The Economic Development of Riverfront Restoration

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CEO and Principal,
Wright Water Engineers, Inc.
Denver, Colorado

- CEO and Principal of WWE, Celebrating 50 years of Practice in the Rocky Mountain West, and the Nation
- Nationally recognized authority on Water Resources
- EPA Data Base for Stormwater Best Management Practices (BMPs)
- Noted Author
President,

Design Studios West, Inc.

Denver, Colorado

- President and Founding Principal of DSW, Celebrating 31 years of Practice in the Rocky Mountain West, and the Nation

- Nationally recognized authority on River Restoration Master Planning

- Noted Author

Developing Difficult Sites
Solutions For Developers And Builders

Donald H. Brandes, Jr. J. Michael Lucier
Thomas J. Martin, AICP
President,
ConsultEcon, Inc.
Cambridge, Massachusetts

- President and Founding Principal of ConsultEcon, Celebrating over 30 years of Practice in the Nation
- Internationally recognized authority on Riverfront Economic Analysis and Project Feasibility
- Noted Author: Adaptive Use: Development Economics, and The No-Action Alternative
Presentation Outline

1. Technical, Regulatory and Engineering Issues
2. Community Planning and Design Issues and Opportunities
3. Economic Implications of Riverfront Projects
Technical, Regulatory and Engineering Issues

Jonathon E. Jones, P.E.
CEO and Principal
Wright Water Engineers, Inc.
River Revitalization and Restoration in Urban Settings: Common Engineering Considerations

Prepared for Rocky Mountain Land Use Institute
21st Annual Land Use Conference
March 1 and 2, 2012

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Typical Engineering Considerations

1. Public safety
2. Physical and legal water supply and drought planning
3. Beneficial uses, water quality and aquatic life
4. Regulations and permits
5. Floodplain regulation and hazard management
6. Channel types/cross sections and boating
Typical Engineering Considerations

7. Bridge and culvert evaluation and utilities
8. Channel bed seepage
9. Sediment characterization sampling and environmental assessment
10. Operation and maintenance activities and nuisance conditions
11. Construction
12. Costs
Appropriate stream setbacks can prevent the creation of new watershed problems due to erosion.

Reference: City of Austin, Texas
Denver, Colorado
Water Rights and Divertible Flows

Salina, Kansas
Seasonal Analysis
Bracketing of Irrigation Season Stream Flow (1997 to 2009)

Figure D2
Distribution of Discharge Classes
Irrigation Season (June through September)
Smoky Hill River (1997 to 2009)

Notes:
1) Streamflow values presented are based on recorded data and were not manipulated to reflect existing water rights.
2) 1586 total days in data period

Flow in excess of 50 cubic feet per second (cfs)
82% of irrigation season
Groundwater Well Locations
Approaches for Addressing Low-Flow or No-Flow Periods

Denver, Colorado
Water Quality

Salina, Kansas
Water Quality

Beneficial uses:

- Aquatic Life
- Primary contact recreation (class A or B)
- Domestic water supply
- Food procurement
- Industrial water supply
- Groundwater recharge
- Irrigation
- Livestock watering

From the Kansas Department of Health and Environment
Four Mile Run, Arlington, Virginia
Austin Pond/Wetland BMP

Source: Jean Drew, City of Austin, TX
Portland, Oregon
Landscape beds collect and filter roof drainage. Beds have underdrains that drain to drainage swales.

Boulder, Colorado

The parking lot drains to landscaped swales.
Terraces in landscaped areas create a series of small detention basins for infiltration.

Boulder, Colorado
Welcome to the International Stormwater Best Management Practices (BMP) Database project website, which features a database of over 300 BMP studies, performance analysis results, tools for use in BMP performance studies, monitoring guidance and other study-related publications. The overall purpose of the project is to provide scientifically sound information to improve the design, selection and performance of BMPs. Continued population of the database and assessment of its data will ultimately lead to a better understanding of factors influencing BMP performance and help to promote improvements in BMP design, selection and implementation.

The project, which began in 1996 under a cooperative agreement between the American Society of Civil Engineers (ASCE) and the U.S. Environmental Protection Agency (USEPA), now has support and funding from a broad coalition of partners including the Water Environment Research Foundation (WERF), ASCE Environmental and Water Resources Institute (EWRI), USEPA, Federal Highway Administration (FHWA) and the American Public Works Association (APWA), Wright Water Engineers, Inc., and Geosyntec Consultants are the entities maintaining and operating the database clearinghouse and web page, answering questions, conducting analyses of newly submitted BMP data, conducting updated performance evaluations of the overall data set, disseminating project findings, and expanding the database to include other approaches such as Low Impact Development techniques. The database itself is downloadable to any individual or organization that would like to conduct its own assessments.

