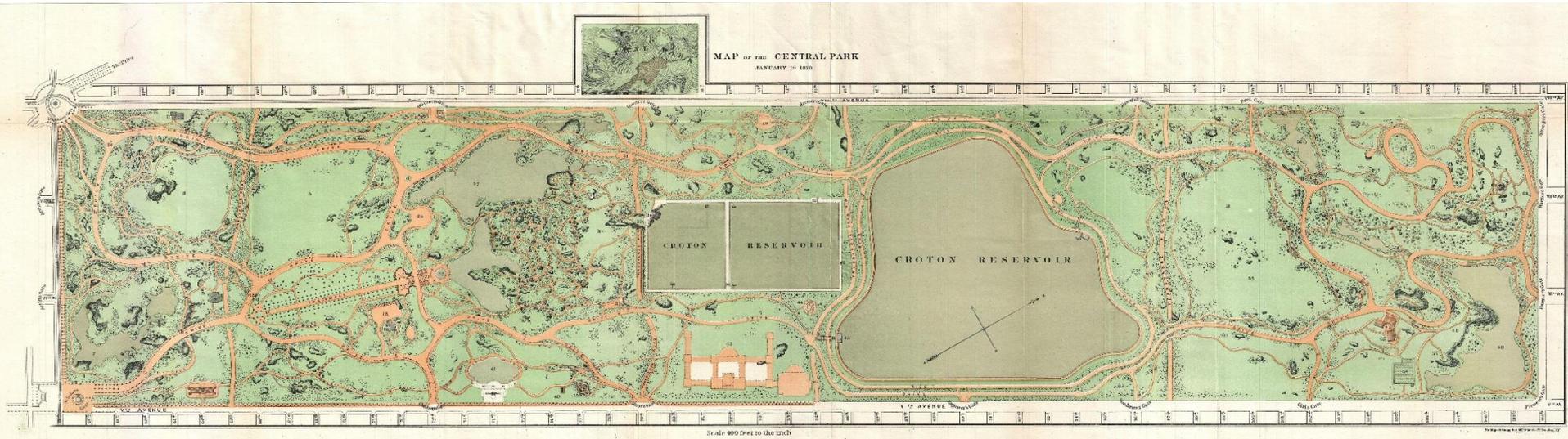


How can landscape architects aide in transportation planning process?

John Dempsey, PLA
Toole Design Group
July 24, 2015



What is Landscape Architecture?



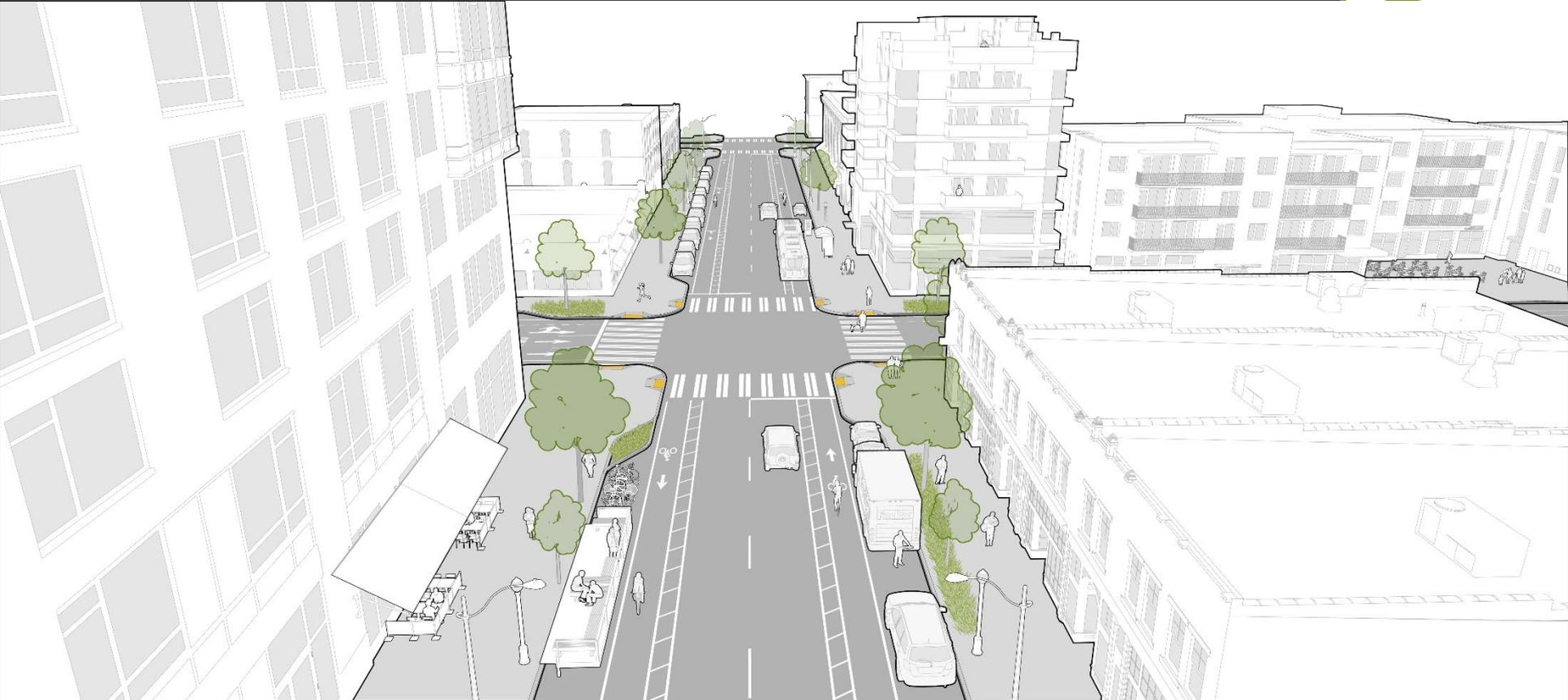
Landscape Architecture 1863



The Mall, Central Park, New York.

25883

What is Landscape Architecture?



Landscape architecture is the design of space to achieve environmental, social-behavioral and aesthetic balance.

Common Misconceptions



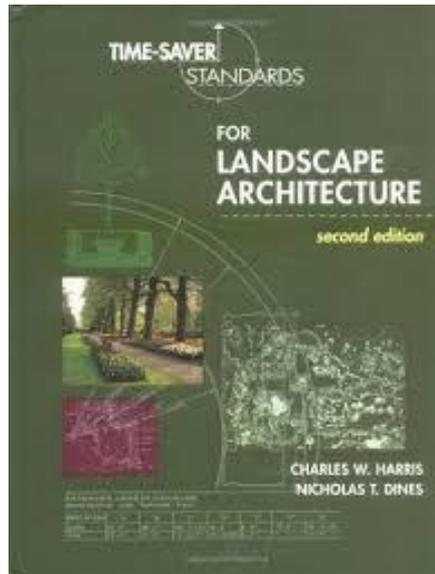
- Gardeners or landscapers
- Landscape design is for decoration
- It's only a summer job
- Tree huggers

Landscape Architect Skill Set



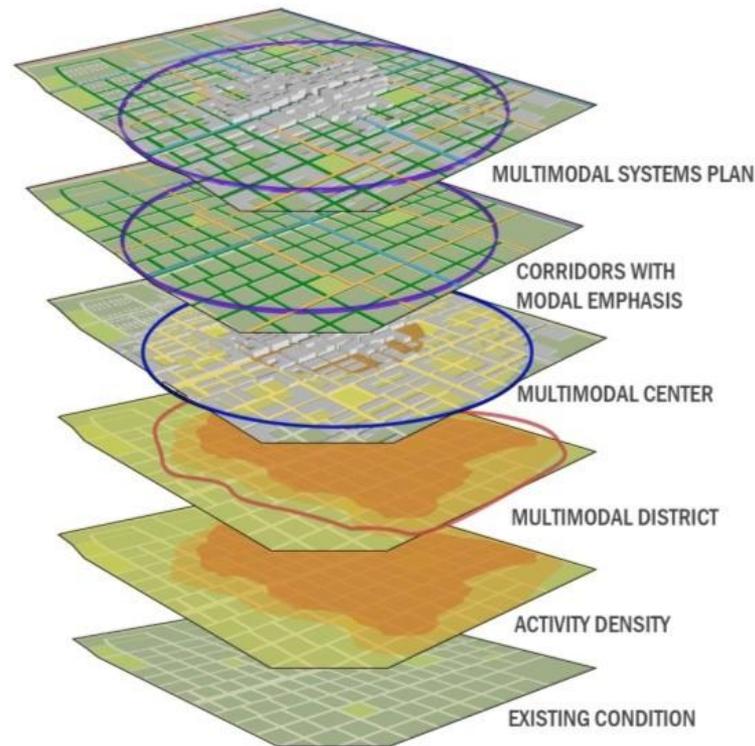
- Sensitivity to landscape quality
- Understanding of the arts and a humanistic approach to design
- Ability to analyze problems in terms of design and physical form
- Skills in all aspects of professional practice including management and professional ethics
- Keep the design process in mind- conceptualize, plan, develop, construct, and evolve

Landscape Architecture Specialty Disciplines



- Urban design/planning
- Site planning
- Stormwater management
- Environmental restoration
- Parks and Recreation planning
- Visual resource management
- Green infrastructure
- Private estate/residence design
- Landscape master planning & design

Transportation Planning



Transportation planning deals with the evaluation, assessment, design and siting of sidewalk, bicycle, roadway and public transit facilities.

Transportation for All



- National Complete Streets Coalition
- Safe Routes to Schools National Partnership
- National Recreation and Parks Association
- Surface Transportation Policy Project
- Transportation for America
- Partnership for Active Transportation

Landscape Architecture & Transportation



- Transportation infrastructure accounts for 20-40% urban land
- Approximately 19,000 miles of abandoned railway in US
- Countless underpasses and waterways



Streets define the character of neighborhoods and are the common ground where people travel, meet and do business on a daily basis.



Complete Streets



Complete Streets

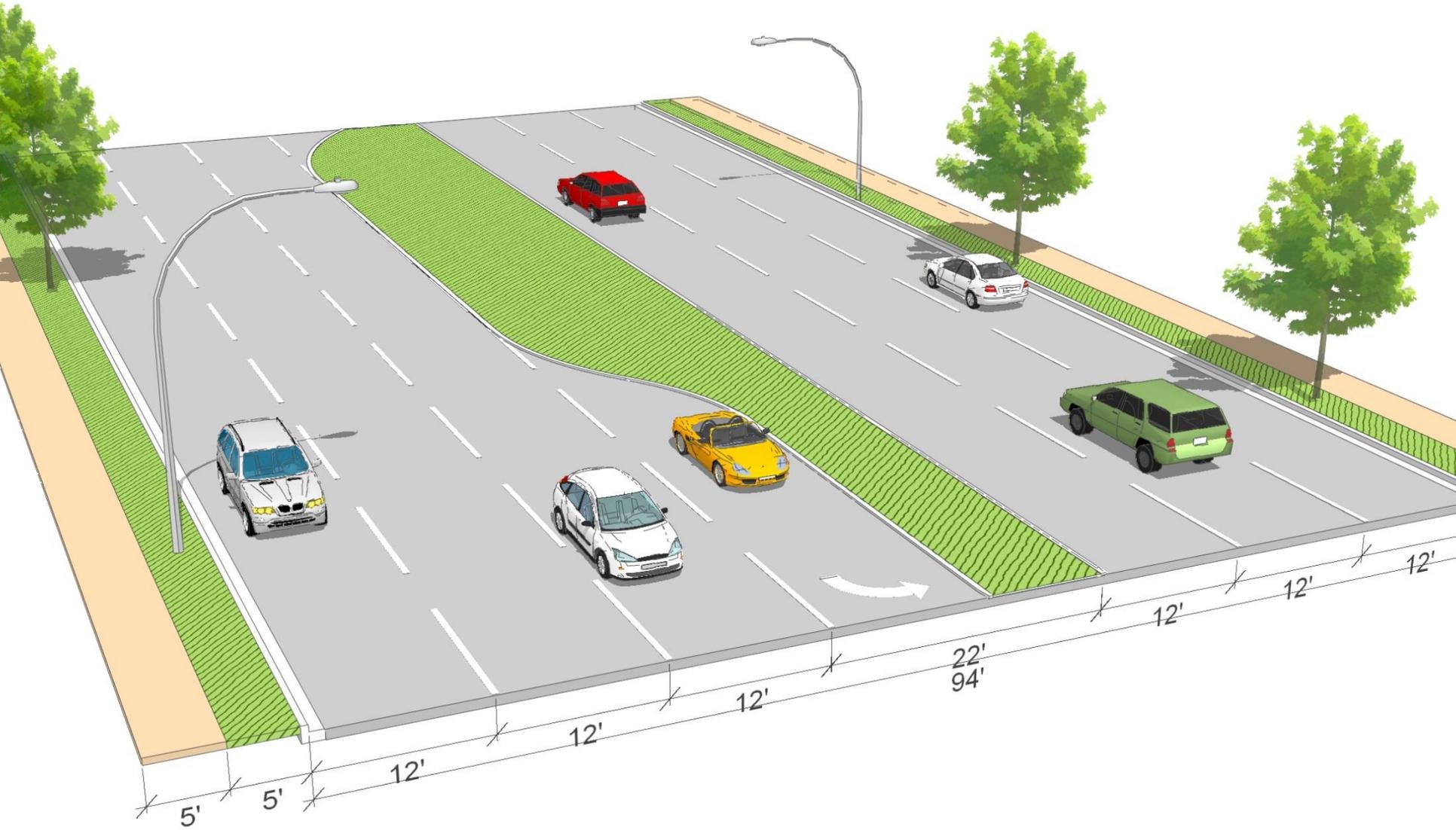


- Are designed for people of all ages and physical abilities whether they walk, bicycle, ride transit, or drive
- Integrate connectivity and traffic calming with pedestrian oriented site and building design to create safe and inviting places
- Spaces with engaging architecture, street furniture, landscaping, and public art that reflect the diversity and cultures of the neighborhood

