

Architecture + Urban Design + Sustainability

for Resilient Communities



JEFFREY RAVEN, AIA, LEED AP

RAVEN A+U

SERVICES

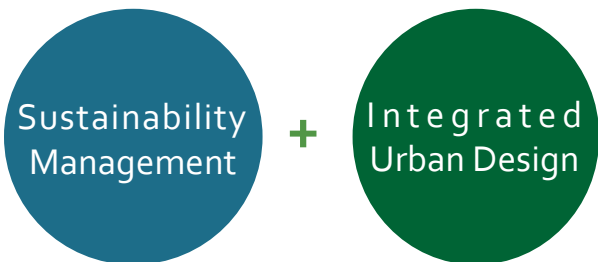
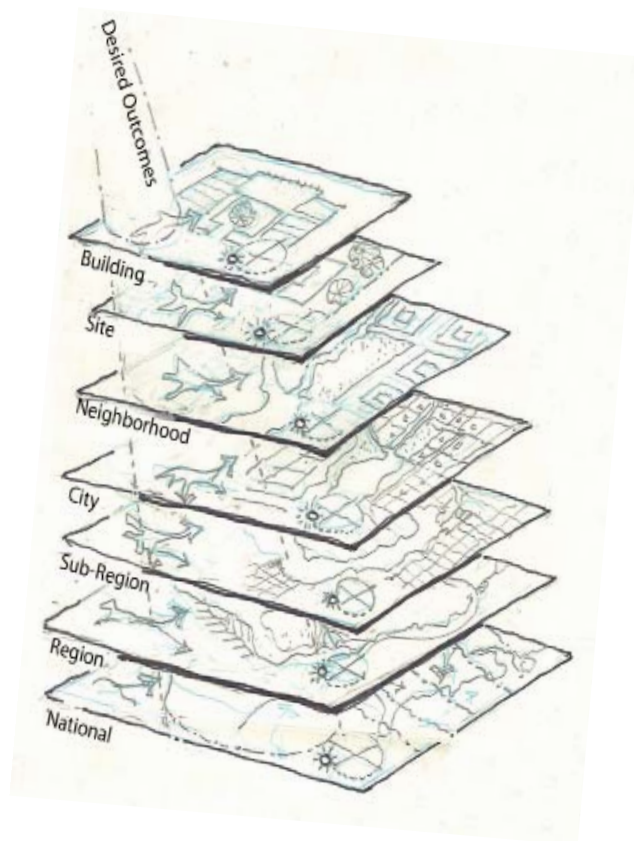
With today's environmental challenges, the design and planning context is rapidly evolving, increasingly integrated and complex.

To help meet these challenges, we provide our clients with more than 20 years of international expertise and leadership in sustainable planning and design.

These services include architecture, integrated urban design and planning, and sustainable policy guidelines.

Our approach to project visioning, green buildings, public space design and master planning capitalizes on integrated systems to enhance desired outcomes across multiple scales while shrinking the ecological footprint of our buildings and urban districts.

Our leadership in this evolving field is drawn from practical project experience and contribution to shaping policy on sustainable planning and design.



interdisciplinary synergies, sustainability at multiple spatial scales, on-site energy generation, capacity-building, leveraging limited resources

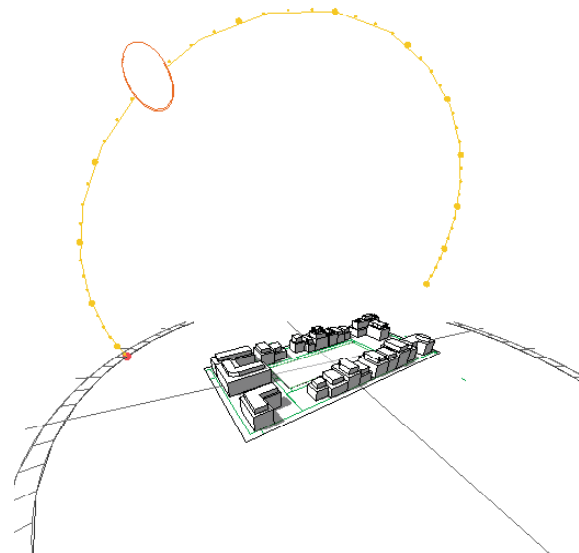


A systemic planning process for Resilient Cities through Green Infrastructure (Raven)

JEFFREY RAVEN AIA, LEED AP BD+C

Services

Architecture
Urban Design
Planning + Development
Green Guidelines + Policy
Transportation
Renovation + Adaptive Re-Use
International
Knowledge Transfer



PROFESSIONAL EXPERIENCE

Jeffrey Raven, AIA, LEED ap

Selected work

Resilient satellite city prototypes for Calcutta, India

MASDAR zero-carbon city in Abu Dhabi, UAE; carbon-neutral, zero-waste city

Green airport terminal prototype; NYNJ Port Authority blueprint for future green airport design

Integrated sustainable planning in northern Vietnam; prototype for integrated strategies

Energy Efficiency and Conservation Plan for Saint Louis County; USGBC award

Downtown Brooklyn Plan, Regional Plan Association; part of the Regional Plan Association *Third Regional Plan Centers Campaign*

Bronx Center, strategic plan for the South Bronx; awarded Best Practice prototype: UN-Habitat

International guidelines and policy

Global Sustainable Urbanization Development Indicators; US Office of Housing and Urban Development (HUD)

STAR Community Index; to develop sustainability guidelines for American cities

Climate Positive Development Program, Clinton Climate Initiative; global zero carbon urban districts

LEED for Neighborhood Development, US Green Building Council, regional bonus credits

Resilience & Climate Adaptation Working Group; US Green Building Council

National and international forums

Resilient Cities 2010, 1st World Congress on Cities and Climate Change Adaptation, Germany: Climate-Resilient Urban Design. Selected as a climate-change reference document by USGBC Publications

Regional Assembly, Regional Plan Association, New York, 2010: *Building a Green Infrastructure*

Transportation Research Board, Washington DC, 2010: *Integrated Planning for Sustainability*

Intermodal Transit Hubs, Korean Transport Institute, Seoul, 2007: *Design Strategies for Transit Hubs*

Peer Review: *High Performance Infrastructure Guidelines* (NYCDDC); *Greenbuild* (USGBC)

Energy Efficiency and Cities, Asian Development Bank Headquarters, ADB Urban Day 2010 Conference, to develop ADB's Livable and Sustainable Cities in Asia program

Knowledge transfer

Adjunct Assistant Professor of Architecture at Columbia University's MS Architecture + Urban Design; Lecturer: Cambridge University, Cornell, NYU, The World Bank, Asian Development Bank, CIPSEM-UNEP Technische Universität Dresden

Ecological Cities accredited course instructor on *The New York Times Knowledge Network*

Previous positions

The Louis Berger Group, Director - Sustainability + Urban Design; Berger Group Holdings: 1996-2010

Regional Plan Association, Downtown Brooklyn Development Plan, Director, New York, 1995-1996

City of Constanza, Romania, Co-Director Capacity-Building and Strategic Plan, Soros Foundation, 1995

BFJ Planning, Buckhurst Fish Jacquemart / Hutton & Katz, Inc., New York, 1994

Bronx Center, South Bronx, Proj. Coordinator, 1993

Education

MSt, Cambridge University, England
Interdisciplinary Design for the Built Environment,
Dept. of Architecture and Dept. of Engineering

BArch, Architecture (Professional Degree), Rhode Island School of Design

BFA, Fine Arts, Rhode Island School of Design

B.A., History, Trinity College, Hartford, CT.