What Type of User Are You? Let us help you enter our website to find the level of detail you need:

- **Low-Intensity**
  - Get Basic Performance Summary Information for BMPs
  - Typical Users: Public officials, casual users, those seeking quick/fast answers

- **Mid-Intensity**
  - Get Detailed Statistical Analysis for Individual BMPs
  - Typical Users: Consultants, Public Works Staff, Designers

- **Researcher**
  - Download the Master Database to Conduct Independent Research
  - Typical Users: University Professors

- **Data Provider**
  - Obtain Data Entry Spreadsheets
  - Typical Users: Public agencies, consulting firms, university researchers

- **New to BMP Monitoring**
  - Obtain Monitoring Guidance
  - Typical Users: Public agencies, consulting firms, university researchers
The Vision, Guiding Principles and Elements of the Copper Mountain Master Plan

Intrust is committed to resort development based on clear and understandable principles and guidelines which are fundamental to great mountain ski resorts throughout the world.

Creating a Sense of Discovery.
Multiple walking routes, places, events, and shops will intrigue visitors and invite discovery. Unique to the pedestrian Village are the opportunities to find special outdoor places, surprising views, unusual patches of wildlfe, and favorite small shops.

Sun:
All major pedestrian areas are oriented to maximize sunlight during the busiest period of use. Buildings were located to help define and shelter these sunny outdoor places, dining terraces, and walkway areas. Sheltered sunny places throughout the Village, particularly in cooler months, are the places that promote social activities, people watching, and comfortable places to encourage people to sit and stay awhile.

Landscape:
An extensive program of tree planting will introduce clusters of forest trees into the development areas. The re-introduction of the forest landscape will dramatically enhance the environment and scale of Copper Mountain. The use of native trees and shrubs, seasonal flowers, large boulders, and native timbers will create a natural connection to the surrounding landscape and an ever changing seasonal character.

Use of buildings to define spaces.
New buildings in the Village core will introduce variety in building height and character. Ends of buildings will often step down in height to achieve a favorable scale relationship with pedestrian spaces and the adjacent landscape.

Variety and Interest.
The new pedestrian walkways will be enriched with colorful signs, attractive storefronts, lighting, and banners which will focus attention on the ground floor level of all buildings.

Views:
Important mountain views determined the new building placement. Pedestrian lanes were then oriented along view corridors and buildings are used to frame views up the slopes and within the valley.

Pedestrian Orientation:
In the new Village at Copper Mountain, vehicles and parking are kept to the Village perimeter or park underground so that the Village focus is on people activities rather than cars. New primary pedestrian streets will be lined with shops and restaurants.

Public Spaces:
Multiple walking routes within the Village will connect new places and gathering places of varying sizes. These will support a variety of seasonal events, celebrations, programs, and cultural activities.
Copper Mountain Resort, Colorado
Monitoring Locations

Upstream of Copper

Above Wheeler Gulch

Copper Mountain Resort, Colorado
Potential 404 Regulation Features
Denver Metro Area, Colorado
CONCEPTUAL MAP OF CHERRY CREEK AND ASSOCIATED RIPARIAN COMMUNITIES
CITY OF GLENDALE, DENVER COUNTY, COLORADO

Legend

- Cherry Creek
- Mosaic of Wetland Communities
- Coyote Willow Association (Potential Wetland)
- Mosaic of Forested Riparian and Wetland Area
- Cottonwood/Brome Association (Upland)
- Forested Riparian Zone (Upland)
- Sparse Vegetation (Upland)

Identified Larger Trees
- Willows
- Elms
- Cottonwoods

NOTES:

- All contours were provided by Design Studios West
- The areas identified on this map are preliminary and are based on survey fieldwork, topography, and aerial imagery. Further investigation will be required in order to collect data to establish boundaries that can be submitted to the U.S. Army Corps of Engineers for their concurrence.