Complete Streets



Existing



Proposed



Complete Streets



Complete Streets



Tactical Urbanism



- Low cost
- Temporary modifications to the public right-of-way

Tactical Urbanism





Parklet





Landscape Architecture & Transportation



- Transportation infrastructure accounts for 20-40% urban land
- Approximately 19,000 miles of abandoned railway in US
- Countless underpasses and waterways

Rails to Trails



Rails to Trails



Rails to Trails





Landscape Architecture & Transportation



- Transportation infrastructure accounts for 20-40% urban land
- Approximately 19,000 miles of abandoned railway in US
- Countless underpasses and waterways

Underpasses







Waterways



Waterways

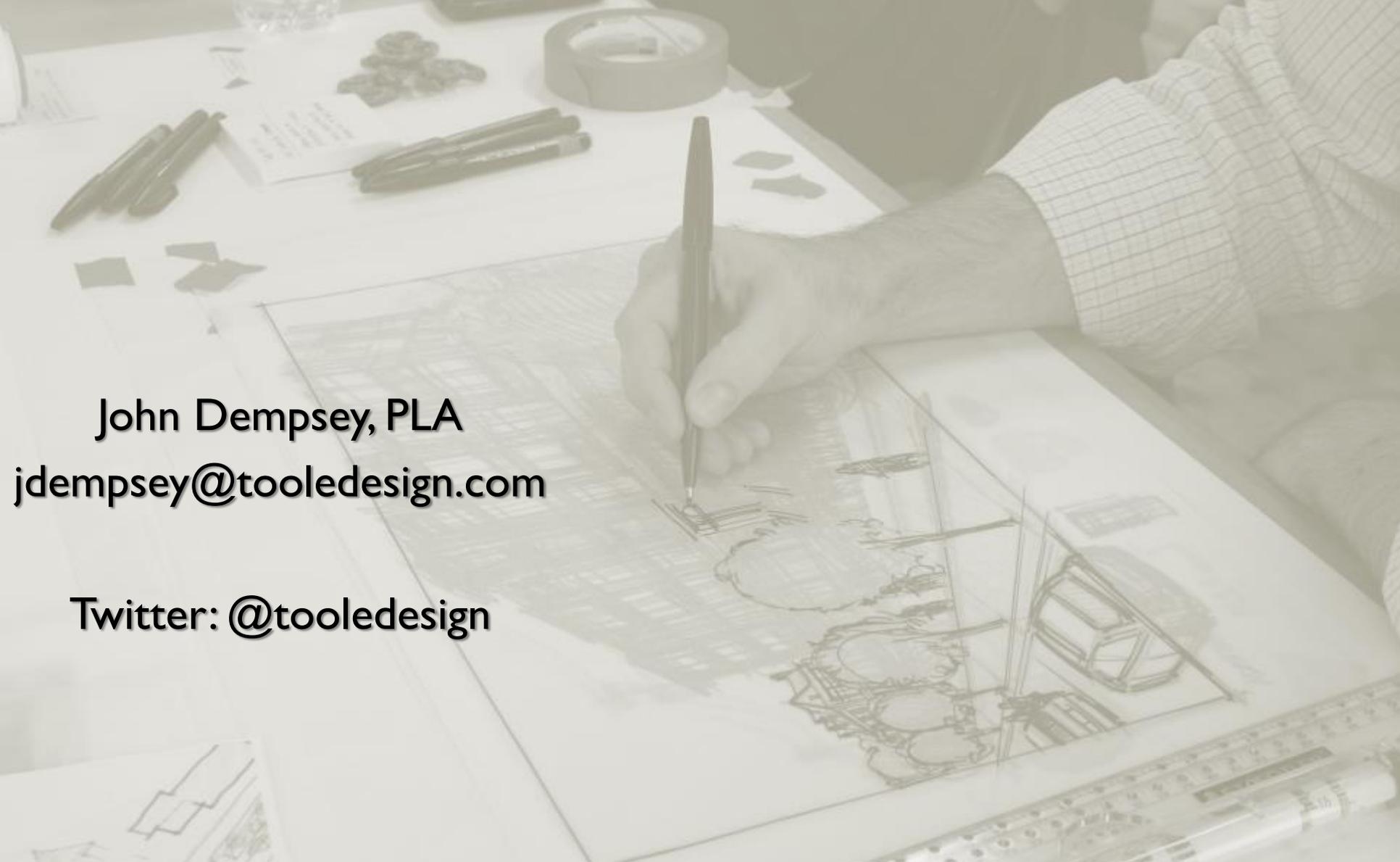


Waterways



Transportation for All





John Dempsey, PLA

jdempsey@tooledesign.com

Twitter: [@tooledesign](https://twitter.com/tooledesign)

THE CREATIVE CORRIDOR

A Main Street Revitalization



University of Arkansas Community Design Center + Marlon Blackwell Architect
for
The City of Little Rock



NATIONAL
ENDOWMENT
FOR THE ARTS

A great nation
deserves great art.

In fulfillment of an NEA *Our Town* grant

Main Street became to America what
the piazza was to Italy.

-Richard Longstreth, *The Buildings of Main Street*-



Little Rock Main Street 1910

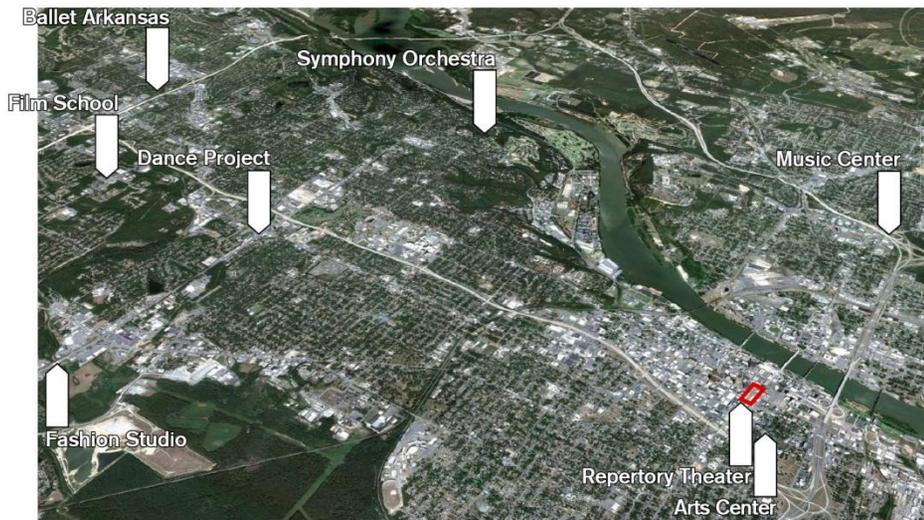


In 1918 Little Rock had a coherent urban fabric.



Now, surface parking accounts for the largest land use in downtown. ■ indicates parking

The Creative Corridor retrofits a four-block segment of an endangered historic downtown Main Street through economic development catalyzed by the cultural arts rather than Main Street's traditional retail base.



The Creative Corridor aggregates presently scattered cultural organizations...

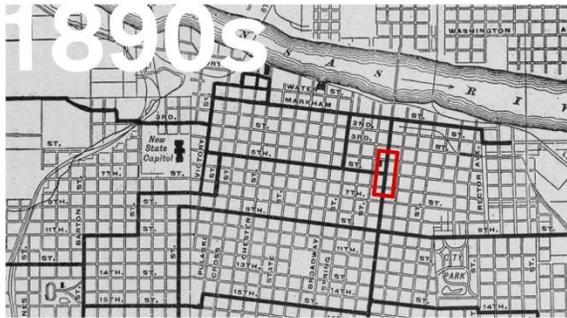


...into a district of four blocks.

CREATIVE CORRIDOR INITIATIVES Stakeholder Participation



Reed Realty Advisors
Arkansas Building Authority
Doyle Rogers Company
Wig Shop Property Owner
Consortium of Visual Artists
Stephens Inc.
Donaghey Building Representatives
Arkansas Symphony Orchestra
Moses Tucker Real Estate
LR Convention & Visitors Bureau
Downtown Partnership
RAO Property Owner
Military Surplus Property Owner
WD&D Architects
Patels Property Owner
Metroplan
Old Men's Store Property Owner
Ballet Arkansas
Arkansas Historic Preservation Program
Mr. Cool Property Owner
Arkansas Arts Center
KATV
Centre for the DansArts
East Harding Construction
Arkansas Repertory Theatre
Arkansas Teacher Retirement System



Urban Renewal



Pedestrian Mall



Classic American Main Street



Main Street Today

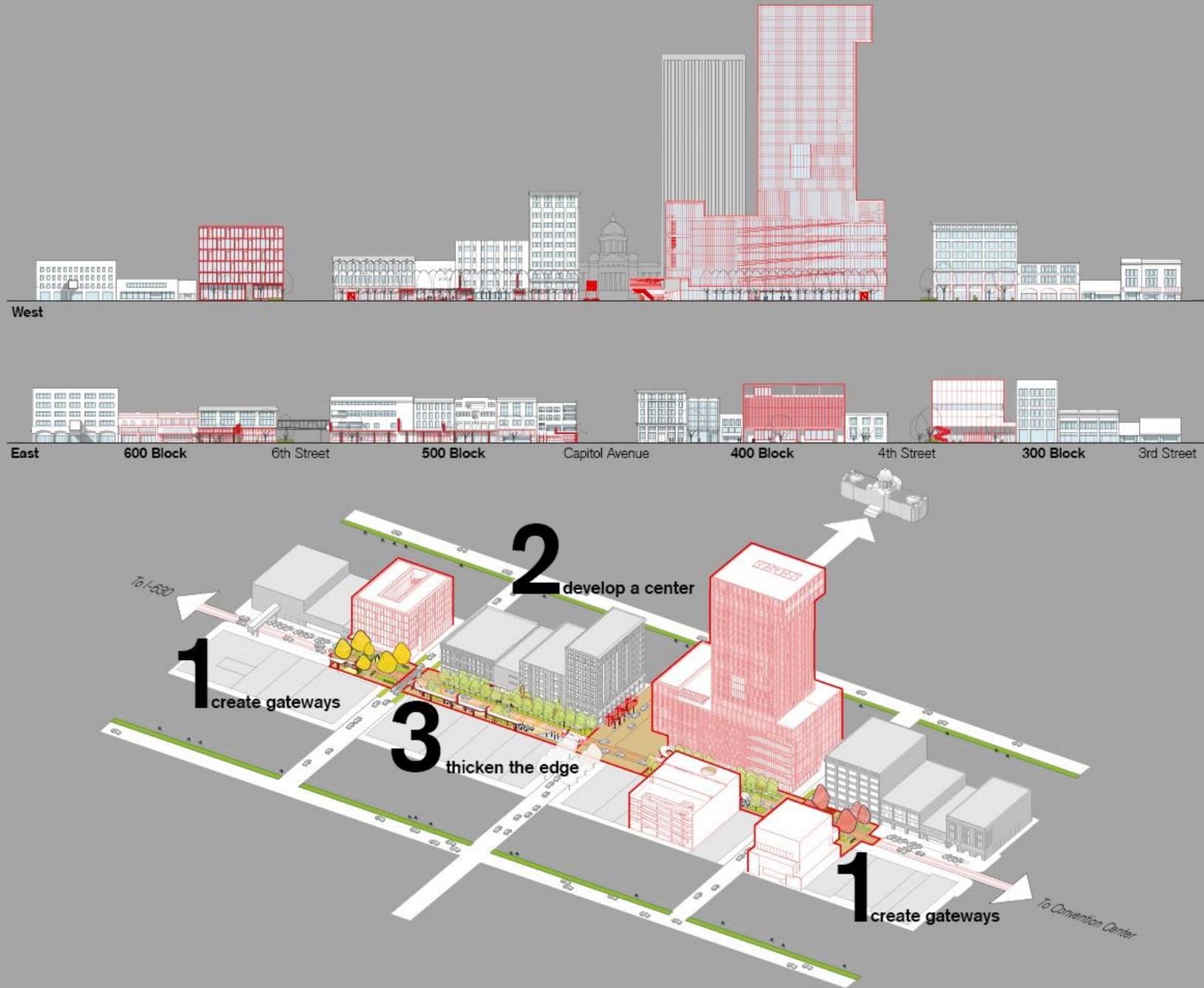
The Evolution of Main Street Little Rock

THE CREATIVE CORRIDOR

A Main Street Revitalization

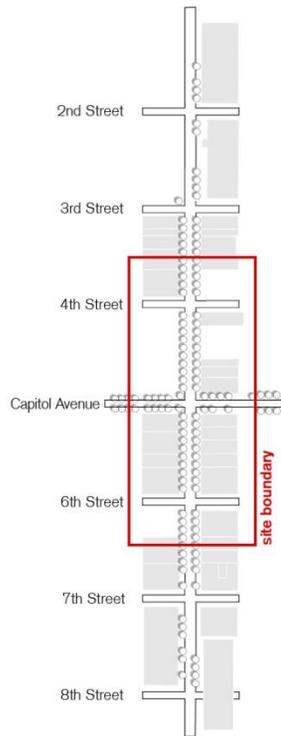
Unlike roads, which efficiently move traffic from one point to another, streets are platforms for capturing value. A well-designed street provides non-traffic social functions related to gathering, assembly, recreation, and aesthetics.



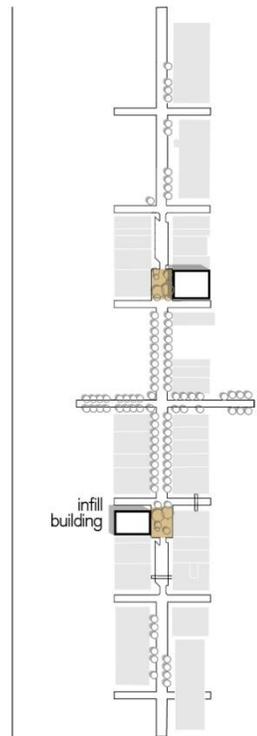


The Creative Corridor phasing strategy.