Professional Certifications

Registered Architect: New York; New Jersey

Language: English + French (native levels)

SELECTED WORK

STAR Community Index

Masdar Carbon-Neutral City, Abu Dhabi, UAE

Thanh Hoa City Master Plan, Northern Vietnam

Kolkata (Calcutta) green satellite cities urban design project, India

Downtown Brooklyn Development Plan, Regional Plan Association, NYC

Bronx Center Plan, South Bronx, NYC

Strategic Plan + Capacity Building, Constanza, Romania

Qatar Physical Development Plan, Qatar

Montclair Redevelopment Plan, New Jersey

St. Louis County Energy Efficiency and Conservation Strategy, Missouri

Ecosystem Services in Watershed Development, New Jersey

Newark Liberty International Airport - Expansion + Modernization Program, New Jersey

LEED-Accredited Adaptive Re-Use of Historic Building, NYC

Belford Port Redevelopment Plan, New Jersey

Freedom Ring Plan, The Philippines

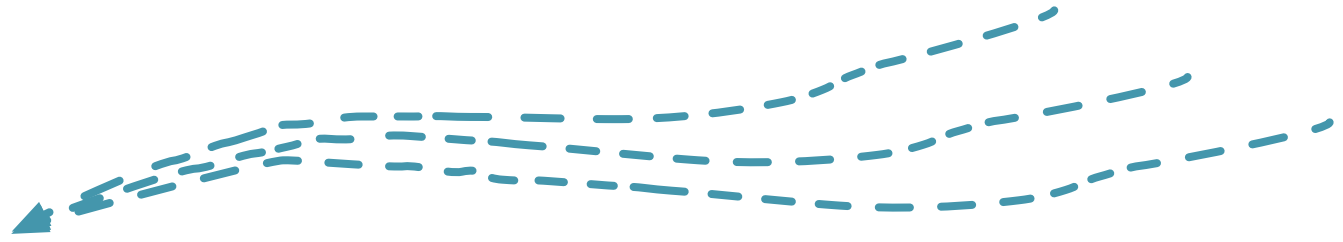
Knowledge Transfer: Publications, Teaching, Lectures



ARCHITECTURE
URBAN DESIGN
PLANNING + DEVELOPMENT
GREEN GUIDELINES + POLICY
TRANSPORTATION
RENOVATION + ADAPTIVE REUSE
INTERNATIONAL
KNOWLEDGE TRANSFER

AVIATION
EDUCATION
PORT
MILITARY
MEDICAL
OFFICE
TRANSPORTATION
GOVERNMENT

Cooling the Public Realm: Climate-Resilient Urban Design



Shaping Resilient Cities for the 21st Century by Adapting Urban Design to Climate Change

Presented to:
Resilient Cities Congress 2010
Bonn, Germany
Submitted by:
Jeffrey Raven, AIA, LEED AP BD+C

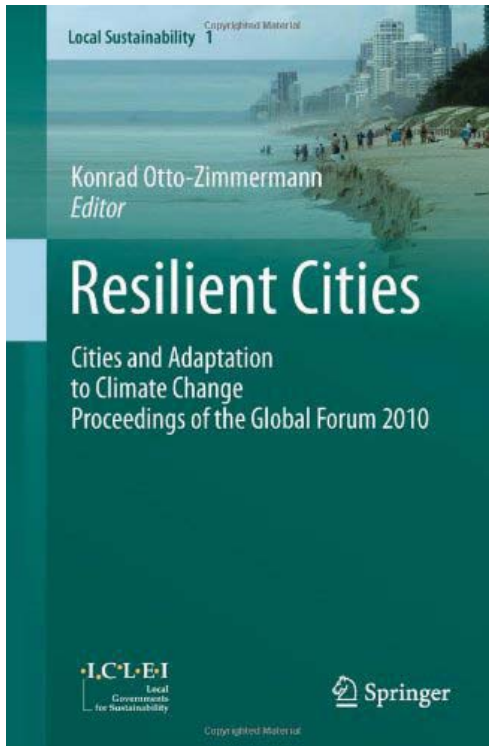


ADVISORY SERVICES

We have made a full and continuing commitment to advancing and promoting analytical approaches dedicated to improving the quality of both natural and built environments. This commitment is evident in active national participation in the development of sustainability benchmarking systems and in academic and research activities.

Jeffrey Raven contributes to the following advisory committees:

- **Climate Positive Development, Clinton Climate Initiative: Technical Resource Expert**
The Climate Positive public-private projects are intended to be world-class, innovative landmarks of sustainable urban design, architecture and engineering design, exceeding current standards of green energy and waste efficiency, material technologies, and integrated design thinking. Their project-driven mandates hinge on reducing the amount of CO₂ emissions to below zero.
- **LEED 2009 / LEED ND Regional Bonus Credit Task Force Northeast Corridor - US Green Building Council**
In the new LEED Regional Credit system, each region of the country is divided into environmental zones. In each zone six existing LEED credits are identified that best address the zone's principal environmental issues. A project that achieves any four of those credits receives an additional point for accreditation.
- **Resilience & Climate Adaptation Working Group; US Green Building Council**
Interdisciplinary working group initiated by USGBC director of research to develop resilient approaches to the built environment.
- **Global Sustainable Urbanization Development Indicators** by the US Office of Housing and Urban Development (HUD); to develop common language, normative principles, and universal benchmarks around urban sustainability.
- **STAR Community Index: Technical Advisor**
Appointed to STAR Technical Advisory Committee to develop sustainable goals, indicators and metrics for entire cities in the United States.



PUBLICATIONS

*Cooling the Public Realm: Climate-Resilient Urban Design**, *Resilient Cities* (Springer, 2011), 1st Global Forum on Cities and Climate Change Adaptation.

* Reference document by USGBC Research Publications

Growing Green, St. Louis County, 2010
USGBC-St. Louis, MO., Governance Award

Belford Port Redevelopment Plan, New Jersey, 2009
NJPO Achievement Planning Award

Montclair Redevelopment Plan, New Jersey, 2008

Physical Development Plan for the State of Qatar, Ministry of Municipal Affairs & Agriculture, 1998

Downtown Brooklyn: A Plan for Continued Progress, Regional Plan Association, 1995. Contributor to A Region at Risk: The Third Regional Plan for the NY Metropolitan Area, RPA, 1996

"*Belfast Plan for the Gasworks Site*"; Scope: A Review of Northern Ireland. Exhibited at the Progressive Building Society, Belfast

KNOWLEDGE TRANSFER

Columbia University: Adjunct Assistant Professor of Architecture, Master of Science in Architecture + Urban Design

Cambridge University: Programme for Sustainability Leadership; The Prince of Wales Business & Sustainability Programme

The New York Times Knowledge Network - The Cooper Union - *Ecological Cities: Sustainability + Resilience, Environmental Urban Design*, CIPSEM-UNEP, Technische Universität Dresden, Germany

Resilient Cities 2010, 1st World Congress on Cities and Climate Change Adaptation, Bonn, Germany: *Climate-Resilient Urban Design*

Regional Assembly 2010, Regional Plan Association, New York, 2010: *Building a Green Infrastructure*

Transportation Research Board 2010, *Integrated Planning for Sustainability*, Washington DC

Asian Development Bank - *Energy Efficiency and Cities, ADB Urban Day 2010*, Manila, The Philippines

The World Bank - *Planning Resilient Cities*, Washington DC

Cornell University - *Toward an Ecological City in Northern Vietnam*, Department of City and Regional Planning

Columbia University - *Form Follows Power*, Graduate School of Architecture & Urban Design

New York University - *Spotlight on Abu Dhabi: Challenges and Opportunities in an Emerging Global City*

University of North Carolina, Charlotte – Professionally-accredited course: *The Ecological City*

National Association of Environmental Professionals, 34th Annual Conference, *The Ecological City*, Phoenix, AZ.

Korea Transport Institute, International Transportation Conference - Intermodal Transit Hubs, Seoul, Korea

New Jersey Institute of Technology: *Infrastructure Planning Roundtable*



Knowledge Transfer: Environmental Urban Design Course, CIPSEM-UNEP, Technische Universität, Dresden, Germany, December 2010

Natural Systems

Natural Ecosystems
Green Infrastructure
Watershed & Land Use
Resource Lands
Water Quality & Supply
Drinking Water Quality
Waste Minimization
Biodiversity & Invasive Species
Agriculture & Aquaculture

Planning & Design

Comprehensive Planning
Transportation & Mobility
Housing
Compact & Complete Communities
Public Engagement & Participation
Interconnected Land Use
Public Spaces
Historic Preservation & Cultural Heritage
Design for People

Energy & Climate

Greenhouse Gas Mitigation
Energy Use
Energy Supply
Energy Smart Buildings
Alternative Fuels & Infrastructure
Climate Adaptation
Climate Justice
Industrial Sector Energy Use
Agricultural Climate Impacts

Economic Prosperity

Sector Development & Revitalization
Market Development
Community-Based Economic Development
Economic Integration of Neighborhoods
Business Ownership & Exchange Networks
Land Redevelopment & Revitalization
Public Expenditures & Financial Investment
Enterprise Support
Food System