PROJECT NO.
091-051.000

Riparian Communities
Storm Drain Outfalls into Old River Channel
Smoky Hill River, Salina, Kansas
Trailers on James River near Springfield, Missouri
March 19, 2008

Picture taken Wednesday, March 19, 2008, about 2:00 p.m. by Josh Martin
JORDAN BOTTOMS SWEPT BY FLOODS

Damage To Property Expected To Reach $500,000.

LOSS OF LIFE MAY BE HEAVY

Houses Are Swept Away And Basements of Business Houses Are Flooded By Raging Torrents Which Sweeps Through Bottoms

A rain storm, accompanied by its fury in Missouri, struck the city last night and it is believed that the loss of life here will be heavy, although it was reported this morning to verify the wild rumors afloat, and it is known that the damage to property will reach into the hundreds of thousands of dollars.

The estimated $500,000 damage to the various businesses in the Jordan valley, including Jefferson and Main in Conservo and if it is believed the cost will run far above this amount.

The navy has been asked to the Wholesale loss and commodity men. The Springfield paper company lost $125,000 worth and

Springfield (Missouri) Republican,
July 8, 1909
CONCEPTUAL MAP OF CHERRY CREEK AND FEMA FIRM MAP
CITY OF GLENDALE, DENVER COUNTY, COLORADO

FEMA FIRM Map
Tulsa, Oklahoma
Arkansas River near Garden City, Kansas
San Antonio, Texas
Channel Types

Concept Section for Smoky Hill River Channel, Salina, Kansas

Source: Design Studios West
Denver, Colorado
Park-side Channel

Central Reach park settings

Concept Section for Smoky Hill River Channel, Salina, Kansas

Source: Design Studios West
Denver, Colorado
Concrete Channel with Riverwalk  Central / Urban

Concept Section for Smoky Hill River Channel, Salina, Kansas

Source: Design Studios West
Denver, Colorado
Sediment Deposits in Old Smoky Hill River Channel

Salina, Kansas
WRIGHT WATER ENGINEERS, INC.
2490 W. 26TH AVE. 100A
DENVER, CO 80211
(303)480-1700

SMOKY HILL RIVER RENEWAL
SEDIMENTATION BASIN
AND RIVER INTAKE

DESIGN: KRW/PKF
DETAIL: KAL
CHECK: JED
DATE: 08/02/10
SCALE: 1"=100'
Soil Samples Collected about 25ft North of Cottonwood Study Plot

2-inch dia. Cores, from 4 -24ft

2-inch dia. Cores, from 34 -59ft

Salina, Kansas
Trash Removal

Trash Barge, San Antonio, Texas

Use of screens, racks, booms, and comparable devices can be placed in the channel itself to capture trash or route (direct) it to a particular location where it can be cleaned up.

Courtesy of Joseph E. Cruz, Downtown Operations Superintendent
City of San Antonio, Texas
Construction

Historic Arkansas Riverwalk of Pueblo, Colorado
Community Planning and Design Issues and Opportunities

Donald H. Brandes, Jr., RLA
President
Design Studios West, Inc.
“Here is a land where life is written in Water...”
Thomas Hornsby Ferril, Colorado Poet Laureate, 1940
Rural Agricultural Settlement
Towns & Cities
Recreation & Leisure
Public Safety
Flood Control
Multi-Purpose Restoration
Planning & Design Considerations

1. Community Benefits
2. Public Engagement Process
3. Demonstrated Economic Value
1. Community Benefits of River Restoration Projects

- Economic
- Recreational
- Community and Neighborhood
- Environmental
- Educational
Economic

- Public/Private investment opportunities
- Retail/Commercial
- Joint partnership
- Increase real property values
- Enhance economic development and tourism
Recreational

- Provide for hiking, strolling, biking and other community-wide recreational activities
- Provide close-to-home/work access to greater proportions of the population than traditional parks
- Promote Charlotte-Mecklenburg as an active and health-conscious community.
Community and Neighborhoods

- Connect and link people to adjacent neighborhoods, landmarks and activity centers.
- Increase pedestrian-oriented accessibility.
- Provide alternative transportation routes by providing bicycling and pedestrian facilities.
- Increase residential safety and property values.
- Greenways as Neighborhood Watch program.
Environmental

- Improve water quality by buffering streams and trapping pollutants.
- Preserve wildlife habitats and biodiversity.
- Provide refuge and safe migration routes for wildlife.
- Reduce flood damage.
- Reduce traffic congestion & promote clean air.
- Provide important open space resources.
Educational