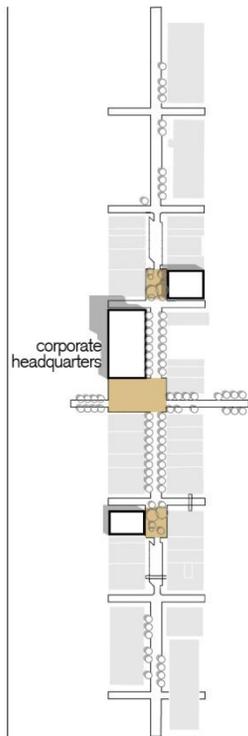
The Creative Corridor employs three phases of development that mediate between new and old structures, and big and small scales in the transformation to a downtown node.



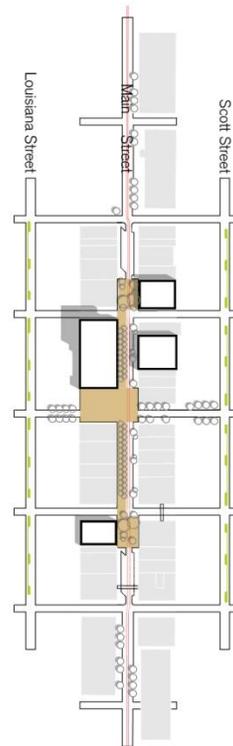
existing



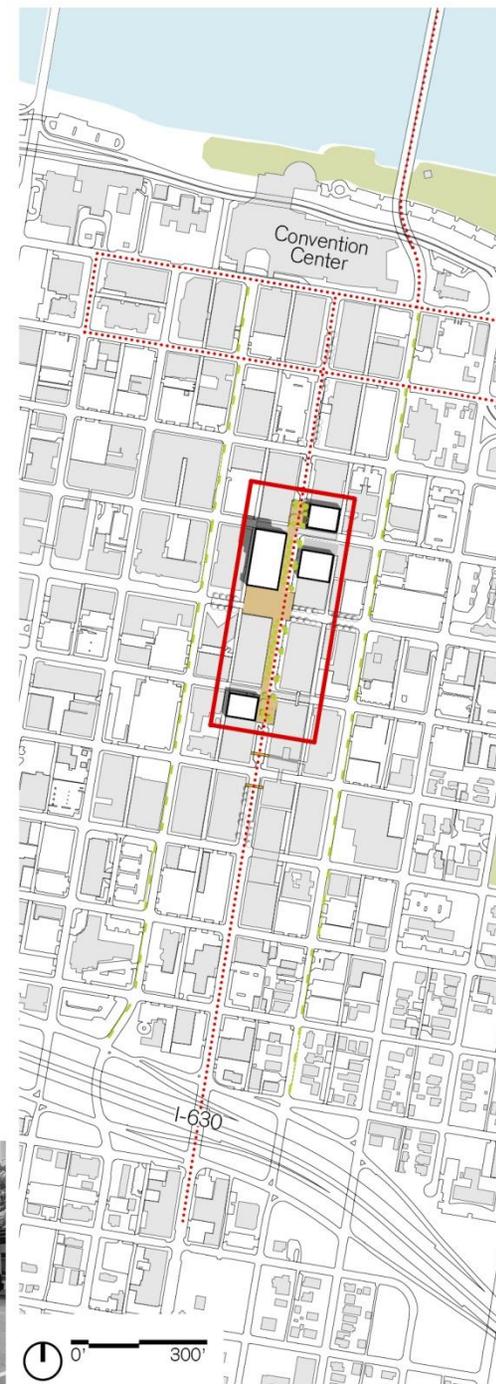
1 create gateways...



2 develop a center...



3 thicken the edge!



Nodes provide a sense of centrality and opportunity for social life through urban rooms that counter the dominance of mobility in the corridor.

“
We turned a corridor into
a node through a series of
urban rooms.”
”

1 Create Gateways

2 Develop A Center

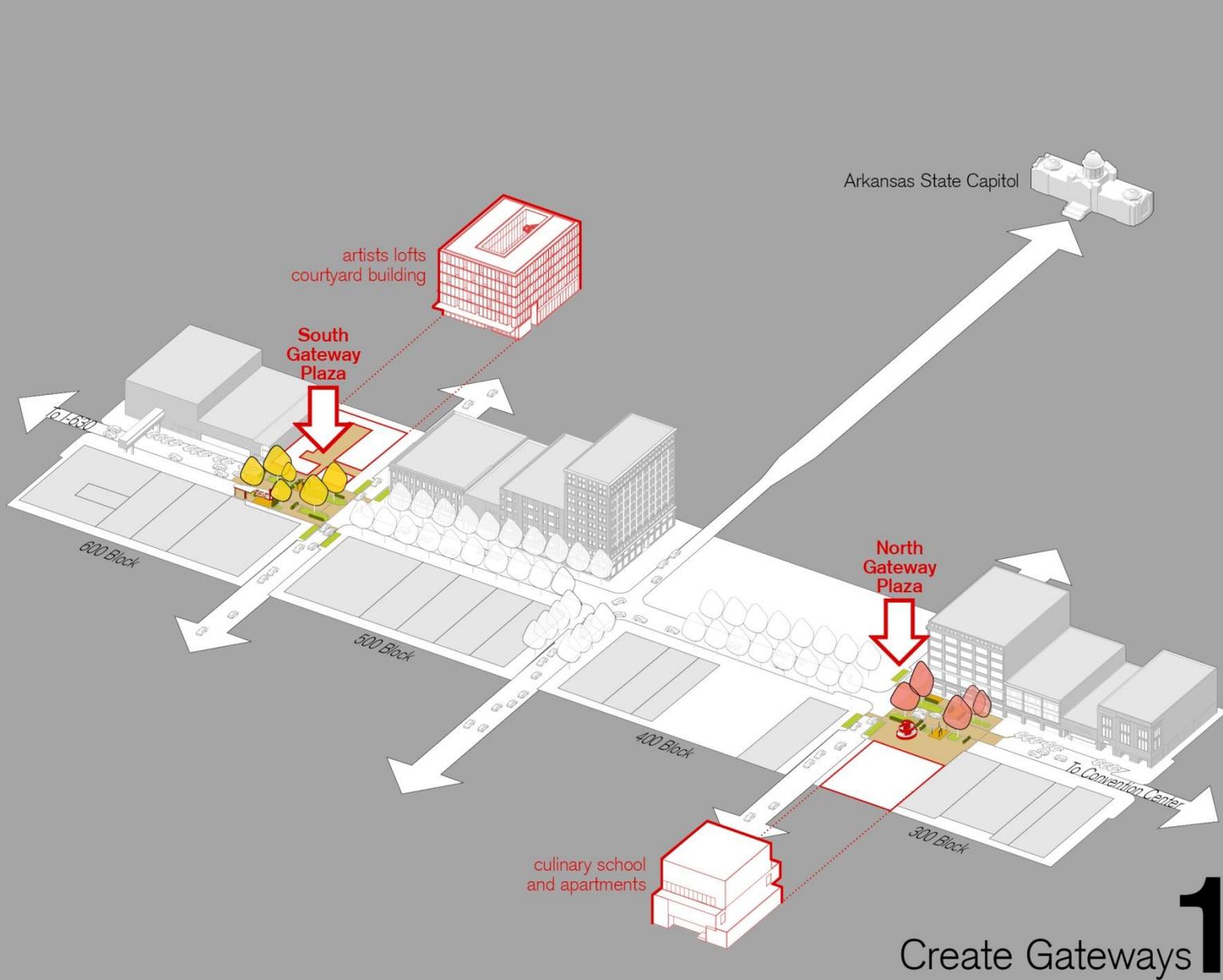
3 Thicken The Edge

1 Create Gateways

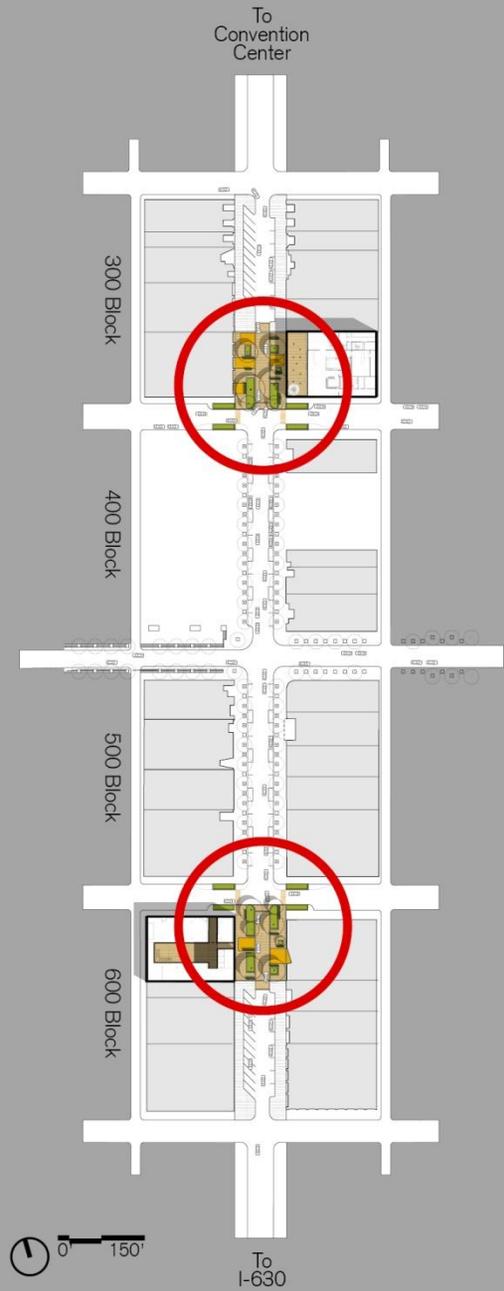


Since architectural guidelines are not politically feasible, townscaping elements like arcades, marquees, and stormwater management landscapes bridge street and building interiors.

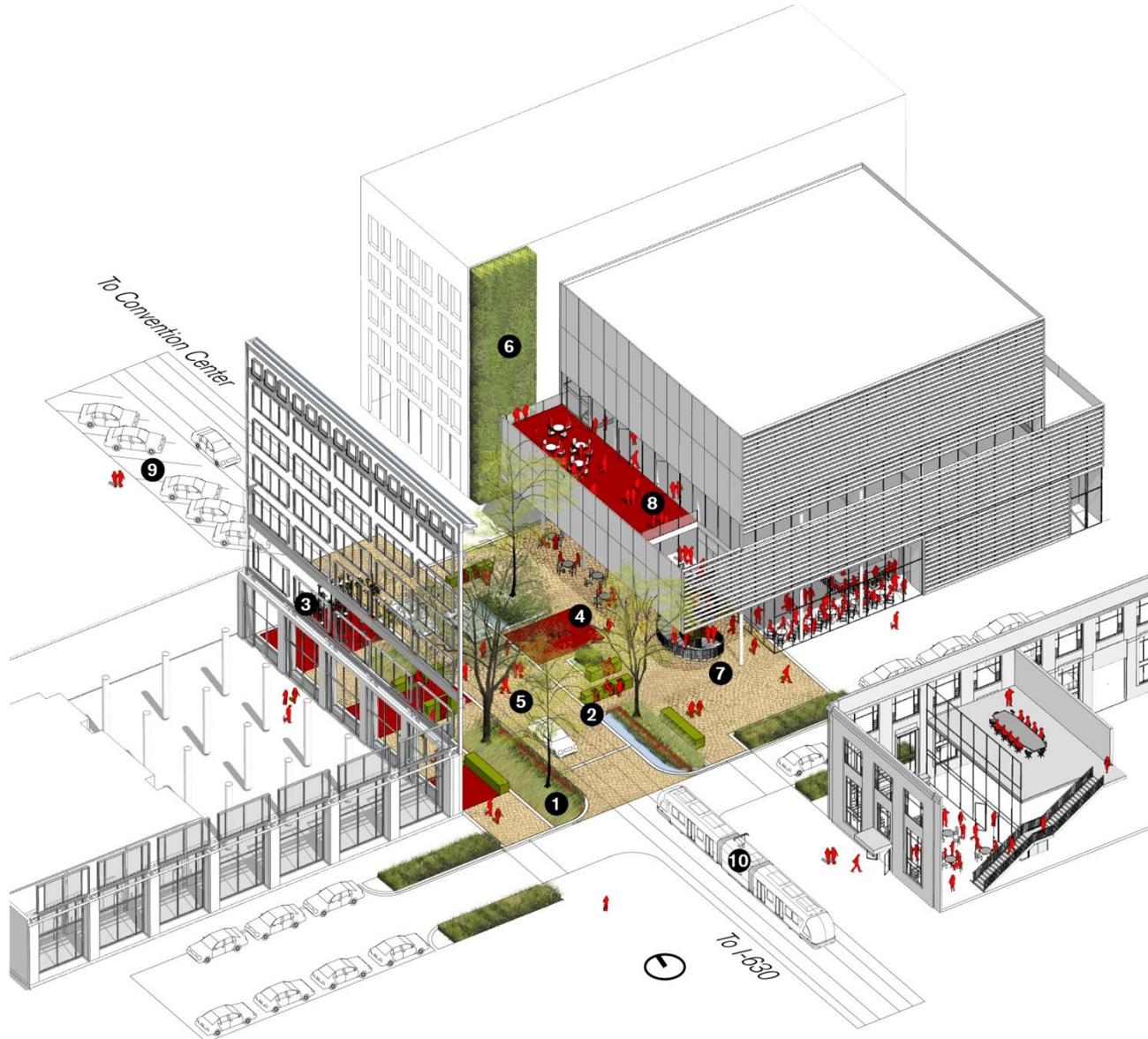
Rather than simply rely on historically-inspired frontage guidelines, the plan negotiates conflicting building traditions and scales through the use of townscaping elements.