Employment & Workforce Training

Comprehensive Workforce Dev. Planning
Workforce Training
Workforce Training Support
Living Wages
Employment Opportunity
Workplace Learning & Career Paths
Supportive Workplaces
Labor Rights
Employment Benefits



STAR Related Goal Areas:
Green Infrastructure

Education, Arts & Community

Education Opportunities
Social & Cultural Diversity
Civic Engagement
Neighborhood Vitality
School-Community Engagement
Arts & Cultural Civic Support
Arts & Culture
Education Environments
Ecological Literacy

Health & Safety

Healthcare System
Active Living & Recreation
Safe Communities
Natural & Human Hazards
Emergency & Fire Response
Health & Safety Literacy
Outdoor Air Quality
Toxics Reduction
Indoor Air Quality

Affordability & Social Equity

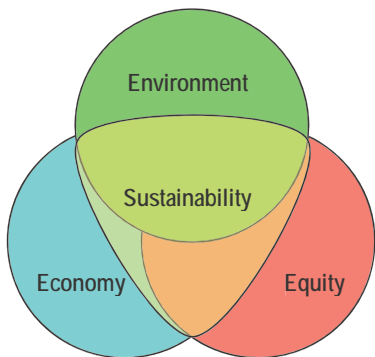
Social Cohesion
Infrastructure Investment
Comprehensive Equity Assessment & Plan
Community Empowerment
Adjudication & Restorative Justice
Environmental Justice
Cultural Practices
Civil & Human Rights
Government Transparency



**GREEN INFRASTRUCTURE
CLIMATE-RESILIENT
URBAN DESIGN
NATURAL SYSTEMS**

Goal, Purpose, Measures
Policy, Practice, Performance
Progress

LOCATION
Nation-Wide (USA)



Environment
Natural Systems
Planning & Design
Energy & Climate

Economy
Economic Prosperity
Employment & Workforce Training

Equity
Education, Arts & Community
Health & Safety
Affordability & Social Equity

STAR triple-bottom line for sustainability

**STAR COMMUNITY INDEX
ICLEI - LOCAL GOVERNMENTS FOR
SUSTAINABILITY**

Jeffrey Raven has been STAR Community Index™ Technical Advisor since 2008 to develop sustainable goals, indicators and metrics for entire cities in the United States.

STAR is a pioneering, strategic planning and performance management system that will offer local governments a road map for improving community sustainability and helps communities address their interconnected concerns -- economic, environmental and social. It is a national, consensus-based framework for gauging the sustainability and livability of U.S. communities. STAR will be launched in late 2012, and is currently being developed through a partnership between ICLEI, the U.S. Green Building Council, the National League of Cities and the Center for American Progress. Much as LEED™ transformed the building industry, STAR will transform the way local governments set priorities and implement policies and practices to improve their sustainability performance. It will become the definitive means by which local governments measure and “certify” their achievements in environmental, economic, and social sustainability.

A key to STAR’s success will be its careful, consensus-based development process that includes leading industry experts from local governments and the public and private sectors. Jeffrey Raven’s work with STAR is focused on developing green infrastructure and climate-resilient goals, scope and measures for compact, transit-friendly urban communities.



STAR Community Index Technical Advisors



STAR Themes - Integrated Goals and Strategies



STAR Milestone Process for Sustainability Planning

MASDAR

Does it represent a significant advance to the “state of the art” ?

What is its cutting-edge factor?

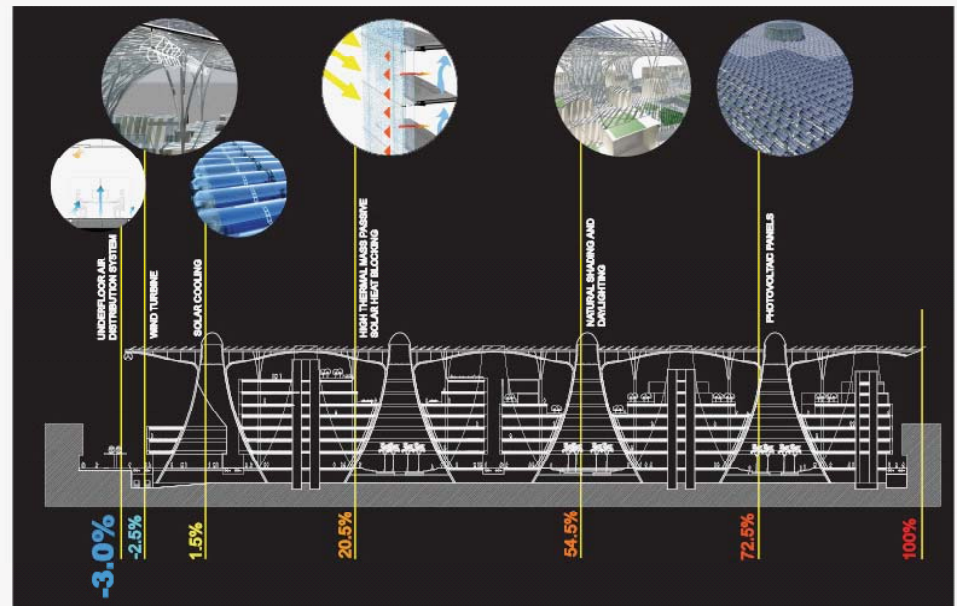
Does it inspire people?

What is the risk factor?

Will it mitigate future risk for Masdar City?



Above, Sustainability charrette, J.Raven-LBG
Right, Masdar Rendering (Foster + Partners)
Below (left + right), Masdar Headquarters (Adrian Smith + Gordon Gill Architects)





MASDAR CARBON-NEUTRAL CITY ABU DHABI, UAE

**ZERO
ZERO
103%**

**CARBON
WASTE
POSITIVE RENEWABLE
ENERGY POWER**

GREEN GUIDELINES ARCHITECTURE PLANNING + DEVELOPMENT

Zero Carbon
Zero Waste
103% Positive Renewable Energy
Feedback loops to Masdar City Plan

LOCATION
Abu Dhabi, UAE

Masdar City is a 640 hectare new master-planned city situated approximately 20 kilometers to the east of Abu Dhabi's old city. Masdar's goal is to be a carbon neutral, zero-waste city supported by sustainable transportation and relying entirely on renewable sources of energy.

The landmark 1 million sf. Masdar Headquarters is among the first and most sustainable major developments in Masdar City-- producing more energy than it consumes. In close collaboration with Masdar city-wide leadership to providing feedback loops for the Masdar urban design and infrastructure strategies, the first priority has been energy load reduction through passive design strategies and innovative public space ventilation through modern wind towers.

Tasks included leading a series of integrated sustainability sessions with participation from Masdar leadership and international experts, managing an integrated project team to achieve Key Performance Indicators, and providing feedback loops to Masdar-wide leadership.

MASDAR Target Metrics:

- Zero Emissions
- Zero Waste
- 100% Power through Renewable Energy Sources.

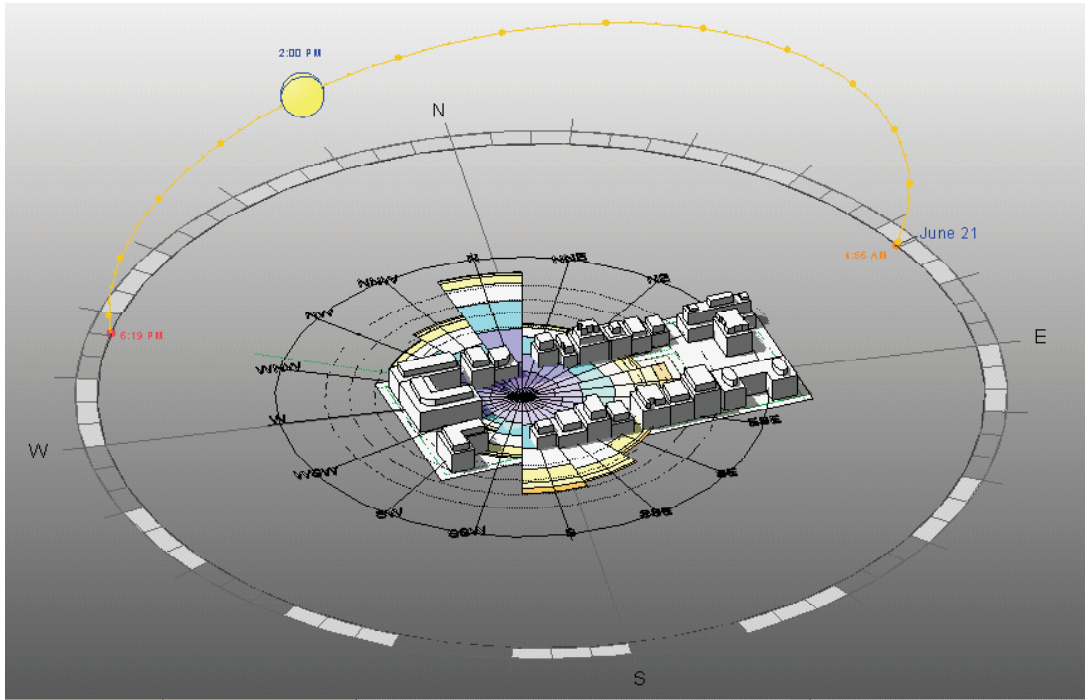
Deliverables:

- Sustainability Implementation Plan
- Key Performance Indicators
- Reports: Visioning Session and Sustainable Design Phases

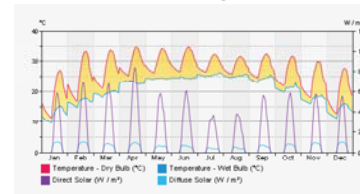
Completed by Jeffrey Raven, while Director - Sustainability + Urban Design at the Louis Berger Group



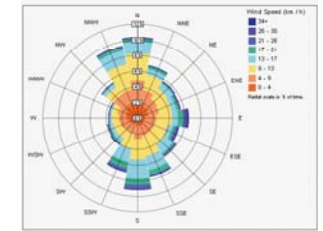
Sustainability Gateway Session led by Jeffrey Raven



Diurnal Weather Averages



Annual Wind Rose (Speed Distribution)





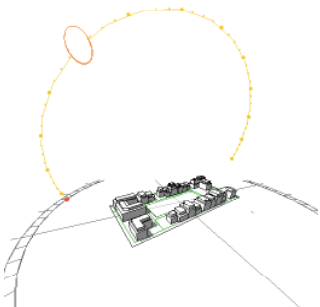
**URBAN DESIGN
PLANNING + DEVELOPMENT
ARCHITECTURE**

GREEN GUIDELINES + POLICY

Urban heat island mitigation
City street orientation: Prevailing breeze and solar impacts
Intermodal transportation access
Sustainable urban drainage system
Protected green-belt zone

LOCATION

Kolkata (Calcutta), India



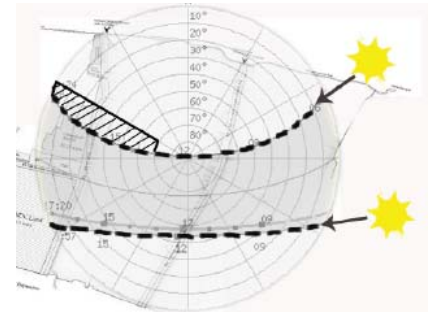
**SATELLITE CITY URBAN DESIGN
KOLKATA (CALCUTTA), INDIA**

CLIMATE-RESILIENT URBAN DESIGN

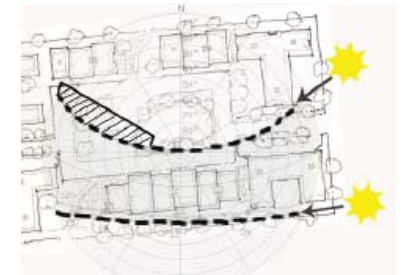
RAVEN A+U has been hired as an urban design consultant from 2010-2011 to conduct a sustainable satellite cities project in the Kolkata (Calcutta) Metropolitan Area funded by the United Kingdom's Department for International Development (DFID). A team of Indian urban infrastructure experts from Louis Berger-India worked in collaboration with RAVEN A+U to develop approaches, methods and tools to configure sustainable regional satellite settlements in the West Bengal region surrounding Kolkata.

Project tasks included on-site evaluations of prospective locations for new satellite settlements throughout the Kolkata Metropolitan Area, meetings with stakeholders and public forums to present key findings.

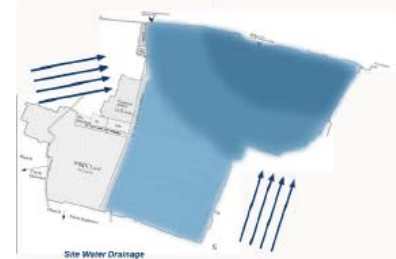
In Kolkata's surrounding West Bengal region, an important challenge was configuring a compact development pattern to respond simultaneously to strong winds, flood risks and high temperature and humidity. These energy-efficient urban design challenges require knowledge of climate-resilient urban design, drawing from fields such as energy, climate science and sustainable design. Jeffrey Raven developed prescriptive measures and performance standards for a climate-resilient public realm, including urban ventilation, green infrastructure, and solar design.



Solar path - site configuration



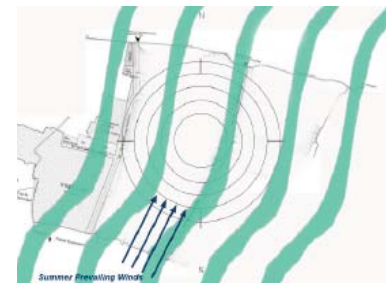
Solar path - building configuration



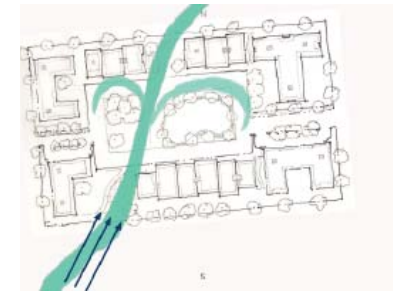
Stormwater mitigation site constraints



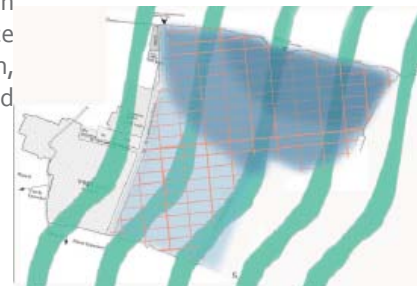
Passive green-blue infrastructure strategies



Prevailing summer breeze opportunities



Urban ventilation strategies



Climate-resilient urban design - composite strategies: Building and site scales





Sustainable
Urban Design

**URBAN DESIGN
PLANNING + DEVELOPMENT
ARCHITECTURE**

TRANSPORTATION

- Urban heat island mitigation
- City street orientation: Prevailing breeze and solar impacts
- Intermodal transportation centers
- Bus rapid transit system
- Sustainable urban drainage system
- Protected green-belt zone
- Adaptive reuse of historic citadel

LOCATION

Thanh Hoa, Vietnam

Completed by Jeffrey Raven, while
Director - Sustainability + Urban Design
at the Louis Berger Group

**THANH HOA MASTER PLAN
NORTHERN VIETNAM**

INTEGRATED SUSTAINABLE PLANNING

One of the poorest and most heavily damaged regions in Vietnam during the colonial and American wars, this strategic plan for a provincial capital in Northern Vietnam seeks to develop Thanh Hoa as an emerging ecological city and regional economic/institutional center through a coherent, sustainable development framework. The collaborative project goal through the local planning institute is to produce a comprehensive master plan for the provincial capital's development to 500,000 people. The focus is to provide a new long-term, sustainable framework for the city to attain the goals of a Type 1 City—a designation based on quality of life indicators, demographics and economic criteria.

We worked with policy makers to ensure that success of economic development will be measured by the "quality" of the growth, including increased employment and fair distribution of resources. A key step was to develop the institutional and skills capacity in which to implement complex and sophisticated measures for successful economic strategic planning. This strong "institutional fabric" relies on a strong physical "urban fabric", so we worked to ensure that the growing metropolitan area balances growth with environmental protection and best practice sustainable urban design strategies. These included the cooling a regenerated public realm, low-impact waterfront design strategies and integrated urban green infrastructure.

One of the first comprehensive metropolitan plans for a Vietnamese city by foreign consultants, this prototype plan will be used in collaboration with the UN Habitat and the Asia Development Bank to launch a national network of metropolitan plans for other large cities in Vietnam.



