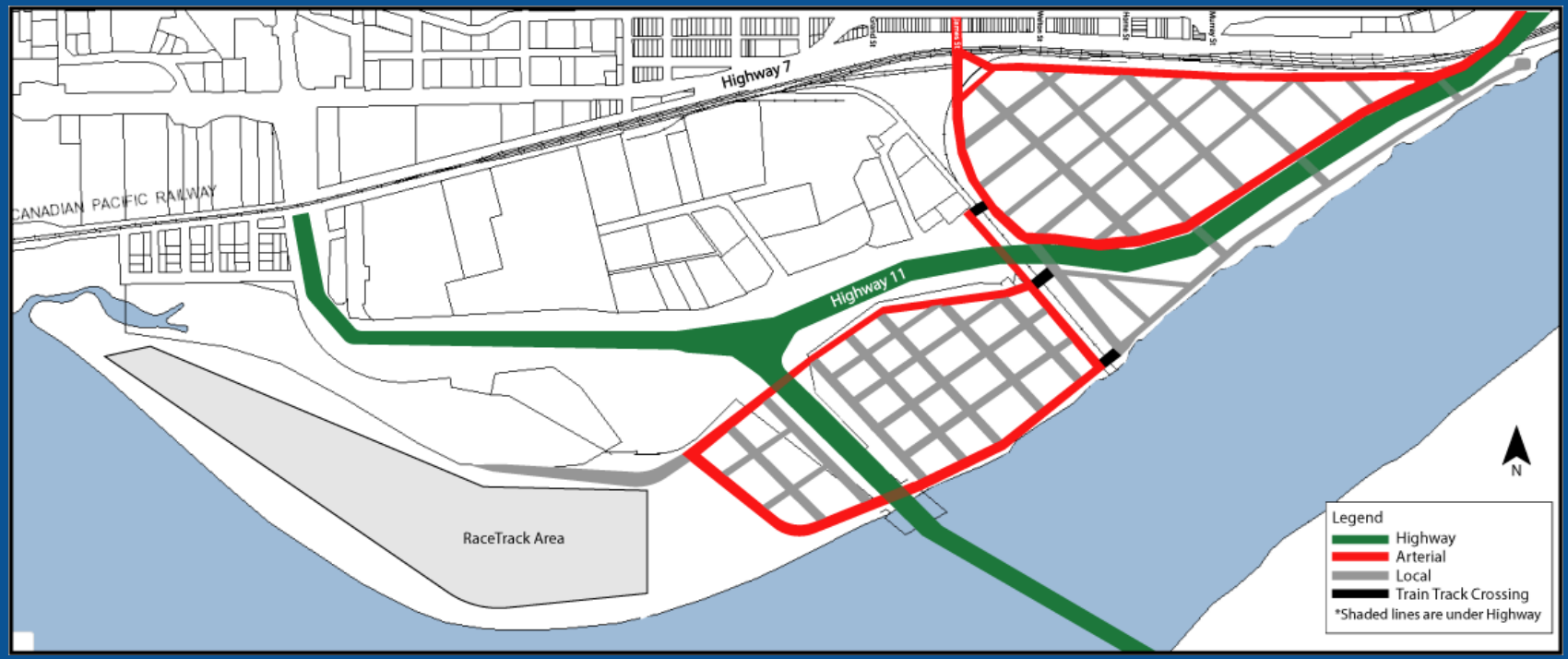
- Understand future employment and population increases
- Waterfront has a connector and must be built with bypass, not avoided
- Ensure traffic and incidents are mitigated through design
- Create hierarchy of streets to ensure safety
- Focus on pedestrian oriented design for roads
- North portion of waterfront can offset downtown traffic
- New mobility hub brought down to Waterfront area vs Highway 7
- Rail lines has space above vertically to add connections

Road Network - Envisioned Designs

- Network depends on bypass placement
- Bypass should be elevated
- Underside can be useful and beautiful
- Public transportation hub in north portion
- Waterfront street could be part time “pedestrian zone” only
- Embrace waterfront as destination for local and beyond



Road Network - Example



Environmental Concerns

- 6 Topics incorporated relating to transportation network
- Report indicates which network section applies to which topic well
- Context of environmental sustainability planning

1. Greenhouse Gas Emissions
2. Road /Material Design
3. Stormwater Infrastructure
4. Traffic Noise Prevention
5. Infrastructure Sustainability
6. Transit Oriented Development

Environmental Concerns - GreenHouse Gas (GHG)

- District of Mission OCP describes goals, design and role of transportation in cleaning GreenHouse Gases
- Waterfront area a good area to expand transit to combat GHG
- Building for cycling and pedestrians allow for less usage of personal vehicles
- Shorter trips means less incentive to use private vehicles

Environmental Concerns - Road / Material Design

- District of Mission OCP - adopt a “complete streets” policy
- Explains what is a “complete Street”
- Advocate for street design
- Gather statistics for locations of lacking infrastructure
- Explore how to build sustainable roads through programs
- Ex: Greenroads ScoreCard

GREENROADS SCORECARD

THE GREENROADS RATING SYSTEM V2 INCLUDES:
- 12 Project Requirements
- 45 Voluntary Core Credits
- 6 Voluntary Extra Credits

