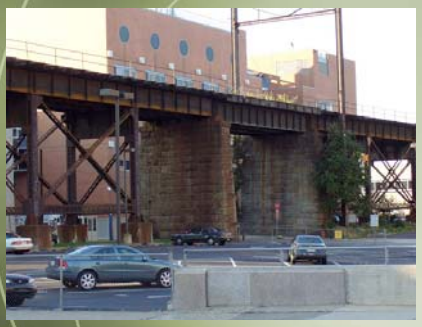
Large Infrastructure & Urban Context

review of human-scale perception & response

Kathleen L. Wolf, Ph.D.
Research Social Scientist
University of Washington



"the belly of the beast"

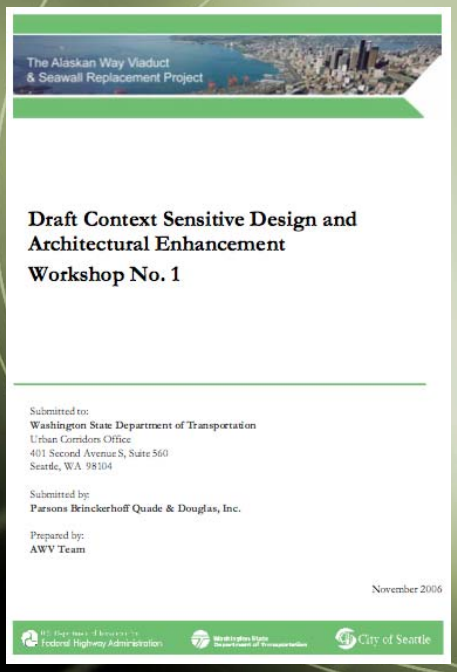
changing use of urban lands
in a vehicle - on the ground
aesthetics . . or human functioning

Alaskan Way Viaduct, Seattle

built 1953; 110,000 ADT; 2001 earthquake

replace structure or build tunnel?

Newspaper headlines!



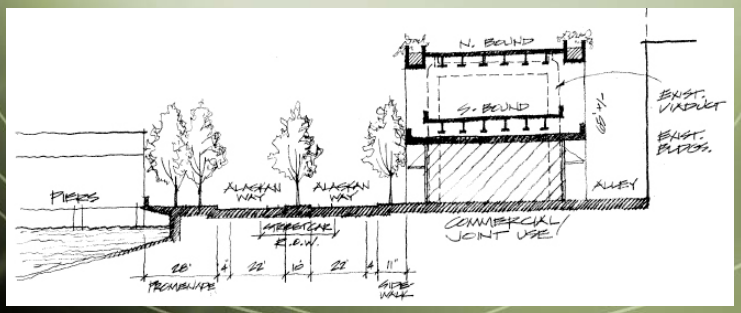
Washington State DOT
City of Seattle
Consultants

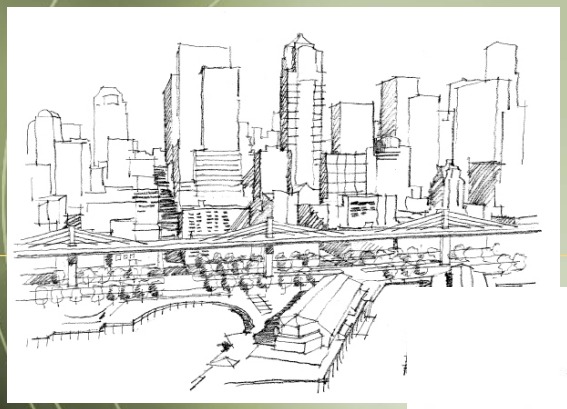
November 2006

Replace Structure!