City-wide "green and blue fingers" concept



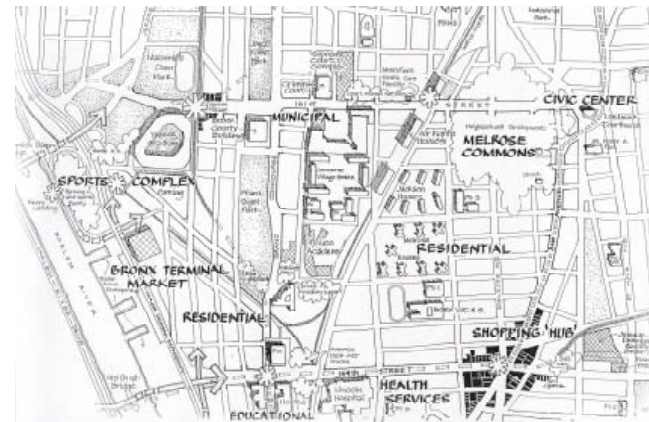
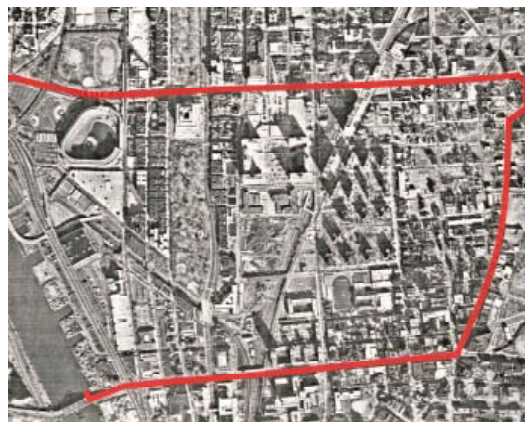
Proposed waterfront district - street orientation to exploit passive cooling



Adaptive reuse of historic citadel



Proposed urban center with Bus Rapid Transit



BRONX CENTER PLAN

**PLANNING + DEVELOPMENT
URBAN DESIGN**

- Housing + jobs proximity
- Schools, services, parks proximity
- Adaptive re-use
- Connected green zones
- Compact development
- Diversity of uses + housing types
- Affordable housing
- Walkable streets
- Open community
- Infrastructure proximity
- Capacity building
- Public Outreach

LOCATION

The Bronx, New York City

AWARD

Best Practice prototype for Human Settlements by UN-Habitat

The Bronx Center project, a collaborative, community based plan to revitalize a severely deteriorated 300 block section of the South Bronx, is unprecedented in method and scope. As a multi-discipline plan, The Bronx Center encompasses a gamut of different projects such as economic development, health and human services, education and culture, housing and transportation.

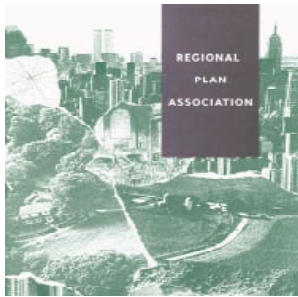
The community-based planning process was steered by a coalition of civic organizations and strong local leadership under Borough President Ferrer, with the aim of creating a permanent political forum.

Project responsibilities were as follows: Develop and administer project objectives that emerge from a participatory process; produce an overall budget and administered the fiscal aspects of the project in coordination with the contributing organizations; oversee the production of briefing books, letters to the community, official reports, and participated in their drafting and editing; lead public meetings and hold public presentations; coordinate and delegate the work of committees, consultants and staff.

Selected as a Best Practice prototype for Human Settlements by United Nations-Habitat. The planning strategies and architectural designs

that emerged from the Bronx Center effort were included in a national urban design show entitled, "Urban Revisions: Current Projects for the Public Realm," which was sponsored by the Museum of Contemporary Art in Los Angeles. The exhibition has been shown in Los Angeles, California; Montreal, Canada; Berkeley, California; and Des Moines, Iowa.

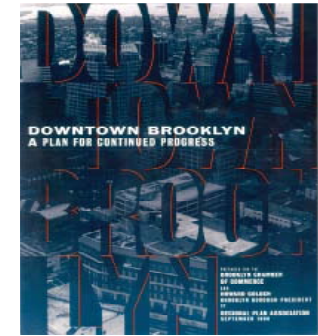




The Regional Plan Assn.
 How its work will affect you and your family in Downtown Brooklyn • How it aims to attract and improve businesses • Increase employment • How to engage in the planning

Speaker: Mr. Jeffrey Raven
 Project Manager for Downtown Brooklyn Development of The Regional Plan Assn.

"Downtown Brooklyn Dynamics: Challenges and Opportunities"



DOWNTOWN BROOKLYN PLAN, REGIONAL PLAN ASSOCIATION, NYC

PLANNING + DEVELOPMENT URBAN DESIGN

- Housing + jobs proximity
- Compact development
- Walkable streets
- Mixed-use developments
- Access to public spaces
- Infrastructure proximity
- Connected green zones
- Community outreach
- Bike-ped access

LOCATION

Brooklyn, New York

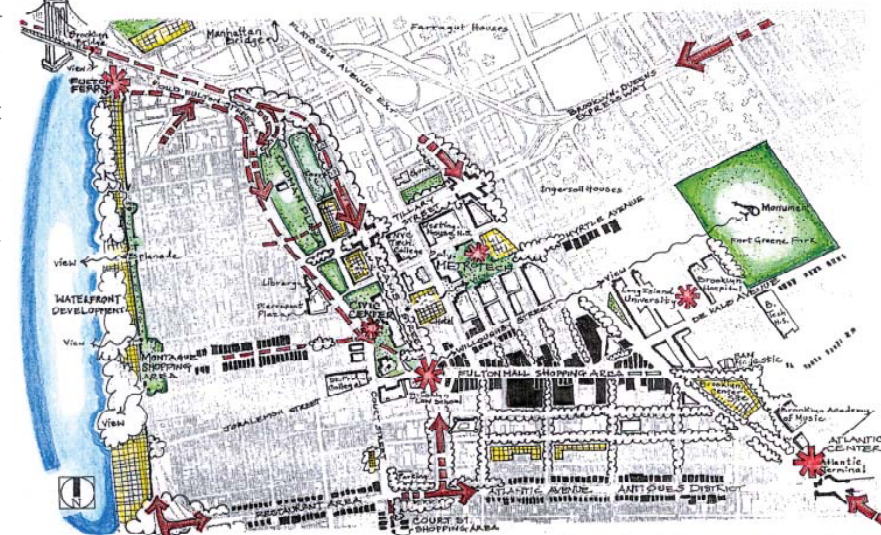
Planning for Downtown Brooklyn as a key initiative within the Regional Plan Association Third Regional Plan for the New York Metropolitan Area Regional Plan due to its potential as a successful urban center. While this CBD with more than a quarter million workers and visitors, serving a population of 2.3 million Brooklyn residents has all the ingredients that a strong downtown needs, its image and assets are fragmented so that the whole is less than the sum of its parts.

Project goals were as follows:

- Strengthen Downtown's overall civic identity through improvement of the public realm—transportation gateways, street character, linkages, vistas;
- Identify development opportunities for vacant and soft sites, and older office buildings;
- Improve links between education, cultural, commercial and transportation assets;
- Propose public/private strategies to foster long-term economic development.