- Promote a Greenway link to schools, cultural, civic and religious centers.
- Create natural, interpretative trails, outdoor amphitheatres and open-air studios.
- Provide environmental awareness & education programs to community schools.
2. Community Engagement Process

Traditional Approach:

- ‘Expert’ Lectures
- One-way communication
- Limited choices
- Adjacent owners only
- Scheduled at convenience of Consultant
2. Community Engagement Process

Engagement Approach:

- Participatory
- Discussion – oriented
- Multiple choices
- Multi-generational
- Scheduled to be convenient for Public
Committees organized to prepare Goals, Objectives, Uses tailored to Community needs...
Goals, Objectives and Use Images

Economic Development Committee

Goals:
- Encourage public and private renewal and new development that will create an amenity migration to places where people want to work, live and to visit.

Objective 1:
- To improve the Old Channel of the Smoky Hill River as an Economic catalyst for public and private development that will benefit the entire community.
  - Increase the legal and physical supply of water in the Old Channel.
  - Establish and sustain a water supply infrastructure for the entire community.

Objective 2:
- To enhance the quality of life with revitalization of the seven miles of Old Channel in the project area.
  - Join the Old Channel community of the Smoky Hill River in the project area.
  - Establish the Old Channel as a means of building community character.
  - Establish the Old Channel as a natural habitat for wildlife.

Objective 3:
- To use the Smoky Hill River Renewal as a stimulus for revitalization and development.
  - Create retail business areas facing the Old Channel including restaurants and cafes.
  - Develop a northside business office park to include light industrial enterprises.
  - Build a new office park adjacent to the Old Channel.
  - Develop a riverside convention hotel on the Old Channel.

Plains share your ideas:
- with volunteers
- using our Comment Sheet, or
- by completing our Questionnaire

Uses and Activities - Economic Development
Smoky Hill River Restoration  Salina, Kansas
March 2, 2019
POTENTIAL USES & ACTIVITIES

1. Amphitheater
2. Downtown Riverwalk
3. Seasonal Signage
4. Plaza with Special Paving
5. Performance Shelter
6. Fish Pond Area
7. Pedestrian River Crossing
8. Flexible Seating Types
9. Quiet Overlook Area
10. Riverside Dining
11. Wetland Area with Trail
12. Enhanced River Areas
13. Civic Events Plaza
14. Colorful Festive Atmosphere
15. Seasonal Plantings

Prepared for the City of Sioux Falls
Prepared by Design Studios West, Inc.
November 2003
Five Days of Engagement Events

Smoky Hill River Festival
June 12, 13, 14th

Stiefel Theater
June 19th
7:00 am – 7:00pm

Central Mall
June 20th
7:00 am – 9:00 pm
Smoky Hill River Festival
Outreach Response

✓ Over 3,500 Estimated Attendance
✓ 2,753 Data Inputs Mapped
✓ 330 Questionnaires Completed
Central - Top Ten

1. Riverwalk
2. Riverside Restaurant
3. Waterside Dining
4. Festive night life
5. Riverside café
6. Riverside Entertainment
7. Multi-level retail
8. Commuter Bike Trail
9. Excursion Boats
10. Monumental Water Feature
Central Zone is a place of:

1. **Urban uses** - On, and around an active, urban Riverfront with multiple-levels

2. **Downtown extension** - Urban uses clustered between Downtown and the River from Center Street to Ash Street

3. **Festive Activity** - Evening and Night time use, as well as daytime activity

4. **Economic Activity** – With restaurants, cafes, and other waterside dining, as well as multi-level shops, riverside hotel and retail uses

5. **Water-related Activities** - With excursion boats, paddleboats and canoes on the water
The thing I cherish most:

“...proximity to downtown and possibilities for future economic development”

“...a potential touch point for all the community to come together”

...”History”

...”the falls behind the Community Theater”

...”it could be the life force of our community”

...enormous potential to improve life in Salina in so many ways...