Create Gateways **1**

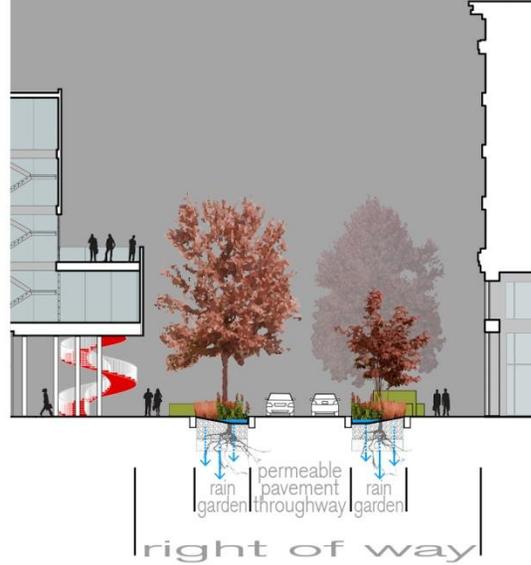
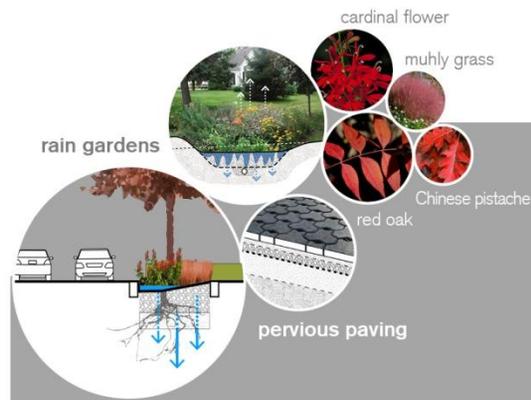


The first thing we do is create gateways.



North Gateway Plaza

- | | |
|--------------------------------|-------------------------------|
| rain gardens ① | green wall ⑥ |
| plaza seating ② | urban staircase ⑦ |
| recycled street light garden ③ | urban patio ⑧ |
| public art pad ④ | back-in parking ⑨ |
| continuous pedestrian table ⑤ | planned streetcar extension ⑩ |



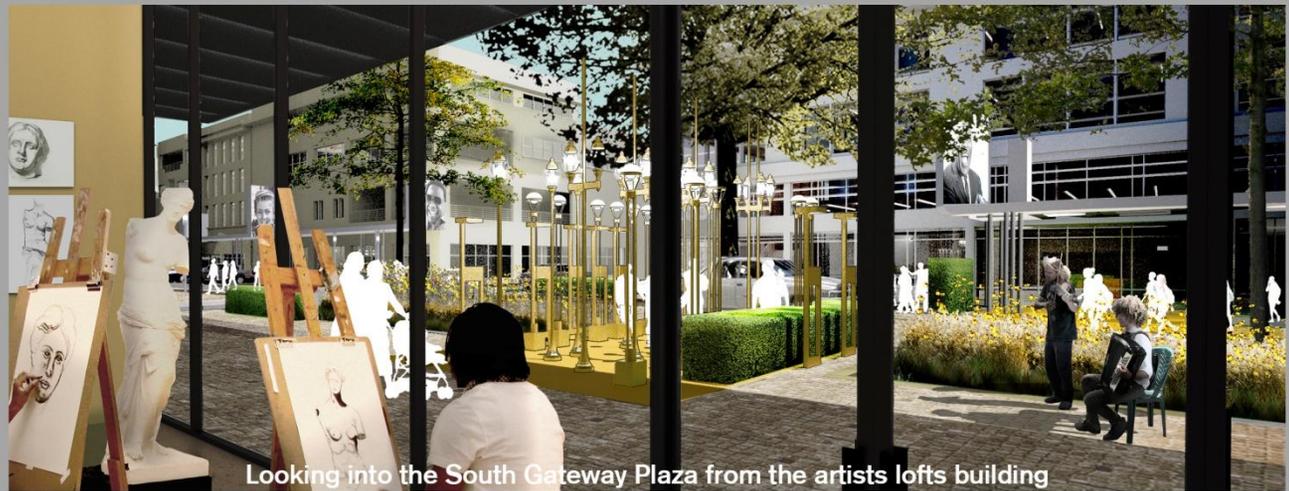
Gateway rooms privilege the pedestrian and offer non-traffic functions, including ecologically-based stormwater treatment while still accommodating traffic throughput.



Gateways are the first rooms in the plan's incremental design approach and they're easy to do immediately.
Gateway tables create urban rooms with street furniture, architectural pavement, and landscapes made of both rustic and manicured plant palettes akin to an urban pocket park.



Existing west side of 600 Block



Looking into the South Gateway Plaza from the artists lofts building



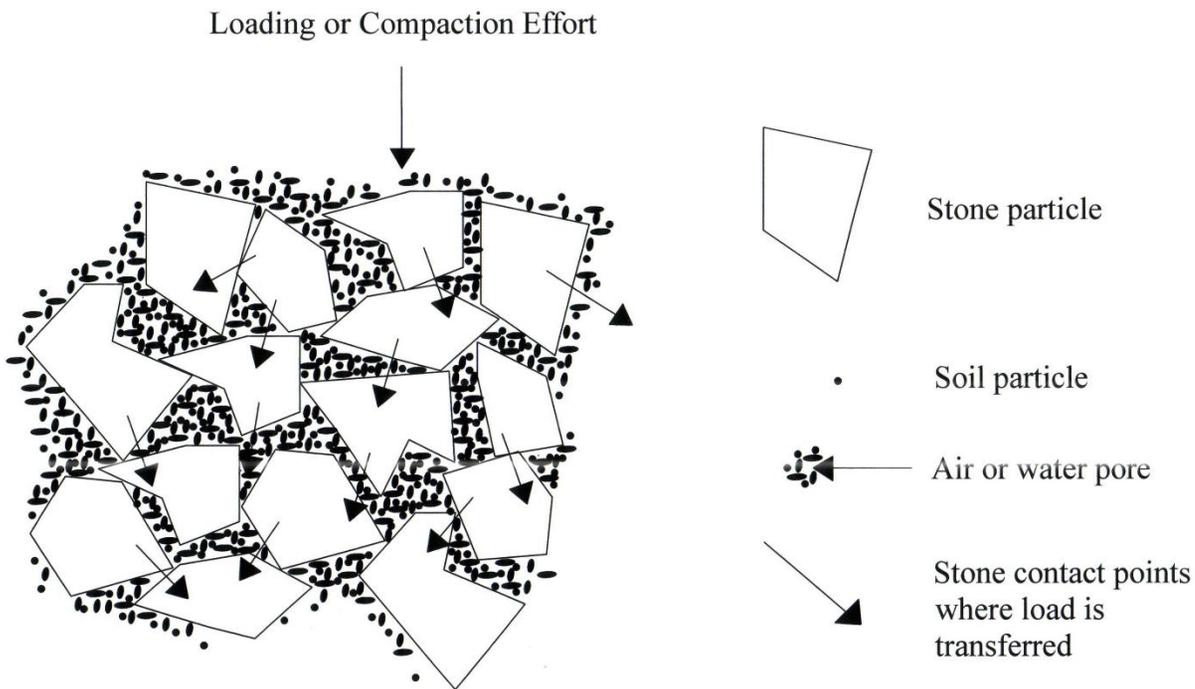
Looking north from the South Gateway Plaza

Gateways are the first rooms in the plan's incremental design approach and they're easy to do immediately.









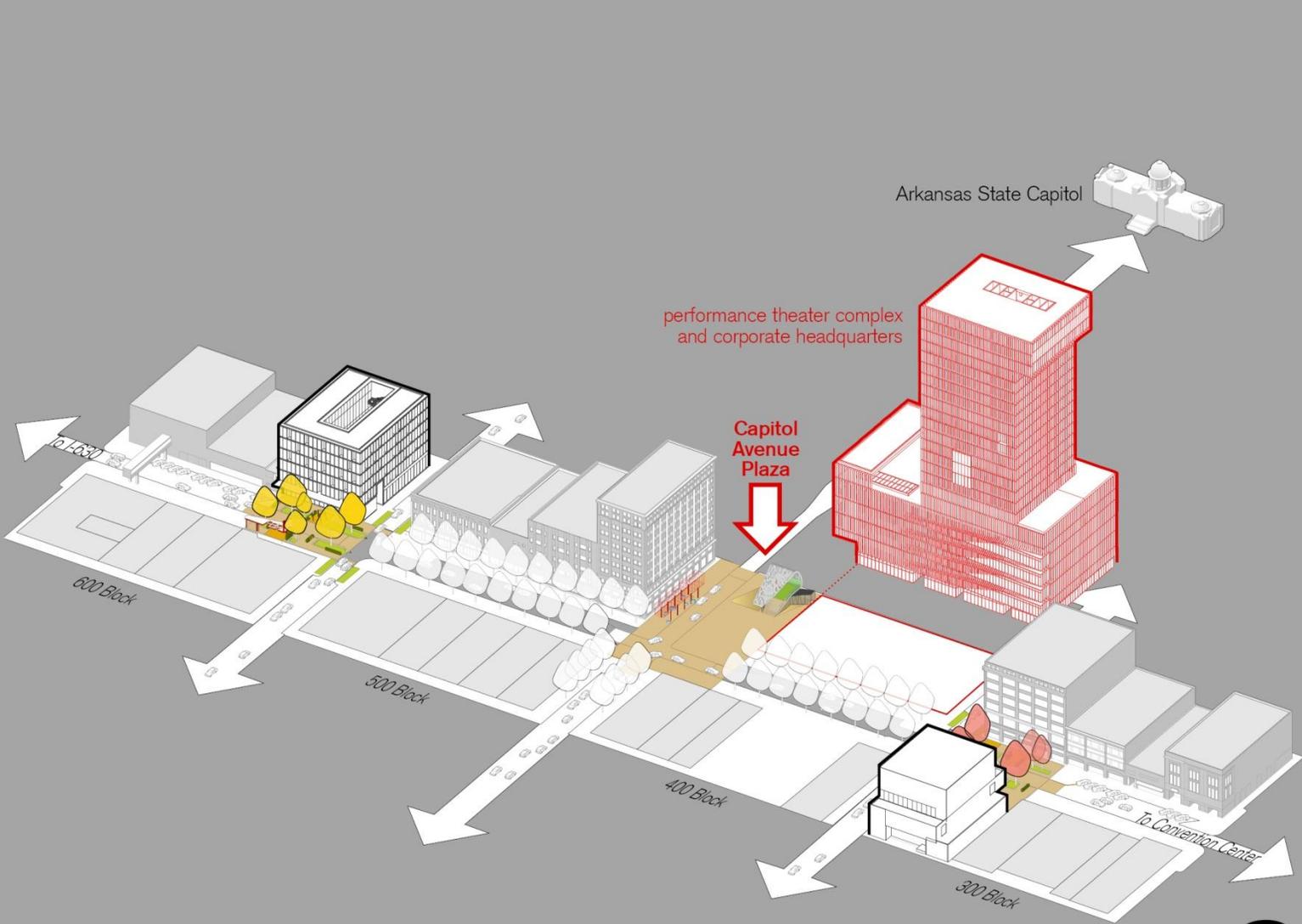
Structural Soil—CU Specification

Provide minimum 40% porosity beneath hard surfaces with light or stationary loading.



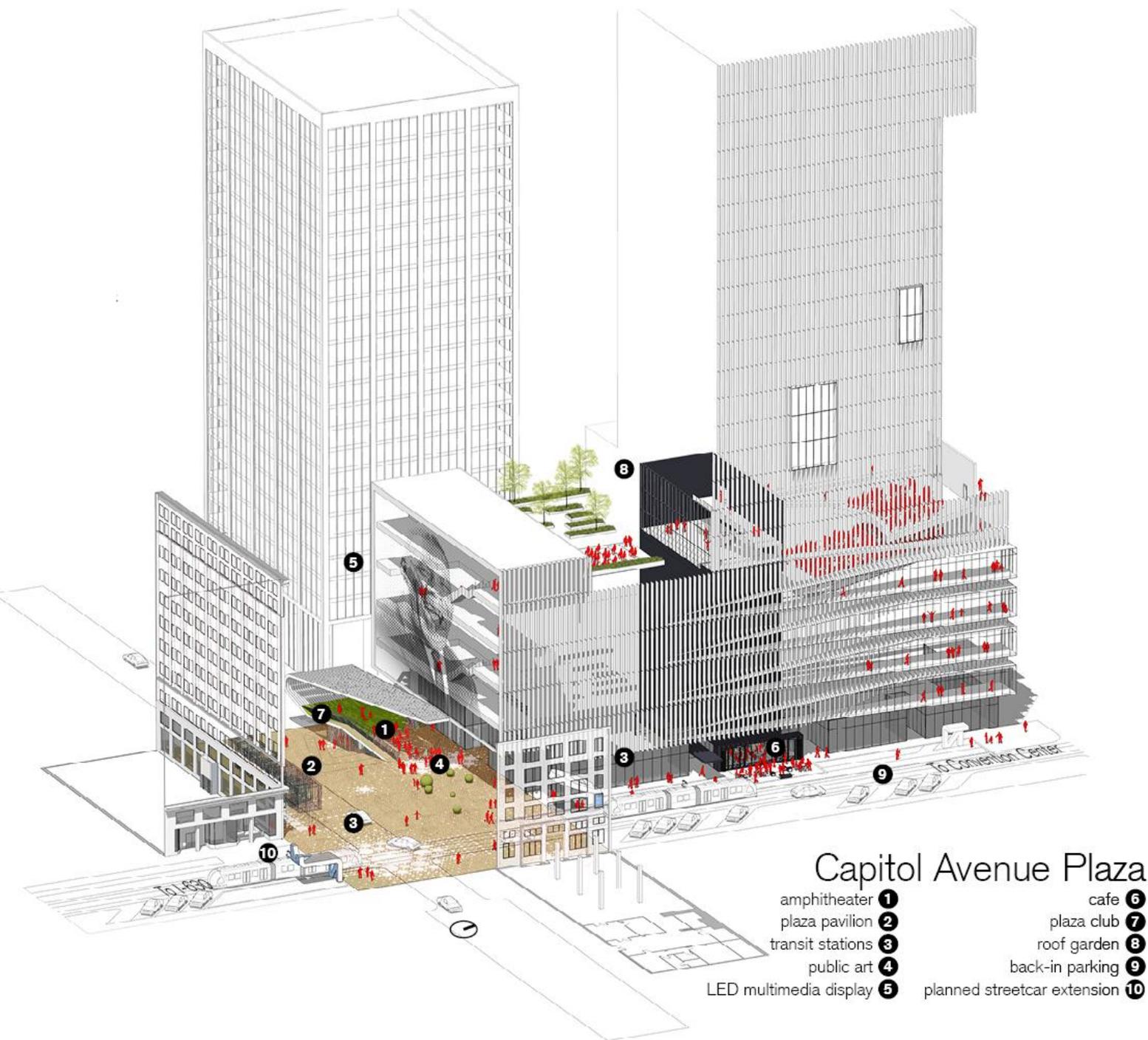
Structural Cells

For applications beneath hard surfaces with heavy and moving traffic.