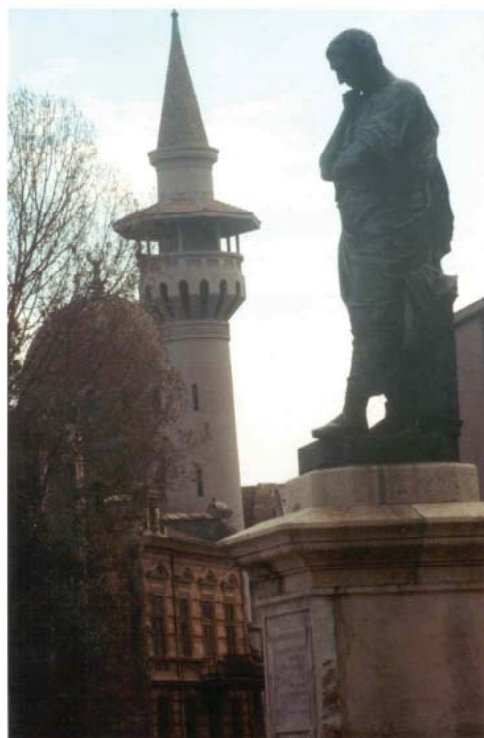
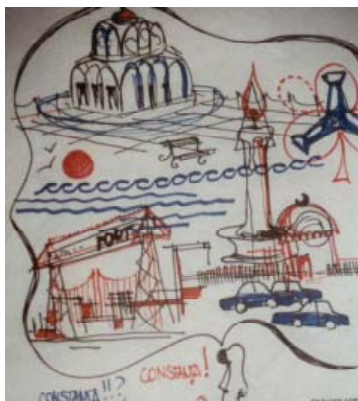
The planning process was a partnership between region-wide civic organization and local leadership to engage key stakeholders in the process. Project responsibilities were as follows:

- Conceive and manage overall planning process, schedule, milestones; oversee project finances; coordinate project with key stakeholders.
- Lead a series of public workshops, make public presentations, represent the project to the press, garner public and financial support for the effort, and initiate academic programs.
- Principal author of project publications and graphicwide leadership.



Completed by Jeffrey Raven, while Director - Downtown Brooklyn Plan, Regional Plan Association

Downtown Brooklyn Analysis (Raven), The Third Regional Plan for the NY-NJ-CT Metropolitan Area



STRATEGIC PLAN + CAPACITY-BUILDING, CONSTANZA, ROMANIA
BALANCING DEVELOPMENT & ENVIRONMENT

Project Co-Director
 Following the collapse of communism, Romania identified an urgent need to develop expertise among key government urban planners and economists to formulate comprehensive urban development strategies in a market-based society. The Soros Foundation, the City of Constanza and a Romanian NGO launched a strategic planning project for the ancient city of Constanza, now Romania’s principal port on the Black Sea.

The project was designed to accomplish two inter-related objectives:
 Provide a practical skill based learning experience for participants, and implement a strategic planning process with the City of Constanza, with emphasis on preservation and development.
 Increase participant knowledge and skills in a strategic approach to urban planning and public decision-making.
 Field test a project manual for use in future workshops and consultancies.
 Facilitate development of action plans, based on a strategic planning process for the City of Constanza and the jurisdictions of organizations represented by workshop participants.



Site View



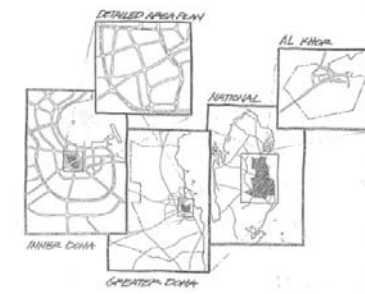
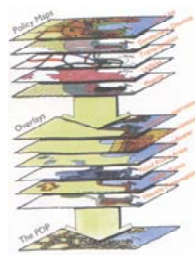
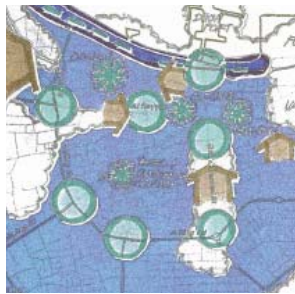
URBAN DESIGN PLANNING + DEVELOPMENT

- Infrastructure Proximity
- Schools, services, parks proximity
- Bike-ped access
- Adaptive re-use
- Connected green zones
- Compact development
- Diversity of uses + housing types
- Affordable housing
- Walkable streets
- Open community
- Capacity-building

LOCATION

Constanza, Romania

Completed by Jeffrey Raven,
 Co-Director Constanza Plan



**URBAN DESIGN
PLANNING + DEVELOPMENT**

- Walkable streets
- GIS-based environmental analysis
- Pedestrian-friendly districts
- Urban infill
- Historic preservation
- Urban heat island mitigation
- Schools, services, parks proximity
- Adaptive re-use
- Connected green zones
- Compact development
- Diversity of uses + housing types
- Infrastructure proximity
- Housing + jobs proximity
- Capacity building

LOCATION
Qatar, UAE

**QATAR PHYSICAL
DEVELOPMENT PLAN
DOHA, QATAR**

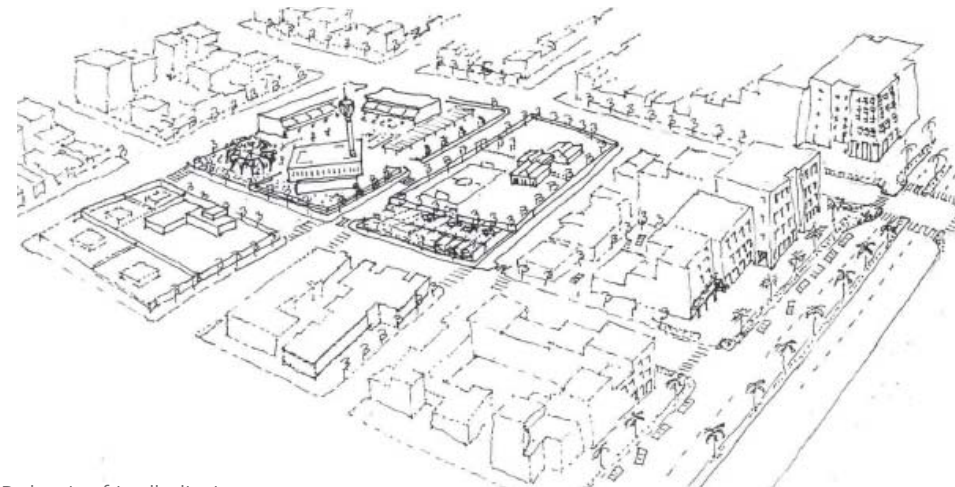
CAPITAL CITY PLAN

The establishment of a comprehensive integrated planning framework through the Geographic Information System (GIS) for the physical development of the State of Qatar, the Capital Region, and the Capital City. Includes economic development, transportation, land use policies, development standards, design guidelines and urban design proposals for key sites.

The GIS-based, state-of-the-art PDP maximizes the search, retrieval and analytic features of the GIS, relying to a large extent on the GIS's ability to link and interrelate spatial, non-spatial and text data within a single planning system. The PDP incorporated six distinct, but inter-related components--current and proposed physical development patterns, land use, community facilities, transportation, utilities and the environment in an interactive framework. The multidisciplinary team included spatial planners, urban designers, economists, transport planners, traffic management specialists, environmentalists, architects and financial planners in a carefully integrated planning process.

The PDP simultaneously addressed the country's physical planning needs at four geographic levels: the National and Regional Physical Development Plan, the Greater Doha

Task Highlights:
Planning process direction, coordination with key government officials; detailed plans for a number of key districts and publish the results; directing workshops for senior staff Transition Team to run the GIS-based plan.



Pedestrian-friendly district center.

Completed by Jeffrey Raven, while Director - Doha Capital City Plan at the Louis Berger Group

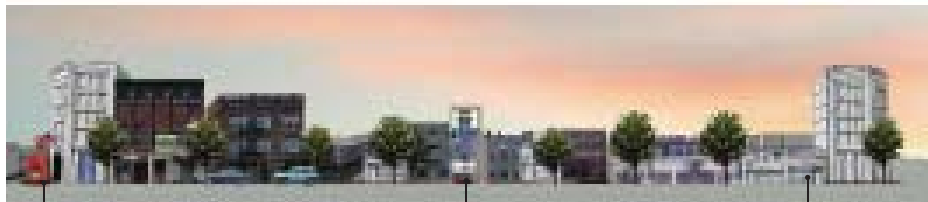
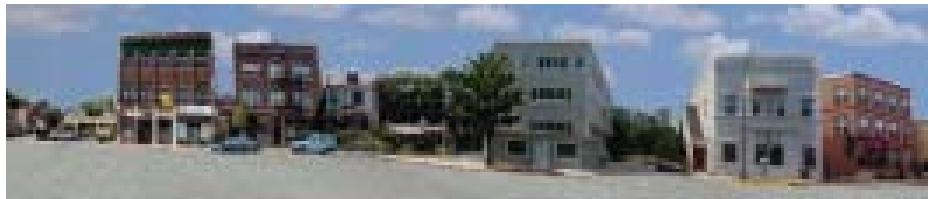


School site - adaptive reuse as community center.