PROJECT REQUIREMENTS

NO.	TITLE	TYPE
PR-1	Ecological Impact Analysis	REQUIRED
PR-2	Energy & Carbon Footprint	REQUIRED
PR-3	Low Impact Development	REQUIRED
PR-4	Social Impact Analysis	REQUIRED
PR-5	Community Engagement	REQUIRED
PR-6	Lifecycle Cost Analysis	REQUIRED
PR-7	Quality Control	REQUIRED
PR-8	Pollution Prevention	REQUIRED
PR-9	Waste Management	REQUIRED
PR-10	Noise & Glare Control	REQUIRED
PR-11	Utility Conflict Analysis	REQUIRED
PR-12	Asset Management	REQUIRED

ENVIRONMENT & WATER

NO.	TITLE	POINTS
EW-1	Preferred Alignment	1-3
EW-2	Ecological Connectivity	1-3
EW-3	Habitat Conservation	1-3
EW-4	Land Use Enhancements	1-3
EW-5	Vegetation Quality	1-3
EW-6	Soil Management	1-3
EW-7	Water Conservation	1-3
EW-8	Runoff Flow Control	1-3
EW-9	Enhanced Treatment: Metals	1-3
EW-10	Oil & Contaminant Treatment	1-3

CONSTRUCTION ACTIVITIES

NO.	TITLE	POINTS
CA-1	Environmental Excellence	1-3
CA-2	Workzone Health & Safety	1-2
CA-3	Quality Process	1-3
CA-4	Equipment Fuel Efficiency	1
CA-5	Workzone Air Emissions	1
CA-6	Workzone Water Use	2-3
CA-7	Accelerated Construction	1-2
CA-8	Procurement Integrity	1
CA-9	Communications & Outreach	1
CA-10	Fair & Skilled Labor	1-2
CA-11	Local Economic Development	1

MATERIALS & DESIGN

NO.	TITLE	POINTS
MD-1	Preservation & Reuse	1-5
MD-2	Recycled & Recovered Content	1-5
MD-3	Environmental Product Declarations	2
MD-4	Health Product Declarations	2
MD-5	Local Materials	1-5
MD-6	Long-Life Design	1-5

UTILITIES & CONTROLS

NO.	TITLE	POINTS
UC-1	Utility Upgrades	1-2
UC-2	Maintenance & Emergency Access	1
UC-3	Electric Vehicle Infrastructure	1-3
UC-4	Energy Efficiency	1-3
UC-5	Alternative Energy	1-3
UC-6	Lighting & Controls	1-3
UC-7	Traffic Emissions Reduction	1-3
UC-8	Travel Time Reduction	1-2

ACCESS & LIVABILITY

NO.	TITLE	POINTS
AL-1	Safety Audit	1-2
AL-2	Safety Enhancements	1-2
AL-3	Multimodal Connectivity	1-2
AL-4	Equity & Accessibility	1-2
AL-5	Active Transportation	1-2
AL-6	Health Impact Analysis	2
AL-7	Noise & Glare Reduction	1-3
AL-8	Culture & Recreation	1-2
AL-9	Archaeology & History	1-2
AL-10	Scenery & Aesthetics	1-2

CREATIVITY & EFFORT

NO.	TITLE	POINTS
CE-1	Educated Team	1-2
CE-2	Innovative Ideas	1-5
CE-3	Enhanced Performance	1-5
CE-4	Local Values	1-3

CERTIFICATION LEVELS

LEVEL	POINTS
Bronze	40
Silver	50
Gold	60
Evergreen	80

Environmental Concerns - Stormwater Infrastructure

- Current system challenged by pollutants and increasing flows
- Permeable paving allows for reduced runoff and enable infiltration
- Planting enriches landscape while protecting air quality and absorb rainwater
- Collected stormwater could be reused
- Waste not, Want not

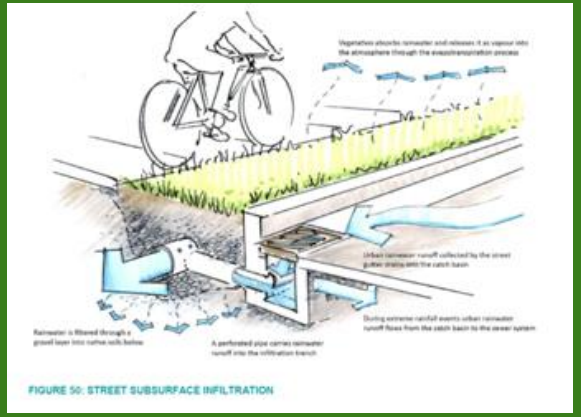


FIGURE 50: STREET SUBSURFACE INFILTRATION

Environmental Concerns - Traffic Noise Prevention

- Major highways generate large amount of sounds
- Requires further research and analysis
- Different types of pavement can dampen sound
- Noise barriers can be used and be aesthetically pleasing
- Natural sound dampeners also an option
- Protect residential areas a priority

Environmental Concerns - Infrastructure Sustainability & Transit Oriented Development

- Combination of transportation options makes for sustainable future
- Reduce carbon emission
- Continuing to accommodate vehicles will not fix itself
- Upfront and future costs will come at a large price
- Reduction of private vehicles through development promotes usage of transit infrastructure