Develop a Center **2**

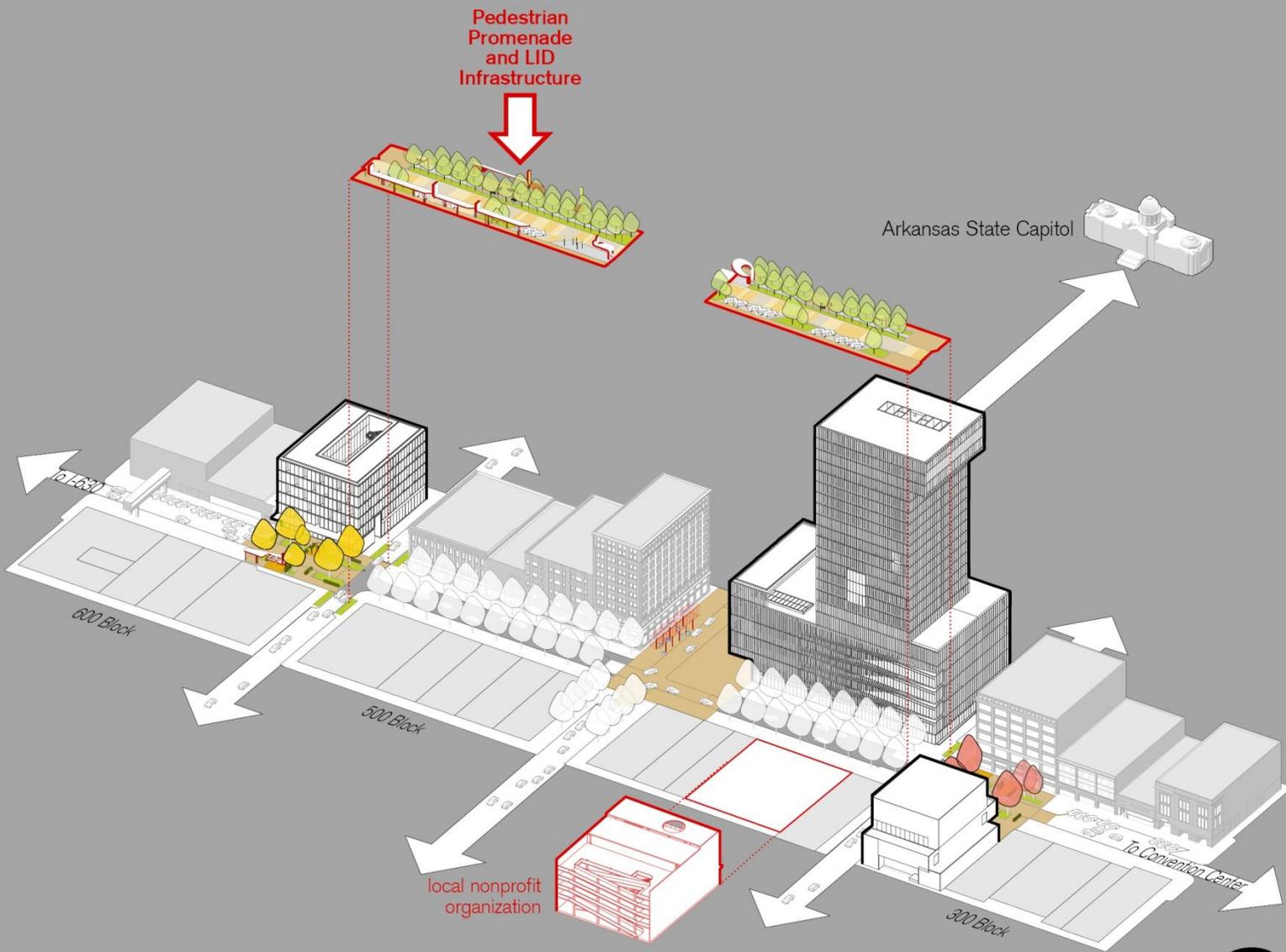
Second, we demarcate the most important intersection in the state with a plaza.



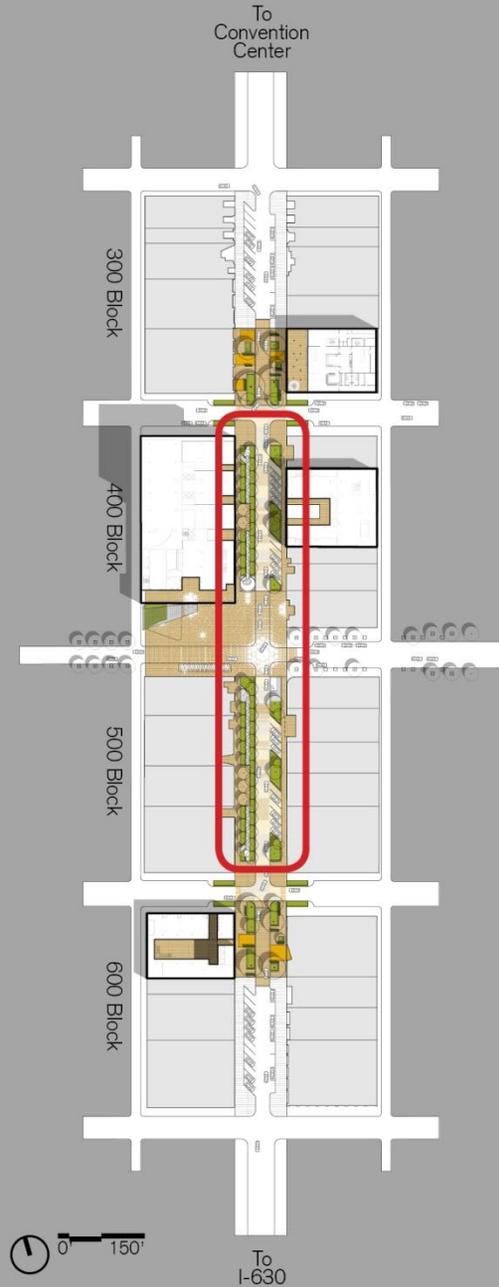
The energy of the street is pulled up through the architecture.
 The plaza as a room mediates between new and old structures, as well as big and small scales.



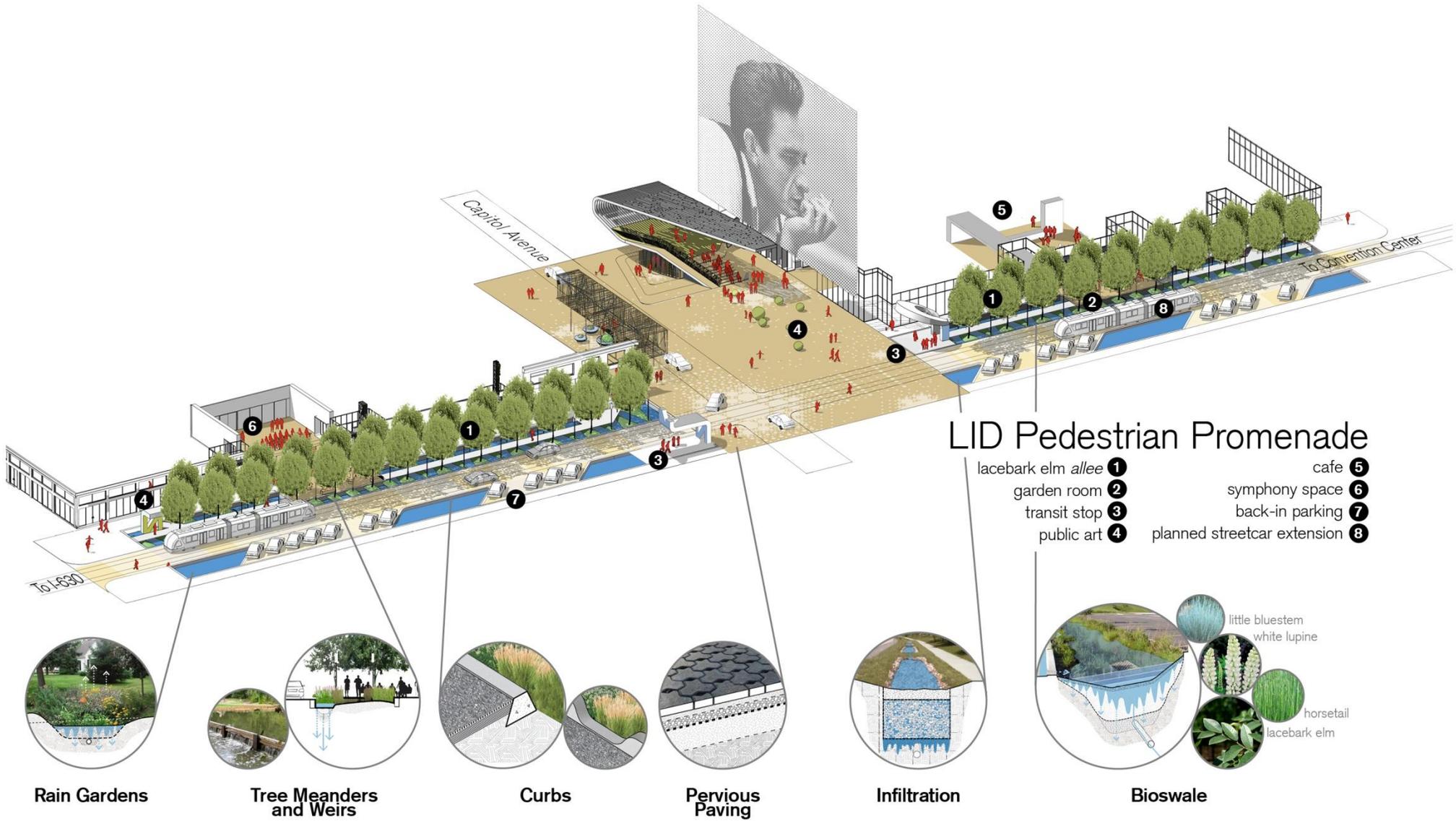
The Capitol Avenue Plaza celebrates this important intersection through a layer of pedestrian-scaled amenities that mediate an intimate plaza space and large-scale building masses.



Thicken the Edge **3**



Third, we thicken the western right-of-way edge with an *allee* for ecologically-based stormwater management.



The US Environmental Protection Agency has given us money to build the Low Impact Development (LID) facilities that manage urban stormwater runoff using an ecosystem services approach.



The LID Pedestrian Promenade is a fitting extension of the indoor spaces along the westside of the 400 and 500 blocks.





Existing 500 Block



Looking north from the symphony plaza



Looking south toward the symphony plaza

Indeed, a distinctive and legible environment not only offers security but also heightens the potential depth and intensity of human experience.

-Kevin Lynch, *The Image of the City*-



Over

Under

Through

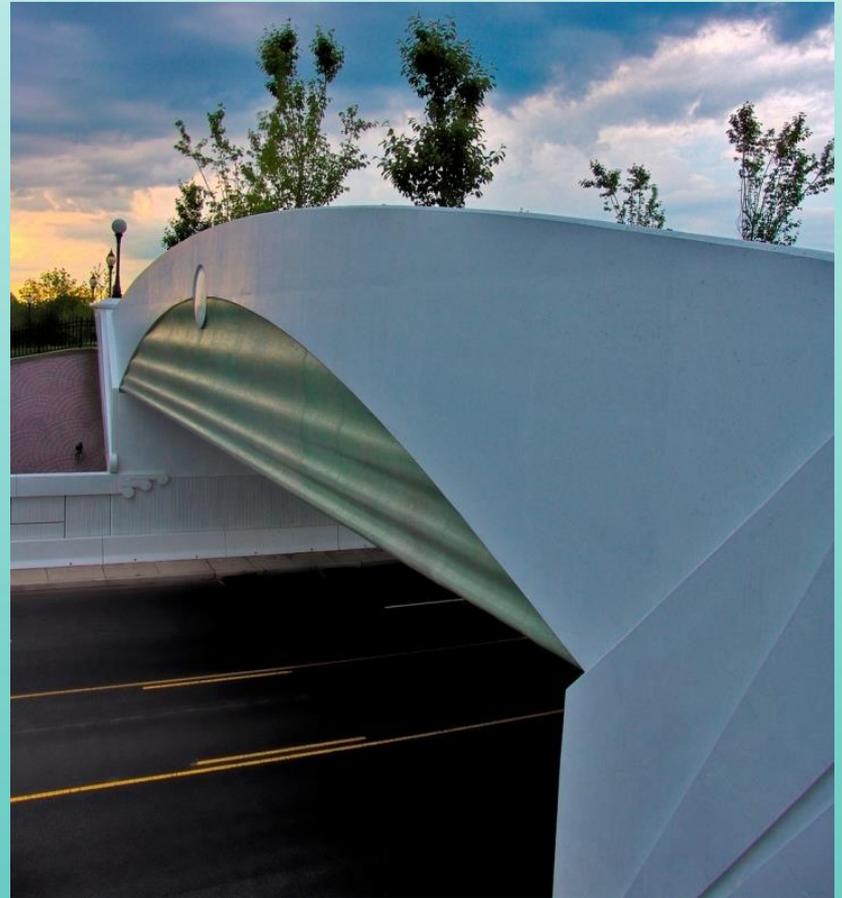
obstacles to multi-modal
transportation facilities

William Collins, RLA, VP



Types of obstacles

- X Physical
- X Costs / funding
- X Bureaucratic
- X Nimbys
- X Friends



Types of structural solutions

for trail / pedestrian / non-motor vehicle facilities

- Bridges
- Underpasses
- At-grade crossings
- Tunnels
- Road diets



Landscape Architecture services

- Master planning
- Defining the program
- Funding development
- Partnership negotiation
- Site design
- Structure / bridge architecture