**URBAN DESIGN
PLANNING + DEVELOPMENT**

- Focus development near existing infrastructure
- Increase range of housing options
- Create and enhance a vibrant mix of uses
- Create/enhance open space
- Enhance pedestrian character and access
- Strengthen community character
- Leverage school investment to create new mixed-use activity center
- Share parking within new plaza to strengthen public realm

LOCATION
Montclair, New Jersey



LOCATION
Montclair, NJ

Gateway Office Building + Public Space

Entrance to School and Public Space

Street Front Retail

Before - After Images

**MONTCLAIR REDEVELOPMENT PLAN
MONTCLAIR, NJ**

URBAN REDEVELOPMENT

Montclair is a historic township within the “inner-ring” New York Metropolitan Area.

Public/private strategies to foster long-term, sustainable economic development for district-wide “Areas in Need of Redevelopment”, and design solutions to improve the quality of the built environment and public realm. Once adopted, the plan becomes a legislative ordinance. Urban design responsibilities included directing the multi-disciplinary planning and design process, public presentations, 3-D visualization and design strategies.

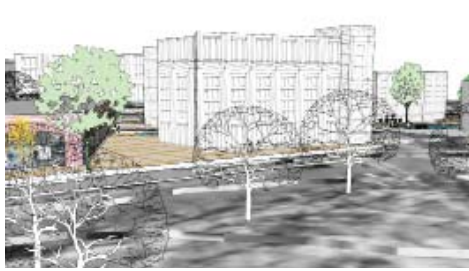
Fostering the concept of School as a “community center” to better link this key civic institution in the life of the neighborhood.

Leveraging new public school investment on Elm Street to stimulate broader neighborhood and commercial rehabilitation.

Establishing incentives for inclusionary housing development compatible with the scale of the neighborhood and marketable to transit users. Parking initiatives such as shared parking, transit-friendly parking requirements.

Zoning/land use ordinance focus on quality, sustainable commercial and residential uses. Sustainable design strategies, including planted shared courtyard over parking and “daylighting” culverted streams in Town Center.

Completed by Jeffrey Raven, urban designer, Berger Group Holdings



TOD - High density housing near rail station.



TOD - High density district near rail station.



Community Athletic field



Permeable Parking + Public Space



Proposed mixed-use parking structure.



Urban design 3D modeling.



Entrance to School and Public Space



Proposed high-density commercial district - Perspective view.



Proposed high-density commercial district - bird eye view.



"Daylight" culverted stream: Urban Plaza.



ECOSYSTEM SERVICES RARITAN, NEW JERSEY

BALANCING DEVELOPMENT & FRAGILE WATERSHED ECOSYSTEMS

Prepared “best practice” sustainable design prototypes for the New Jersey Water Supply Authority that illustrate how to balance watershed protection, economic development and stronger physical connections within the Somerset Regional Center. These goals are promoted at the development site level: to reduce the amount of impervious cover, to increase the natural lands set aside for conservation, and to use pervious areas for more effective storm-water treatment, all while improving local economic opportunity. The final documents include design scenarios, illustrated guidelines, and site uses to provide a model for future watershed protection and economic growth opportunities in the Raritan watershed areas and beyond to the entire state of New Jersey.

GREEN INFRASTRUCTURE

Peer Review for Sustainable Design “Best Practices” High Performance Infrastructure Guidelines, NYC. Department of Design and Construction & Design Trust for Public Space, 2004.

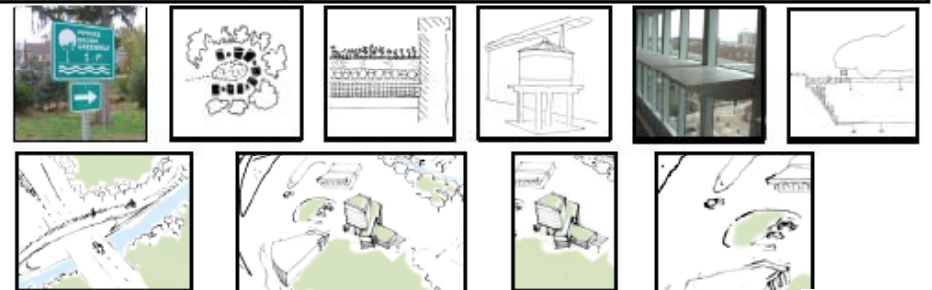
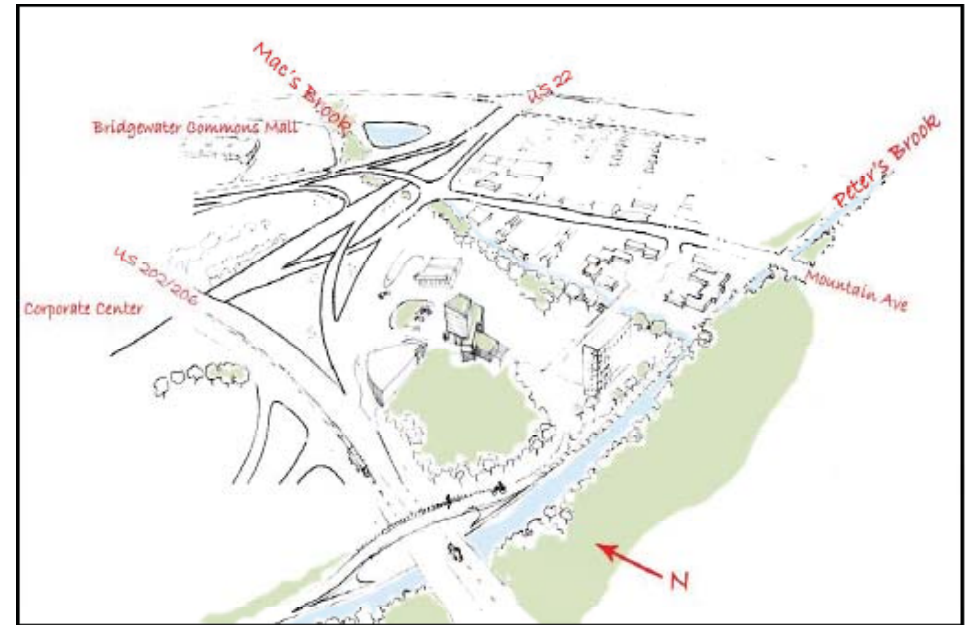
URBAN DESIGN PLANNING + DEVELOPMENT GREEN GUIDELINES

- Watershed protection
- Storm-water treatment & capture
- Bike-ped access
- Permeable pavements
- Urban heat island mitigation

LOCATION Raritan, New Jersey

Completed by Jeffrey Raven, while Director - Sustainability + Urban Design at the Louis Berger Group

Site View





ST. LOUIS COUNTY ENERGY EFFICIENCY AND CONSERVATION STRATEGY

**PLANNING + DEVELOPMENT
TRANSPORTATION
GREEN GUIDELINES + POLICY**

- GHG Reduction
- Urban Land Use
- Economics
- Transportation
- Green Building
- Waste
- Public OutREach

LOCATION

St. Louis County, Missouri

AWARD

Governance Award,
USGBC - St. Louis

Provided technical support to the County of St. Louis, Missouri to create their Energy Efficiency and Conservation Strategy (EECS) required by the U.S. Department of Energy to receive Energy Efficiency and Conservation Block Grant funding (EECBG).

The EECBG Program represents a Presidential priority to deploy the most efficient, cleanest, and most reliable energy sources, energy efficiency and conservation technologies, across the country. The EECBG program is funded for the first time under the American Recovery and Reinvestment Act of 2009, authorized in Title V, Subtitle E of the Energy Independence and Security Act (EISA), signed into law on December 19, 2007. The program is intended to assist U.S. cities, counties, states, territories, and Indian tribes to develop, promote, implement, and manage energy efficiency and conservation projects and programs designed to:

- Reduce fossil fuel emissions
- Reduce the total energy use of the eligible entities
- Improve energy efficiency in the transportation, building, and other appropriate sectors
- Create and retain jobs

The Department of Energy has designated 14 eligible activities for this grant. It is providing strategic elements to obtain and leverage formula and competitive grants that will empower St. Louis County to make effective investments to meet the nation's long-term goals for energy independence and leadership on climate change.