“it has a mysterious, inviting shade, cool quality”
Over 90% of respondents Agree, or Strongly Agree that the River Renewal is a good idea and should be continued.
Kenwood Park East Gateway
Smoky Hill River Renewal Master Plan  Salina, Kansas
Master Plan Engagement Response

- 2,150 – 2,500 Attendance
- Three (3) days of interaction
- 465 Questionnaires Completed
Questionnaires & Comments

- Demographics
- Preferences
- Use Patterns
- Funding Alternatives
- Level of Support
Over 90% of respondents Agree, or Strongly Agree

...that they support funding sources including a combination of private donations, grants and local sales taxes
3. Demonstrated Economic Value

Case Studies:

1. Big Thompson River
   Estes Park, Colorado

2. Little Sugar Creek
   Charlotte, North Carolina

3. Big Sioux River
   Sioux Falls, South Dakota

4. Historic Arkansas Riverwalk of Pueblo
   Pueblo, Colorado
Estes Park Downtown & Riverfront

Big Thompson & Fall Rivers
Estes Park, Colorado
Project Highlights

- National Park Gateway Tourism
- Downtown Streetscape & Wayfinding
- Riverfront Business
- Community Image & Destination Identity
ESTES PARK RIVERFRONT DESIGN MASTER PLAN
TOWN OF ESTES PARK, COLORADO
EPURA Capital Investment and Combined Tax Revenue 1983-2007
# Capital Investment History and Combined Tax Revenue

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<td>187,181</td>
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<td><strong>$20,133,910</strong></td>
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Current Status

✓ 26 Projects competed – $20 M invested
✓ Return on Investment (ROI) - $50 M revenue
Awards

American Society of Landscape Architects

2007 Land Stewardship Award

presented by the
Colorado Chapter
Estes Park Riverwalk

in recognition of outstanding professional achievement
Design Studios West, Inc.

2007 President’s Award of Excellence
For Design

presented by the
Colorado Chapter
Estes Park Riverwalk

Design Studios West, Inc.

Chapter President
Date: 10/19/07
Riverfront Master Plan
Little Sugar Creek
Charlotte, North Carolina
Project Highlights

- 14 mile Greenway Riverfront Master Plan
- Channel ‘daylighting’ reclamation of Creek
- College and Hospital Institutional Anchors
- Shopping Mall redeveloped as Mixed Use
- Water Quality / Wetlands restoration
Master Plan

Little Sugar Creek
GREENWAY MASTER PLAN

A tool for development for a 13-mile trail system along Little Sugar Creek.

LandDesign
Greenway Riverfront Reaches and Components
CPCC Culinary Arts Center

$12.4 M  30,612 Sq. Ft.
50 Seat Amphitheater Kitchen
60 & 32 Seat Dining Rooms
CPCC Culinary Arts Center

Little Sugar Creek Greenway & Trail Frontage
Bioretention Rain Gardens
30k Gallon Rainwater Harvest Irrigation Storage
CPCC to Morehead Street

Midtown Mall Site
The Metropolitan
Mid-Town Mall / Metropolitan Site

Before (2002)  
Mid-Town Mall

After (2009)  
The Metropolitan
The Metropolitan Mixed-Use

- Charlotte Mecklenberg has invested $6.9M City Infrastructure & Parking Garage
- Since 2004, Pappas Properties (local) in association with Collette & Associates and Colonial Properties Trust has invested $225M in Phase One Construction
The Metropolitan along Little Sugar Creek Greenway
The Metropolitan Mixed-Use

Residential
- 60 Met Lofts, (Flats and 2-Story Lofts)
- 41 Met Terrace Condos
  (Overlooking Little Sugar Creek)

Office
- Met Plaza 10-Story, Class A, Office Tower
- Carolinas Healthcare System (Corporate), AON Insurance, Cherry Bekaert & Holland, New Dominion Bank
The Metropolitan Mixed-Use

Retail

- Target (Upper Level)
- Best Buy (Lower Level)
- Trader Joe’s
- Marshall’s
- West Elm
- Retail Shops
- Restaurants
CPCC to Morehead Street

Carolinas Healthcare System Campus

Kings Drive
Esplanade
Kings Drive Esplanade

Before (2002)

During Construction (2009)
Current Status

✓ Kings Drive and CPCC Channel completed
✓ Midtown Reach dedication April 2012
Project Highlights

- 26.2 Mile Greenway Master Plan
- Downtown riverfront under-utilized
- Business community initiated
Zone 1

Downtown Riverfront
Zone 1 Before

Pedestrian Crossing and Riverfront Improvement
Zone 1 - After

Pedestrian Crossing and Riverfront Improvement
Zone 1 Before

Safe Access to River Edge
Zone 1 - After

Safe Access to River Edge
Cherapa Place

Cherapa Place
- 120k Sq. Ft.
- USGBC LEED Certified

Country Inn & Suites
- 72 Guest Rooms
- Riverfront Meeting Rooms

Cherapa Tenants
- CoreTrust Bank
- Sanford Health Plan
- Great Plains Brokerage
- TLC Advantage
- Human Engineering Solutions
- Morgan Stanley
- 605 Magazine
- Howalt-McDowell Insurance
- RAS
- Insurance Alternatives
Phase 1 – East Bank and Riverwalk Construction
Current Status