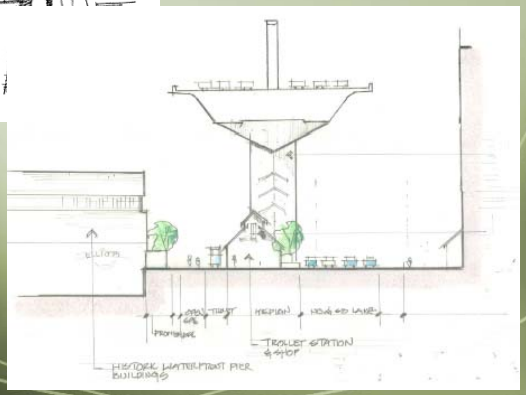
- Two Options
  - double deck pre-stressed concrete girder
  - Extrados cable-stayed, concrete segmental

double deck concrete girder

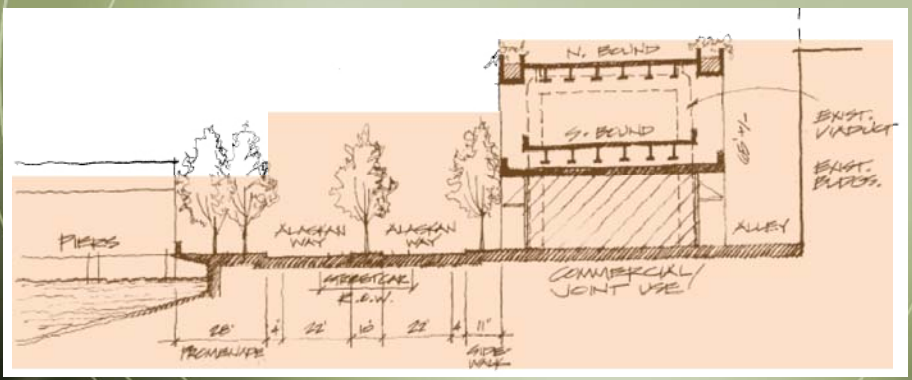




Extrados cable-stayed



determine experiential spaces



waterfront **major arterial** **super structure** **city edge**

Large Structures Design
human response & perceptions

1. physiology

quasi-experimental

measurable response

such as: heart rate, visual acuity, hearing capacity

paper 07-1842

Large Structures Design
human response & perceptions

2. perception

self-report

surveys, interviews, observations

such as: comfort, safety, way-finding, affordances

paper 07-1842

empirical evidence

sound & noise - workers, children

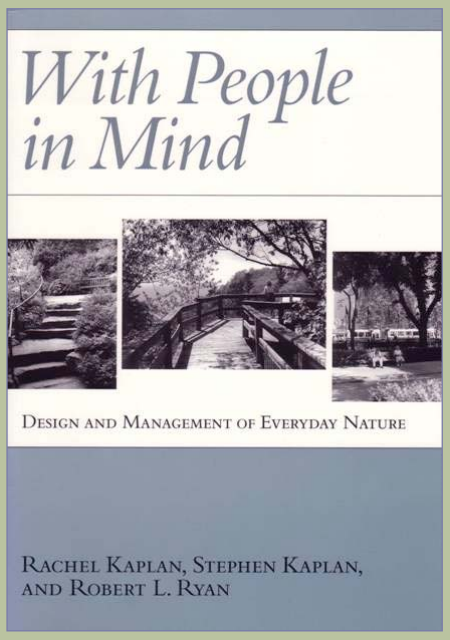
light & shadow - legibility, personal safety