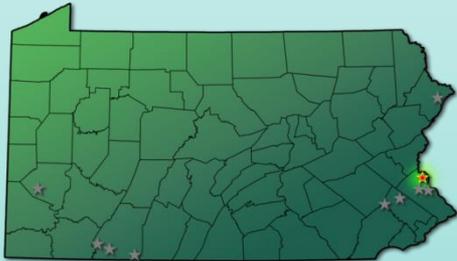
Over



“OVER”

Tohickon Aqueduct

Delaware Canal National Landmark
Delaware Canal State Park

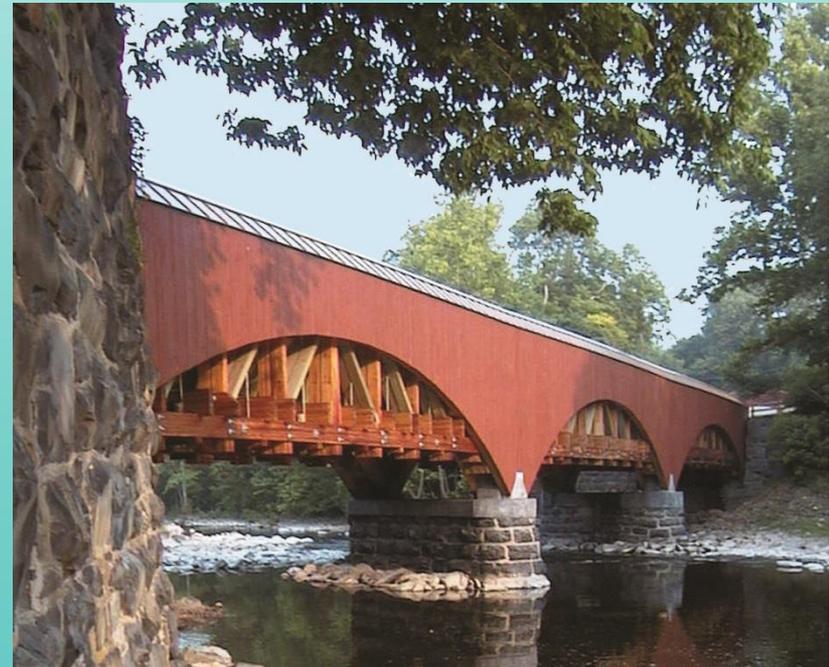


Point Pleasant,
Bucks County

Rehabilitate historic transportation resource



1992



2001

LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

Simone Collins
Landscape Architecture

APA Webinar July 24, 2015

Tohickon Aqueduct

Obstacles:

- X Physical
- X Costs
- X Bureaucratic
- X Friends

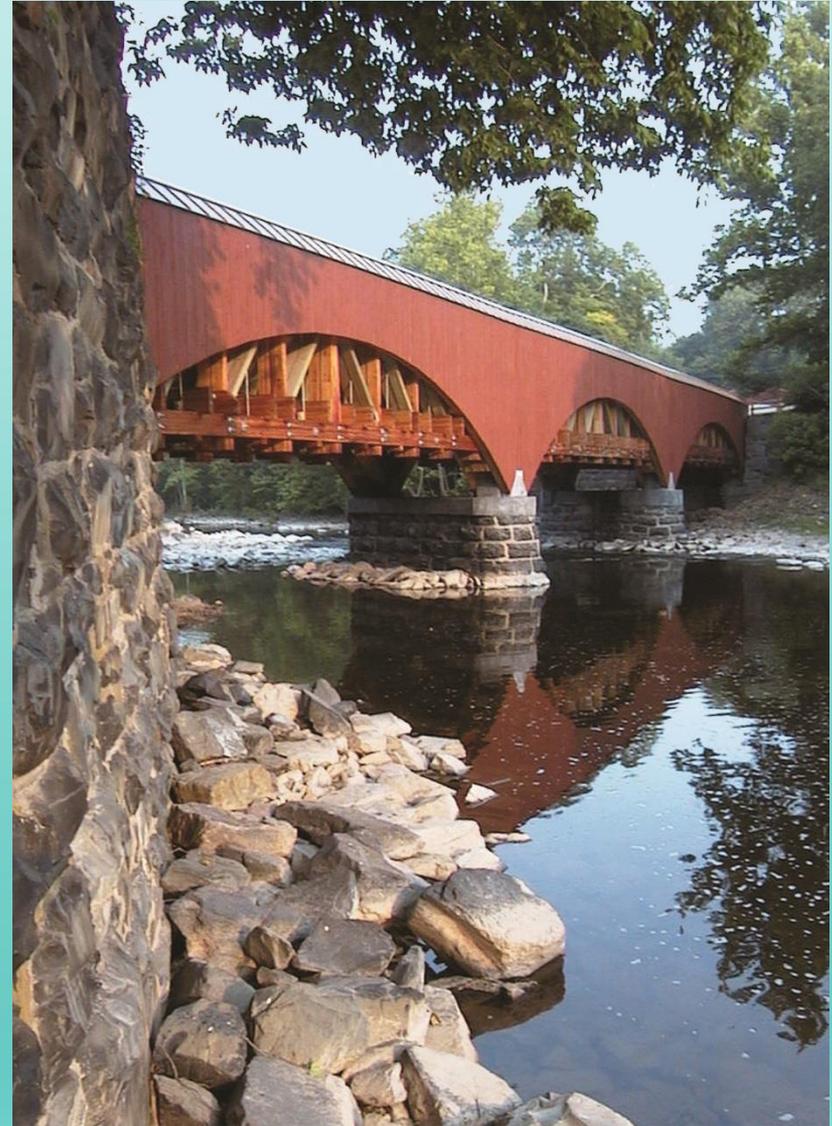
Strategies:

Modern timber structure

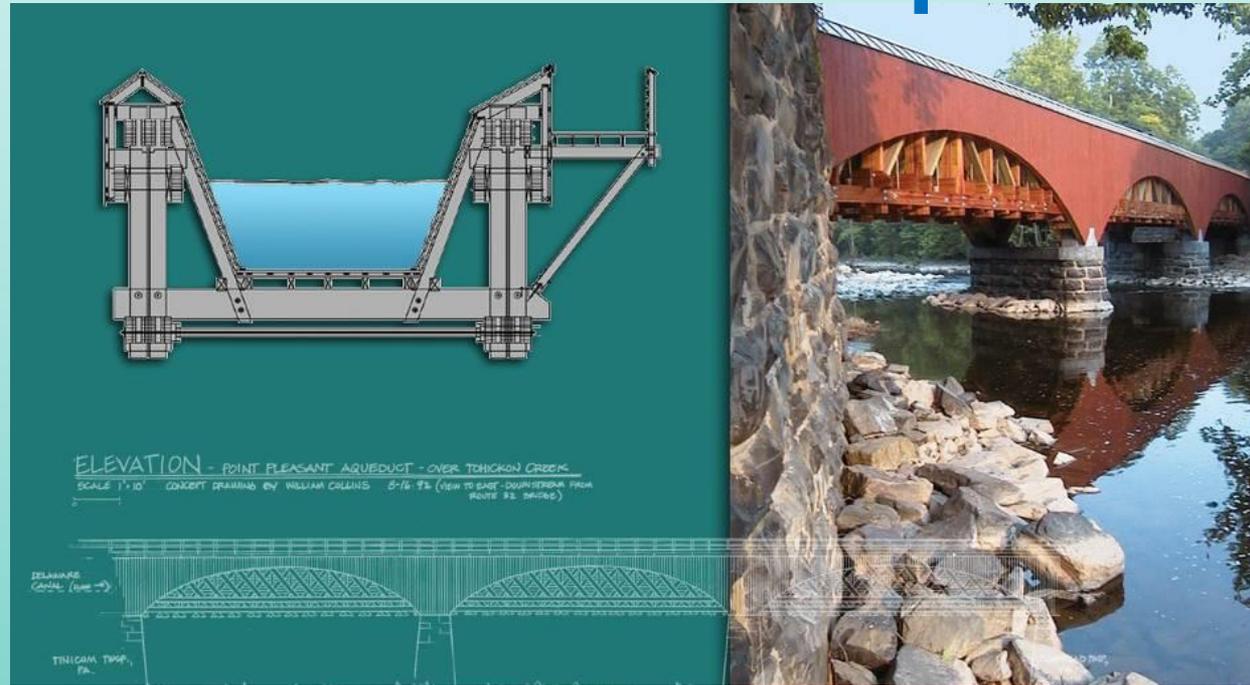
Traditional bridge truss system

Innovative materials, reuse stone

Alternative funding partners



Tohickon Aqueduct



LA Services

Historic research, concept design

Substructure schematics, materials specs

Bridge architecture, documentation

Funding strategy, grant applications

Community consultant

Tohickon Aqueduct

1992 – 2001

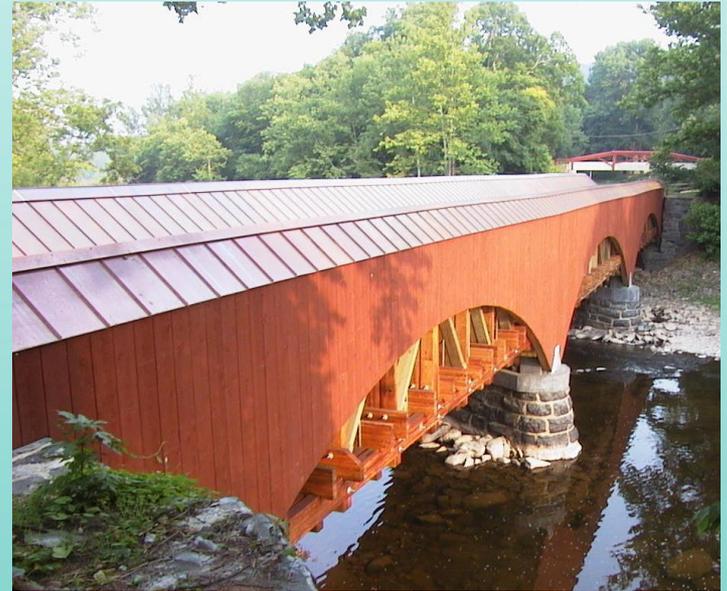
Budget: \$2.1 M (Construction)

Funding Partners

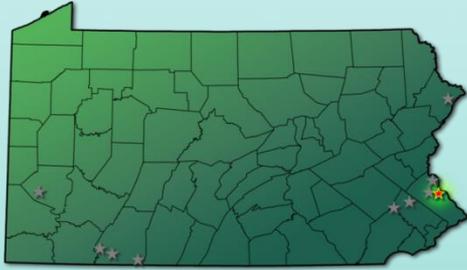
- PennDOT Enhancements
- USDA Forest Service
- Commonwealth of Pennsylvania

Awards

- 1st Place - National Timber Bridge, 2002
- Honor - ASLA PA/DE Chapter, 2003
- Honorable Mention - National Rail-Trail, 2003
- Design Excellence - Central Bucks AIA, 2002



“OVER”



Solebury Township,
Bucks County

Canal Park Bridge

Delaware Canal National Landmark
Delaware Canal State Park

Create new bridge over the canal

Obstacles:

X Physical

X Nimbys

X Bureaucratic



Strategies:

Modern steel structure – customize “pre-fab”