- Two phases of construction near completion
- 2011 Grant for $1.9 M for further phases
Historic Arkansas Riverwalk of Pueblo

Arkansas River
Pueblo, Colorado
The Flood of 1921
Arkansas River Channel

Remnant flows retained for Power plant

Post-1921 Flood Arkansas River relocation South of Historic Pueblo

35' Concrete Levee

Piped Flow

Downtown Historic

Fountain Creek
Arkansas River Channel

1994 - Proposed
Arkansas River reintroduction to Historic Pueblo
‘Historic Arkansas Riverwalk of Pueblo’ (HARP)
1995 Proposed HARP District

Channel overlaid on existing Aerial Photo looking West
River rolls!
Puebloans vote yes on HARP

By JUAN ESPINOSA
The Pueblo Chieftain

It was a big night, but it looks like Pueblo will have its downtown riverwalk after all. Voters narrowly approved the $12.85 million Historic Arkansas Riverwalk Project on Tuesday's election. The final vote was 11,911 in favor, 1,141 against.

By the time the final votes were tallied, HARP supporters knew they had dodged a bullet. Early indications were that the proposal would lose by a close margin for the first time in Pueblo's history. When the results came in, the "yes" vote started pulling ahead, and dancing in the streets of the Pueblo County Courthouse.

"It was a terrible night — what a tough one," said Pat Kelly, who chaired the HARP Campaign. The vote was an example of Pueblo's newfound momentum.

"Now it's the time to do it," he said. "Pueblo's on the move right now. You can go anywhere in the state and people ask, 'What's going on in Pueblo?' What are you doing down there?"

"We're getting the half-cent sales tax for development and we're getting HARP," Dennis said. "Puebloans are saying, 'We've got to do it for ourselves.'"

In supporting HARP, voters approved an annual expenditure of $61.1 million for 30 years to retire a $12.85 million bond issue that would finance most of the public portion of HARP. That $1.1 million is above what the city

Please see HARP, Page 2A

ISSUES

Sales tax passes
Pueblo West to get
Library mill

Pueblo on the move

- Riverwalk
- Pueblo West high school
- 1/2-cent sales tax
- Library improvements
Current Status

✓ $32M of construction
✓ $165M new public/private investment
✓ 2011 State Regional Tourism Zone Grant application to expand:
  • Convention,
  • Hotel,
  • Entertainment facilities
  • and Riverwalk Channel Extension
LEGEND
Existing
1. HARP Riverwalk Visitors Center
2. Union Avenue Historic District
3. Southeast Colorado Heritage Center
4. Arkansas River Whitewater Park
5. Rawlings Public Library
6. Professional Bull Riders (PBR) World Headquarters
7. El Pueblo Museum
8. Pueblo Plaza Ice Arena
9. Buell Children's Museum
10. Sangre de Cristo Arts Center
11. Pueblo Convention Center
12. City Hall
13. Main Street Parking Garage
14. Congressional Medal of Honor Memorial Plaza *
15. Veteran's Bridge *
16. Center for American Values *
17. Founders Plaza *
18. Hotel
19. Memorial Hall Theater

Proposed
20. HARP Grand Canal
21. Gateway Park Welcome Center
22. Exhibition Hall
23. Heritage Plaza Event Space
24. PBR Multi-Sports Complex
25. Regional Aquatics Center and Indoor Water Park
26. Mixed Use Hotel Development
27. Mixed Use Commercial Development
28. Zebulon Pike National Historic Trail Visitor Center *
29. Woodrow Wilson Commemorative Plaza *
30. Parking Structure

* Denotes stop on Walk of Valor

HARP Channel Extension Charrette
Preliminary Plan
October 10, 2011

LEGEND
- Proposed
- Existing
Awards

American Society of Landscape Architects

2010 Merit Award
Historic Arkansas Riverwalk of Pueblo

presented by the
Colorado Chapter

in recognition of outstanding professional achievement

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[Signature]

Chapter President

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Date
Economic Implications of Riverfront Projects

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Who We Are

- ConsultEcon is a management and economic consulting firm founded in 1991, located in Cambridge, Massachusetts. We provide services to a wide range of clients both domestically and internationally.