spatial configuration - wayfinding, spatial preference

CPTED - crime prevention thru environmental design

nature/tree benefits - stress, frustration, productivity

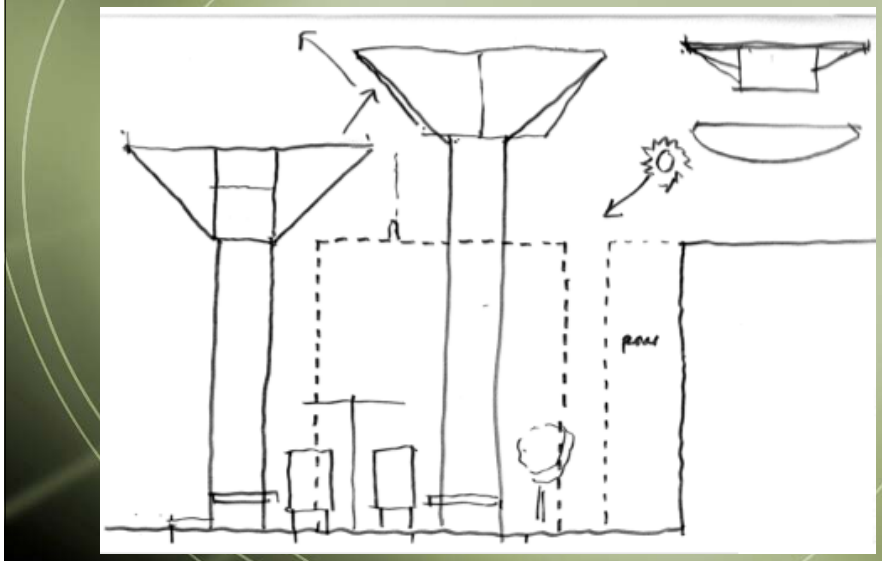
paper 07-1842



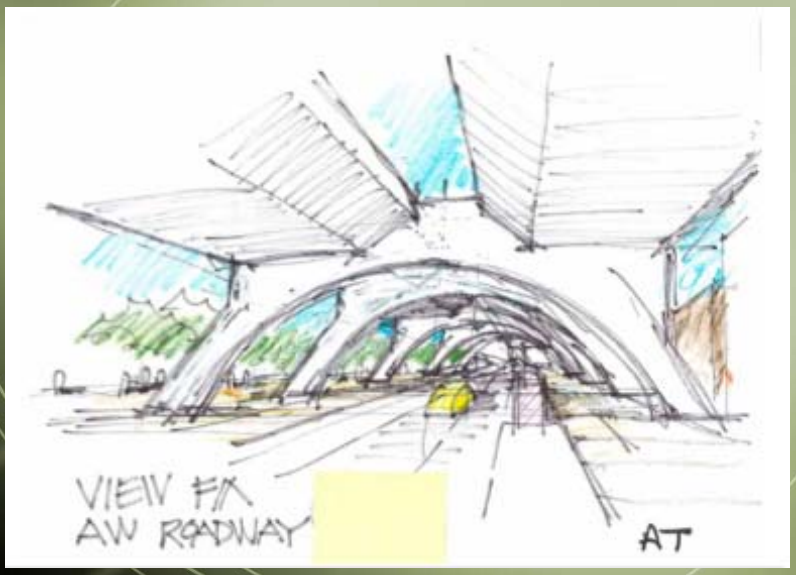
With People in Mind

R. Kaplan
S. Kaplan
R. Ryan

1998



light & sound - WSDOT workshop sketch



place maker - WSDOT workshop sketch

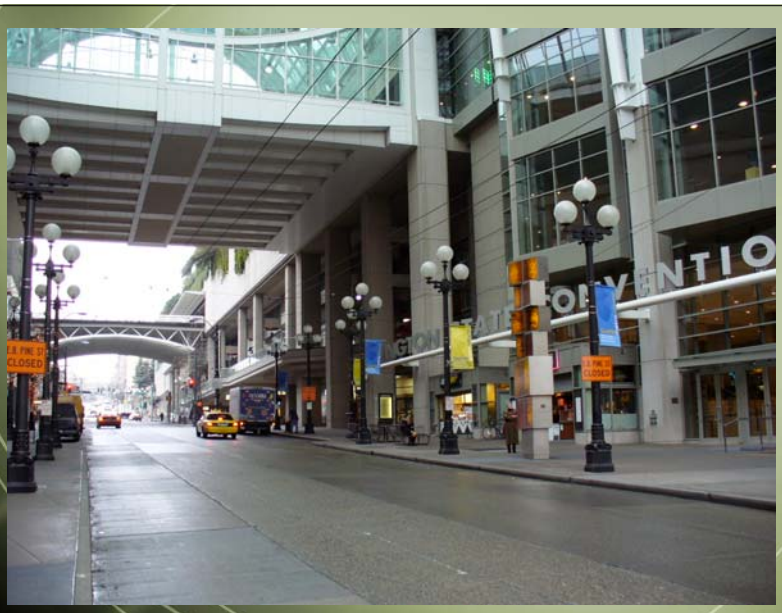
place maker - Promenade Plantee, Paris

place maker - Holbeck, UK

companion uses - WSDOT workshop sketch

scale relationship - WSDOT workshop sketch

companion uses - Promenade Plantee, Paris



Pine St. Convention Center, Seattle

Pine St. Convention Center, Seattle

place & program

- Rotterdam, Netherlands

place & program - Rotterdam, Netherlands

large structures & human context

place makers

experiential units or zones

physiological response

perceptual response

aesthetics of encounter AND structural aesthetics

www.cfr.washington.edu/research.envmind