In partnership with ICLEI – Local Governments for Sustainability, our assistance includes crafting the County's long term vision by integrating current strategies with new energy efficiency methods and region-wide concepts. Our role also includes proposing strategic, comprehensive, and long-term county-wide sustainable development goals. We are providing tools and techniques to St. Louis County to establish the impact of specific projects or initiatives. The tools being provided will assist the County in prioritizing projects and initiatives to utilize the grant money more effectively.



Completed by Jeffrey Raven, while Director - Sustainability + Urban Design at the Louis Berger Group



Sustainable Strategies Report Cover

ARCHITECTURE
GREEN GUIDELINES

- Urban Heat Island Mitigation
- Green Infrastructure
- Multi-Nodal Transportation
- Water-Use Reduction
- Multiple Facade Options
- Daylighting
- Displacement Ventilation

LOCATION

Newark Liberty International Airport, New Jersey

NEWARK LIBERTY INTERNATIONAL AIRPORT - TERMINAL A EXPANSION AND MODERNIZATION PROGRAM

GREEN, HIGH-PERFORMANCE AIRPORT TERMINAL PROTOTYPE SUSTAINABILITY SERVICES

The Port Authority of New York & New Jersey assembled a team of experts in architecture, planning, engineering and environmental design with the goal of developing an integrated design process to reduce the environmental impact of Newark's Terminal A Modernization & Expansion Program while simultaneously improving user experience, airport operations, and creating an affordable landmark transportation hub for the 21st century. In addition, the team explored how the project could meet the PANYNJ's aggressive carbon reduction targets, including carbon neutral operations by 2010 through a variety of operational improvements, upstream infrastructure integration, new capital investments, and the purchase of carbon offsets. Based on a thorough understanding of Newark Airport's existing conditions the team developed, tested, and analyzed specific sustainable strategies from a life cycle perspectives and developed client agreement



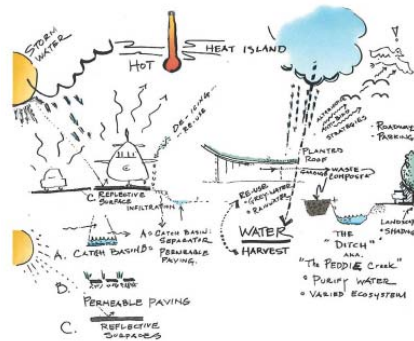
through a series of integrated design workshops. A number of promising high-performance strategies were identified in this process including:

- Identifying upstream infrastructure carbon and energy saving opportunities.
- Developing natural ventilation and mixed-mode conditioning strategies.
- Reducing the overall terminal footprint and associated structure.
- Testing high-performance envelope options to maximize daylight; minimize solar gains and seasonal heat loss.
- Identifying opportunities for water conservation, rainwater harvesting and re-use opportunities for major non-potable consumption.

Completed by Jeffrey Raven, while Director - Sustainability + Urban Design at the Louis Berger Group



Green Airport Concept



Sustainable Feature I



Sustainable Feature II



Sustainable Feature III

**URBAN DESIGN
ARCHITECTURE
ADAPTIVE RE-USE**

- Smart Growth
- Historic Working Waterfront
- Inter-Modal, High-Speed Ferry Linkage
- Waterfront / Wetland Restoration
- Permeable Parking
- Mixed Use Development
- Waterfront Accessibility
- Local Food Production

LOCATION

Middletown, New Jersey

AWARD

- 2009 Planning Merit Award
- Monmouth County Planning Board
- 2009 Achievement in Planning Award
- New Jersey Office of Smart Growth



Site Plan

**BELFORD PORT
REDEVELOPMENT PLAN
MIDDLETOWN, NJ**

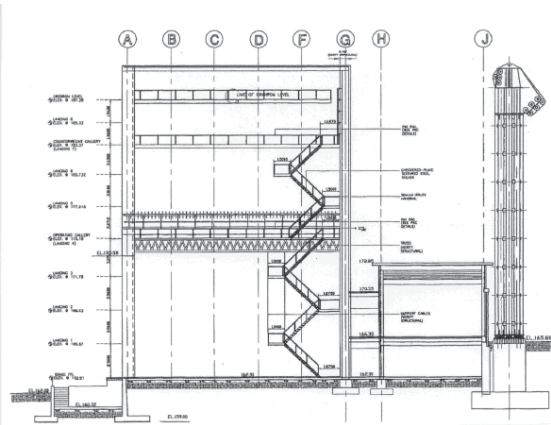
SMART GROWTH PROJECT

Smart Growth grant for revitalizing one of mid-Atlantic's few active, small-vessel fishing ports located along the coast of Sandy Hook / Raritan Bay.

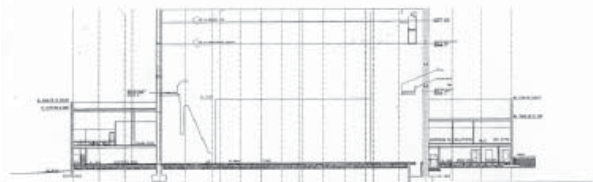
A key terminal for NYC rapid regional commuter ferry service, the strategic plan includes urban design, infrastructure, architecture and economic strategies, for sustainable viability of the fishing industry and stronger linkages to the surrounding community. Received a 2009 Planning Merit Award by the Monmouth County Planning Board and Achievement Award by the New Jersey Office of Smart Growth.

Completed by Jeffrey Raven, while Director - Sustainability + Urban Design at the Louis Berger Group

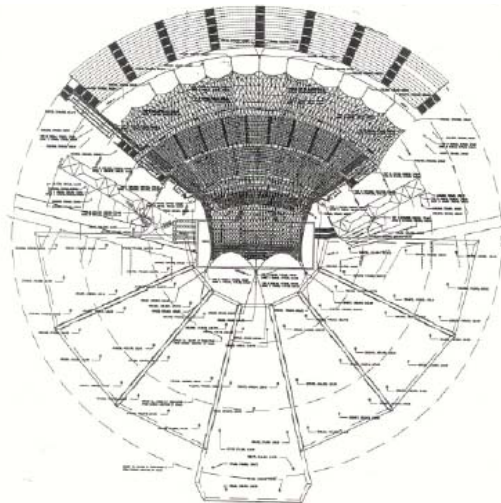




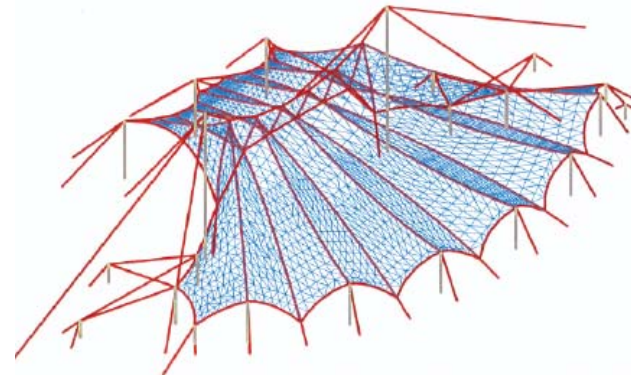
Section



Section



Site Plan



Light-weight tent structure.

Sustainable Urban Design

**FREEDOM RING
THE PHILIPPINES**

ARCHITECTURAL + PLANNING SERVICES

The outdoor amphitheater is one of the largest in Asia, located at the former Clark United States Air Force Base, in the shadows of volcanic Mount Pinatubo. It is the dominant feature of the Philippine Centennial Exposition commemorating the 100th anniversary of the Philippine liberation from Spanish rule.

A radial ring of towers-- remnants of the site's previous use as a Cold War-era listening post--generated the current site plan. The Freedom Ring is a perfect circle whose edges are defined by these towers, and whose center point lies directly at the amphitheater's Center Stage. All other elements (audience chamber, circulation, structural supports) are organized radially out from this point.

The three primary site elements: the landscape, the buildings and the canopy. A rough stone and metallic stage house faces a carved and sculpted volcanic landscape covered by an expanse of light-weight structural forms.

The "Ring" site is 300 meters in diameter, with a capacity of 35,000 people.

**ARCHITECTURE
URBAN DESIGN**

- Light-Weight, Prefabricated Structures
- Urban Heat Island Mitigation
- Permeable Paving
- Local Materials
- Adaptive Reuse

LOCATION

The Philippines

AWARD

NYACE Gold Prize



Completed by Jeffrey Raven, while Project Architect, Berger Group Holdings



Design + Planning Charrettes: Concept Sketches

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