- Thomas J. Martin is the President and Founder of ConsultEcon, Inc.
Outline of Presentation

1. Importance of Economic Analysis in Planning, Design and Project Implementation
2. Types of Economic Impacts
3. The Role of Water and Case Studies
1. Importance of Economic Analysis in Planning, Design and Project Implementation

- Project Feasibility
  - Cost/benefit
  - NPV
- Project Business Planning
  - ROI
  - NPV
- Project Economic Impact
- Techniques
  - RIMS Modeling
  - Input-Output Models
  - Money Generation Model
2. Types of Economic Impacts

- Economic Impacts are affects on the level of economic activity in a given area.
  - Jobs
  - Personal income
  - Business outputs (sales)
  - Value added
  - Wealth (including property values)

- Defining the geographic area of the impacts is crucial to any impacts
2. Types of Economic Impacts

• Direct Impact
  – Economic activity created by/at Project.

• Indirect Impact
  – Economic activity experienced by businesses (and government) as a result of purchases made by employees, visitors.

• Induced Impact
  – Economic activity created as a result of employment and spending
2. Types of Economic Impacts

Diagram of Economic Impacts Process

Initial Direct Net New Spending (Value Added Portion)
- Facility Operations
- Visitor Spending Outside of Project

Indirect Impacts
Suppliers and Vendors
- Respond some of their receipts for goods and services supplied by local, regional economy

Induced Impacts
Personnel Directly Supported by the New Spending
- Respond some of their wages in the local, regional economy

Subsequent rounds of spending by businesses for goods and services

Each successive round of spending is a smaller percent of the initial expenditure

Indirect impacts equal the value added of subsequent rounds of responding

Induced impacts equal value added of subsequent rounds of responding

Total Impacts Equal the Value Added Initial Expenditure Plus Indirect and Induced Impacts
3. The Role of Water in the West

- The availability and use of water has been a defining issue in the American west.
- Water in the west is often a scarce resource.
- People are drawn to the water and the land/water interface has been an important location for economic development.
3. The Role of Water in the West

- One of the first projects to harness this relationship was the development of the Riverwalk in San Antonio, Texas, starting in 1937, with the creation of the San Antonio River Authority.

- A special tax in 1938 leveraged WPA funds to start the project.

- The economic impact is in the billions of dollars.
3. Case Studies

• Trinity River, Texas
  The Wilderness in the City
• Las Vegas Springs, Las Vegas, NV
  Celebrating Water
• Rio Salado, Phoenix, AZ
  Creating Water in the City
• Rio Nuevo, Tucson, AZ
  Revitalizing the City Center
3. Trinity River, Texas
The Wilderness in The City

A project within the Dallas – Ft. Worth Metroplex.
- Flood Control
- Recreation
- Transportation
- Economic Development

In Dallas alone over 10,000 acres, creating the largest urban park in the U.S.

Reportedly the largest urban bottom land in the world at 6,000 acres – Great Trinity Forest.

Audubon Nature Center

Three Calatrava bridges

Equestrian Center
3. Trinity River, Texas
The Wilderness in The City
3. Trinity River, Texas
The Great Trinity Forest
3. Las Vegas Springs, NV
Celebrating Water

- A 100 acre site, location of the natural spring that was the basis for the settlement of Las Vegas

- Redeveloped by the Las Vegas Water District to focus on issues of water use, recreation, conservation and economic development.
3. Rio Salado, AZ
Creating Water in the City

- The organizing feature of the Phoenix metropolitan area
- Dry most of the year, but subject to flooding
- Extensive floodable park lands and associated redevelopment
- Town lake developed in Tempe as part of this overall plan
3. Rio Nuevo, AZ
Revitalizing the City Center

- Like Phoenix, an organizing feature of the Valley – traditionally used as a dumping ground

- Santa Cruz River rises in the U.S., flows south into Mexico and then back north into the U.S.
3. Rio Nuevo, AZ
Revitalizing the City Center

- Redevelopment Plans focusing on the “greening” of the Santa Cruz River corridor and clustering of civic uses
- Origins Park & Heritage Gardens
- Science Center
- State History Museum
- Recreated Convento/Presidio
3. Rio Nuevo, AZ
Revitalizing the City Center
Thank you...