Mimic iconic traditional “Camelback” truss

Justify “impacts” to the Landmark

Canal Park Bridge

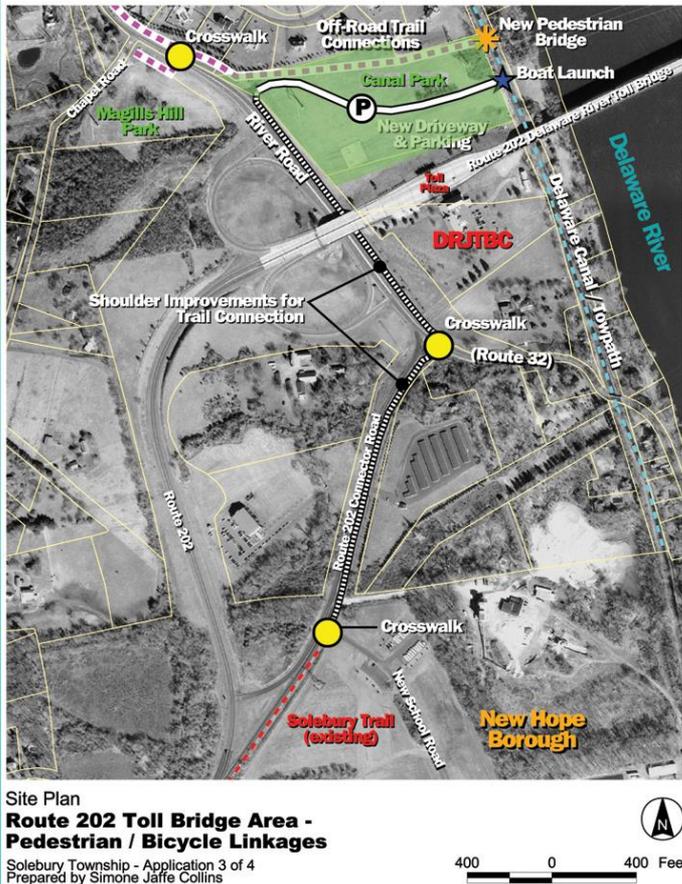
Traditional
1831
design



New
2009
design



Canal Park Bridge



LA Services

Master planning, historic research

Funding strategy, grant applications

Canal Park Bridge



LA Services

Structure simulations, park and trail design

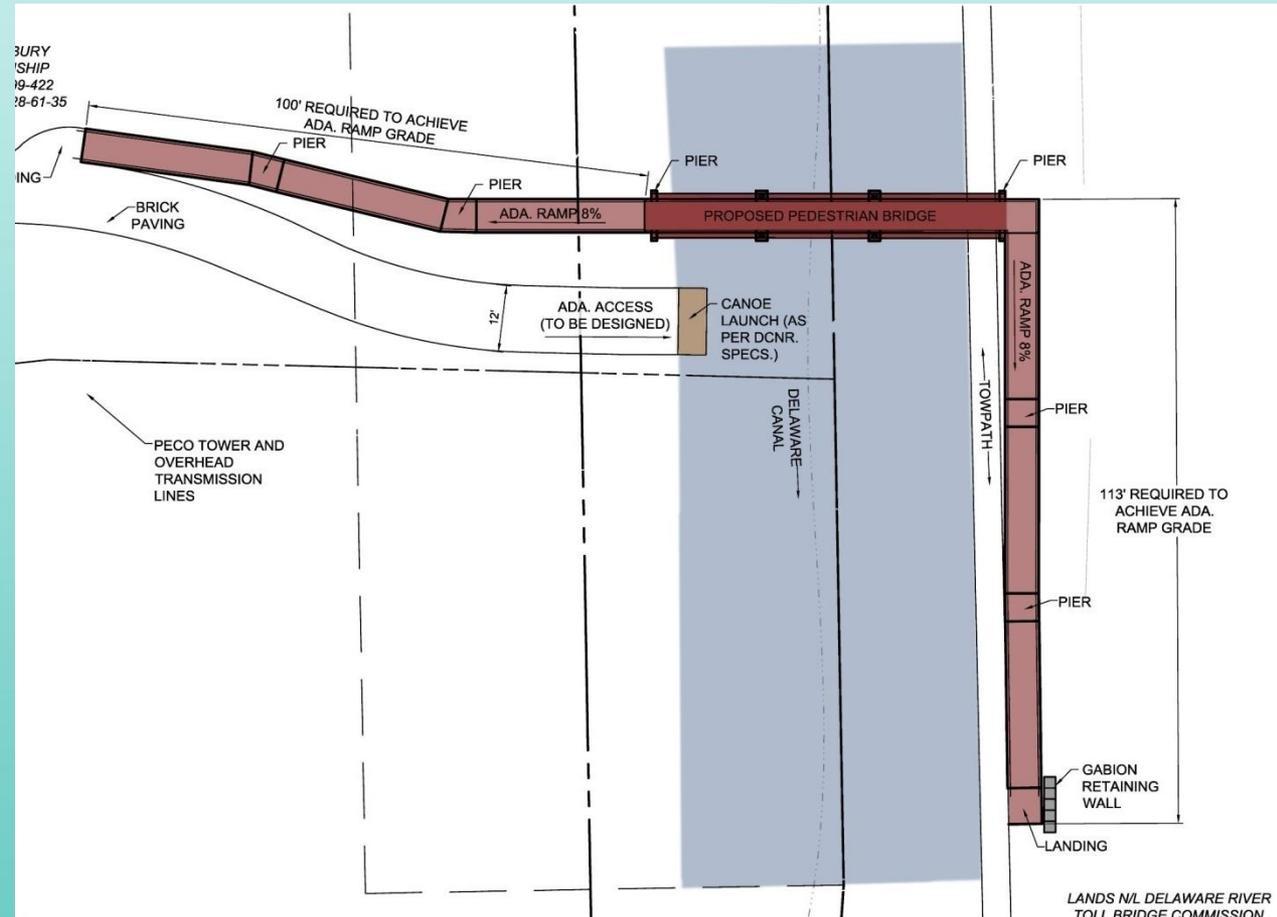
LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

Simone Collins
Landscape Architecture

APA Webinar July 24, 2015

Canal Park Bridge

Ramps would total 4 times the bridge length



LA Services

ADA alternatives analyses

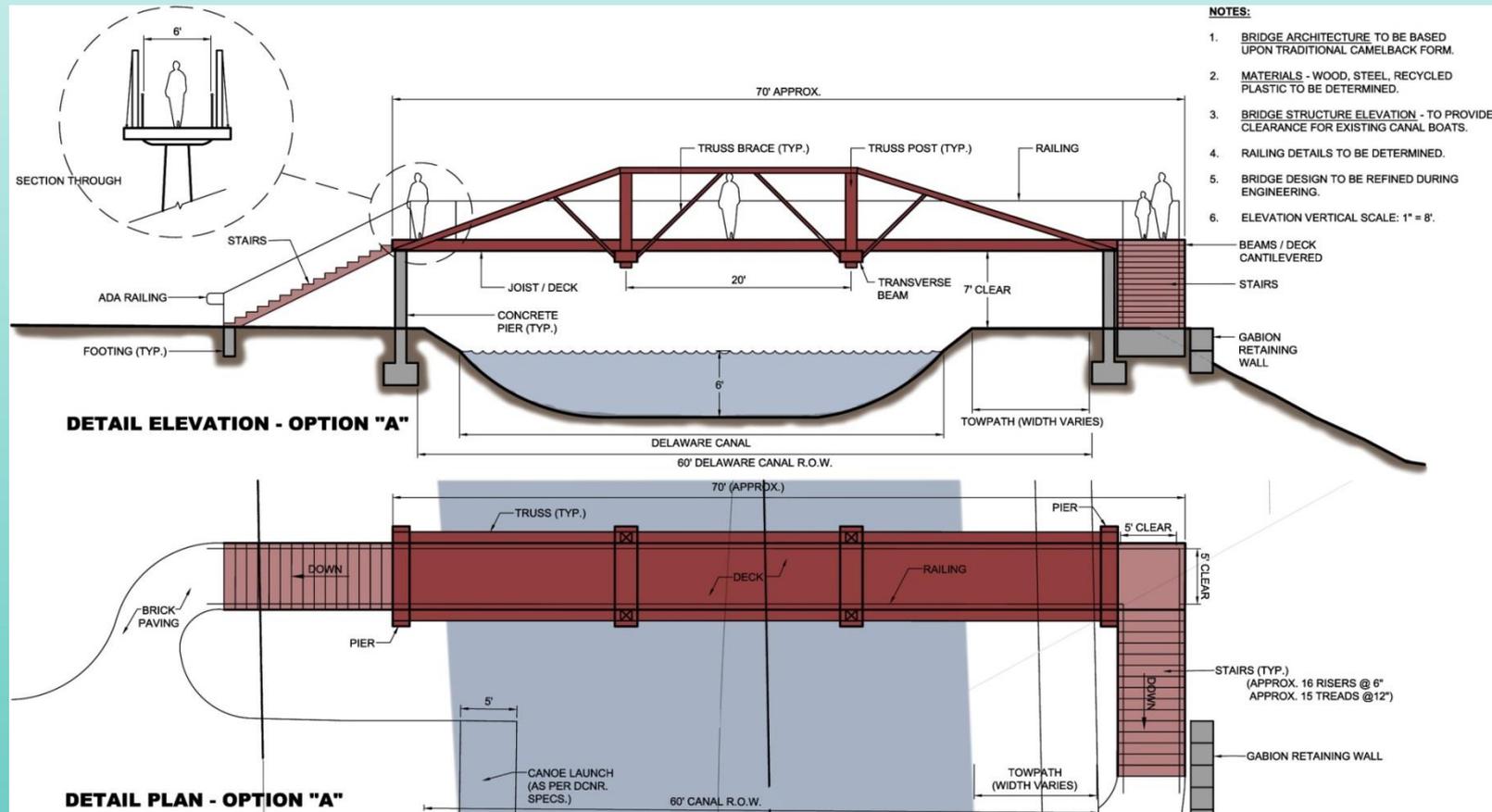
Compliance justification to SHPO

Simone Collins
Landscape Architecture

LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

APA Webinar July 24, 2015

Canal Park Bridge



LA Services

Bridge architecture, specifications

Design collaboration with engineer

Canal Park Bridge

2006-2009

\$150,000
Construction

Funding

- DRJTBC
- Township

Partner

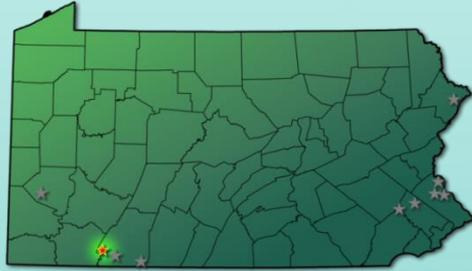
- DCNR



NIMBYs now use the bridge

“OVER”

Kings Covered Bridge



Middlecreek Township,
Somerset County

Obstacles:

X Physical

X Costs

X Bureaucratic

Rehabilitate historic transportation structure



Eligible for the National Historic Register

Kings Covered Bridge



Before (*stabilized*)



After – *restored*

LA Services

Funding strategy

Prime consultant to PennDOT

Bridge architecture, site design

Kings Covered Bridge

Before (*Stabilized*)



After – *Rehabilitated*



Acquired by non-profit from private owners for rehabilitation

LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

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Landscape Architecture

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Kings Covered Bridge

1997 – 2008

\$90,000 Stabilization
\$0.865 M Rehabilitation

Funding Partners

- PennDOT – Enhancements \$
- FHWA – National Covered Bridge
- Commonwealth of PA
- Somerset County
- US Forest Service

Awards

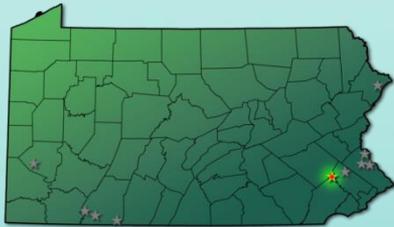
Modjeski - Preservation PA, 2008



Forty Foot Road Pedestrian Bridge

“OVER”

Build new pedestrian bridge over state highway



Towamencin Township
Montgomery County

Obstacles:

- X Physical
- X Costs
- X Bureaucratic
- X Nimbys



*State Route 63 (Forty Foot Road) at interchange
of PA Turnpike NE Extension*

Forty Foot Road Pedestrian Bridge

called the “bridge to nowhere” by opponents



Strategies:

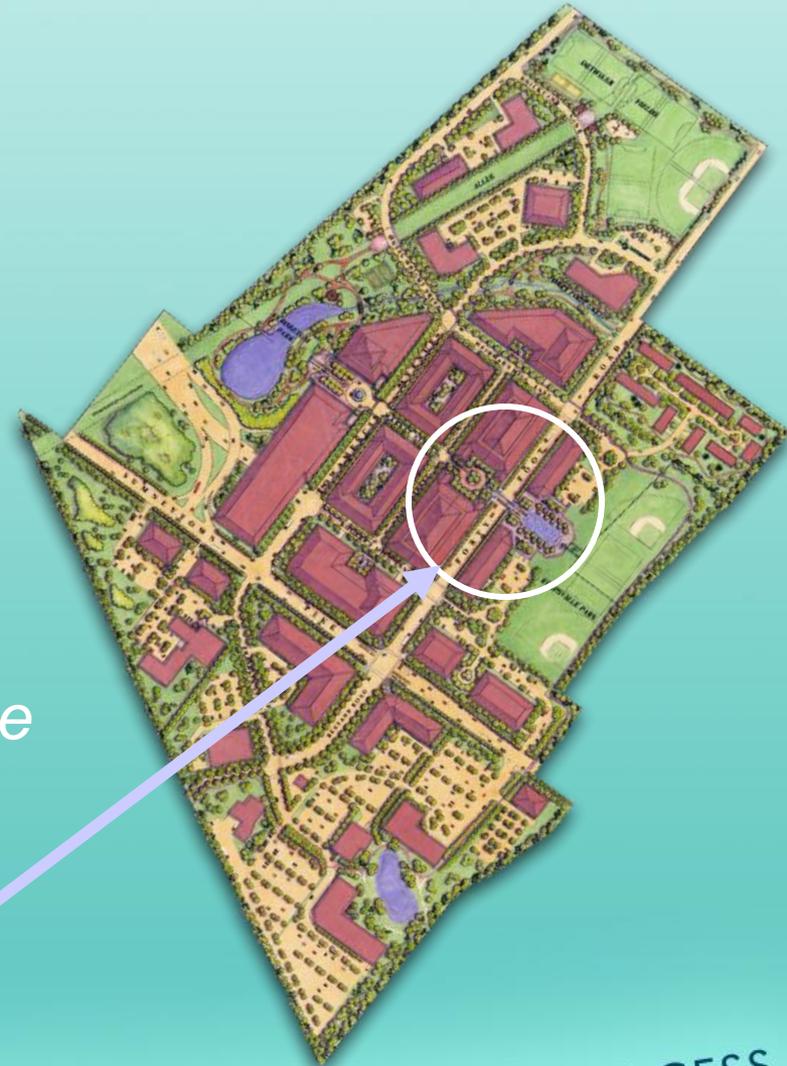
Create walkable community

Depress highway horizontally

Create mid-block, non-motorized bridge

Design “context sensitive” civic icon

Bridge location



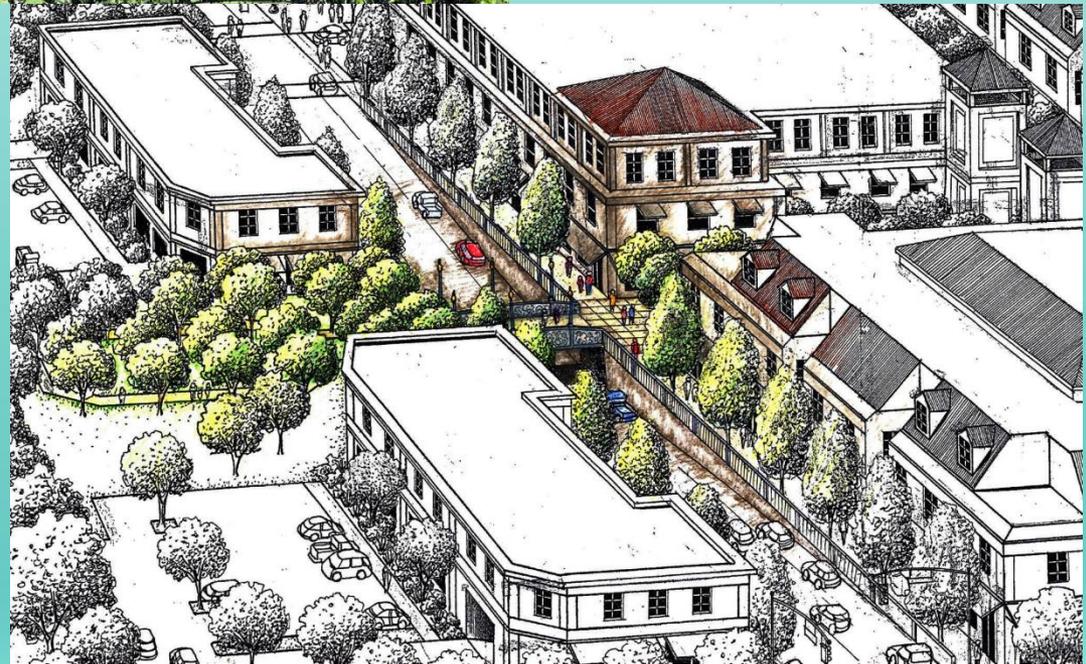
Forty Foot Road Pedestrian Bridge



Initial

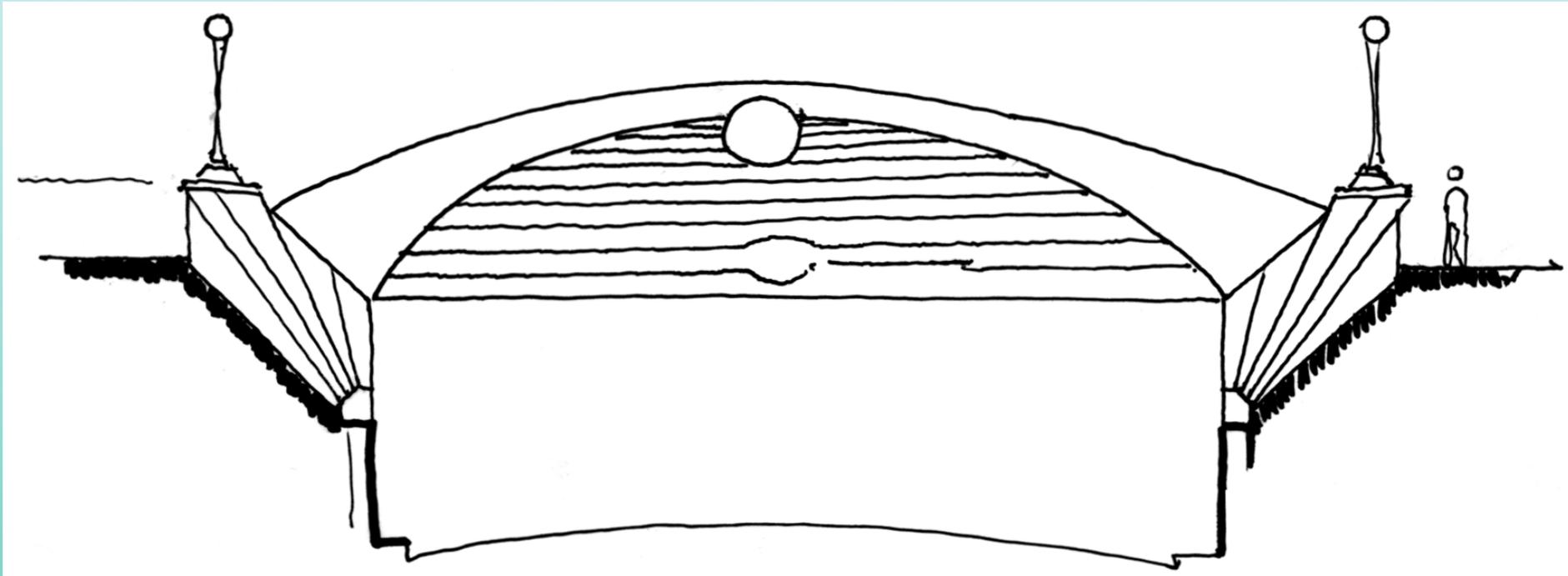
Ultimate

*Economic studies informed
highway design*



LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

Forty Foot Road Pedestrian Bridge



LA Services

Town Center Recreation Plan

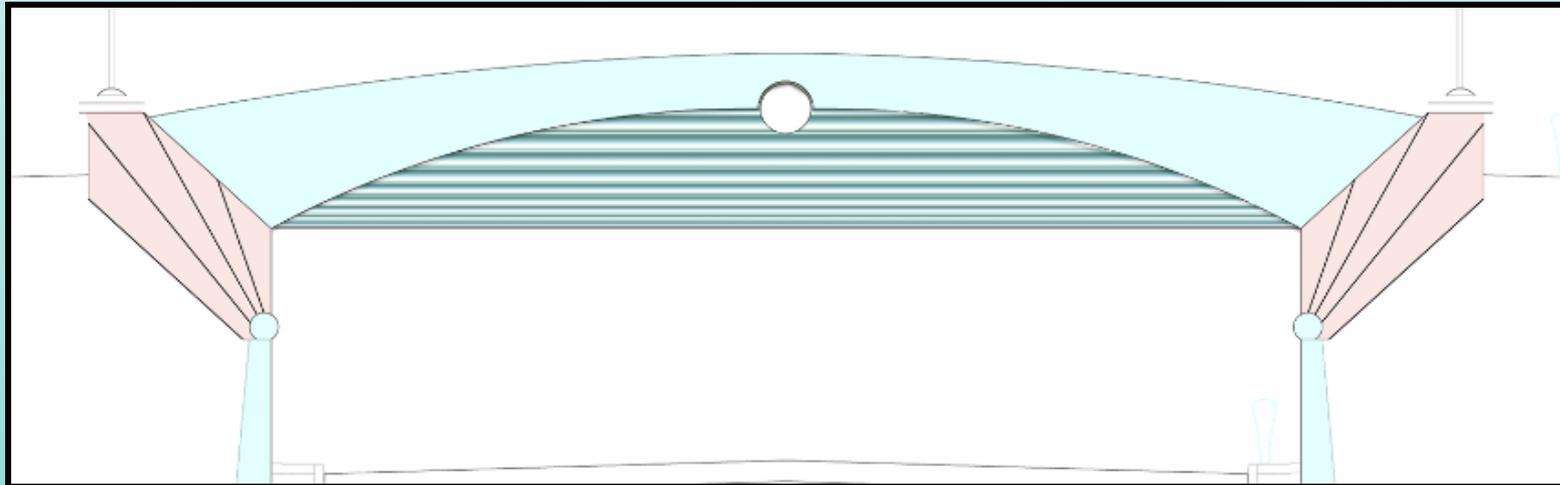
Concept – depress and span highway

Bridge design, TC zoning overlay

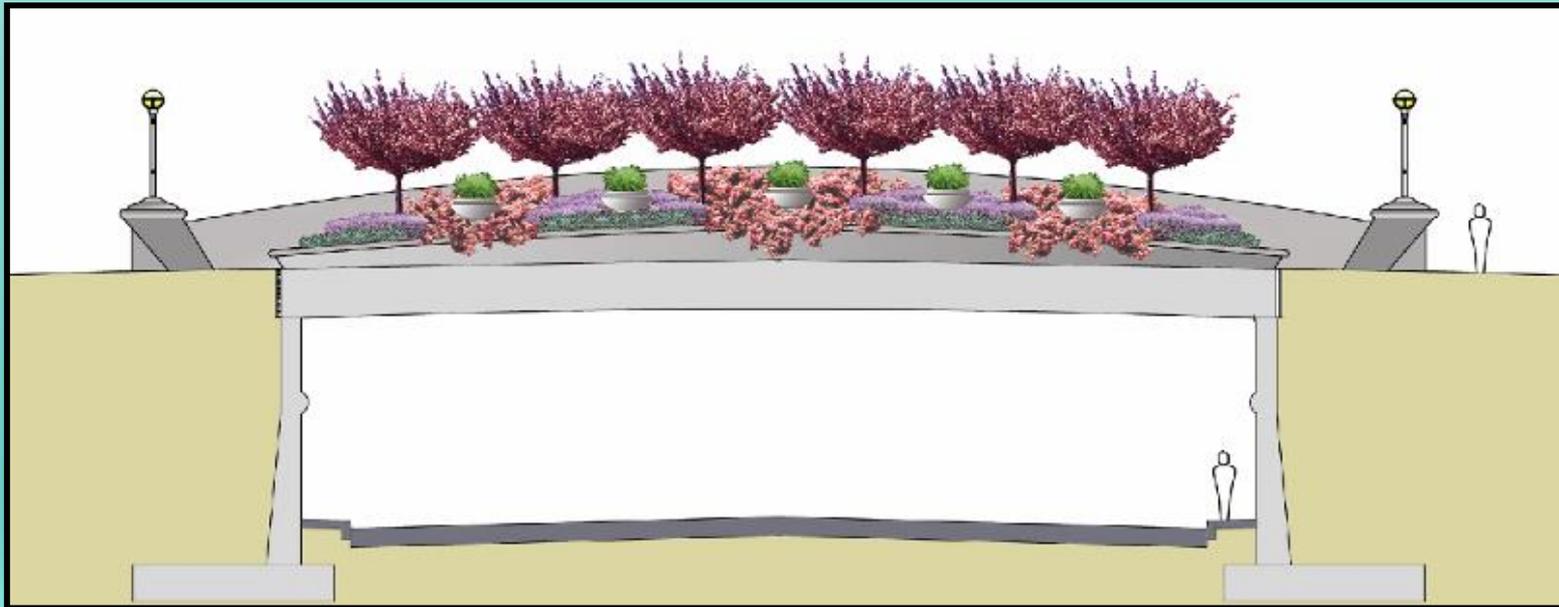
Alternative alignment analyses

Forty Foot Road Pedestrian Bridge

Art Deco motif integrated into structure



Cloistered pedestrian environment on deck

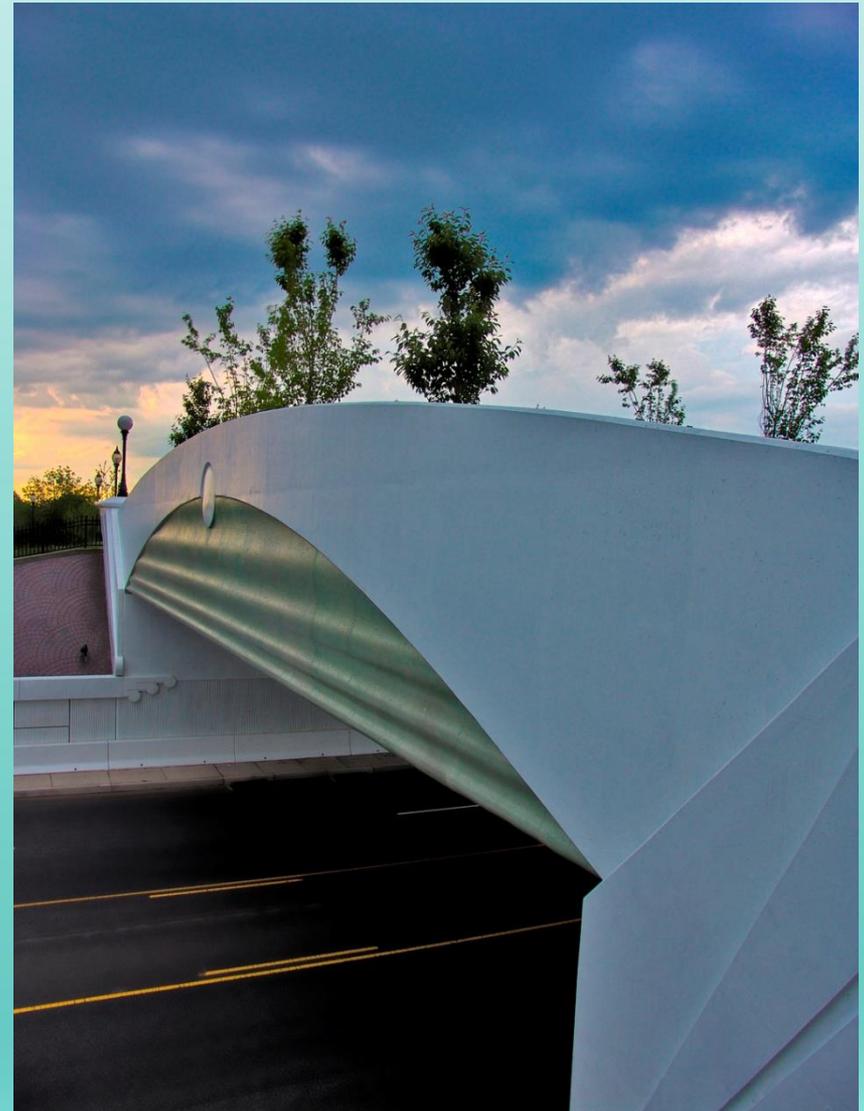


Forty Foot Road Pedestrian Bridge



Bridge as a landscape structure

Feature concrete as a sculptural material



Forty Foot Road Pedestrian Bridge

1997 – 2008

\$1M – Bridge

\$13M – Roadway

Funding Partners

- PennDOT / FHWA
- Towamencin Twp

Awards

- National Concrete Bridge - PCA, 2008
- Project of the Year - ASHE, 2008
- Merit - ASLA PA/DE, 2009



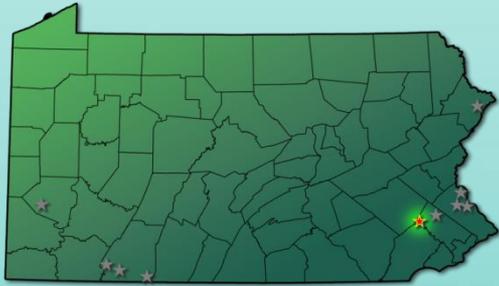


Under

Pottstown Pedestrian Underpass

“UNDER”

Create pedestrian thoroughfare under active railroad



Pottstown,
Montgomery County



Pottstown Pedestrian Underpass

Obstacles:

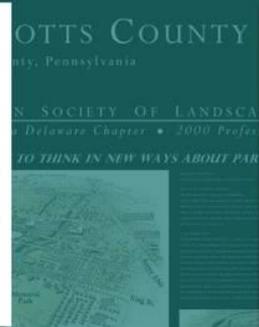
- X Physical
- X Costs
- X Bureaucratic

Strategies:

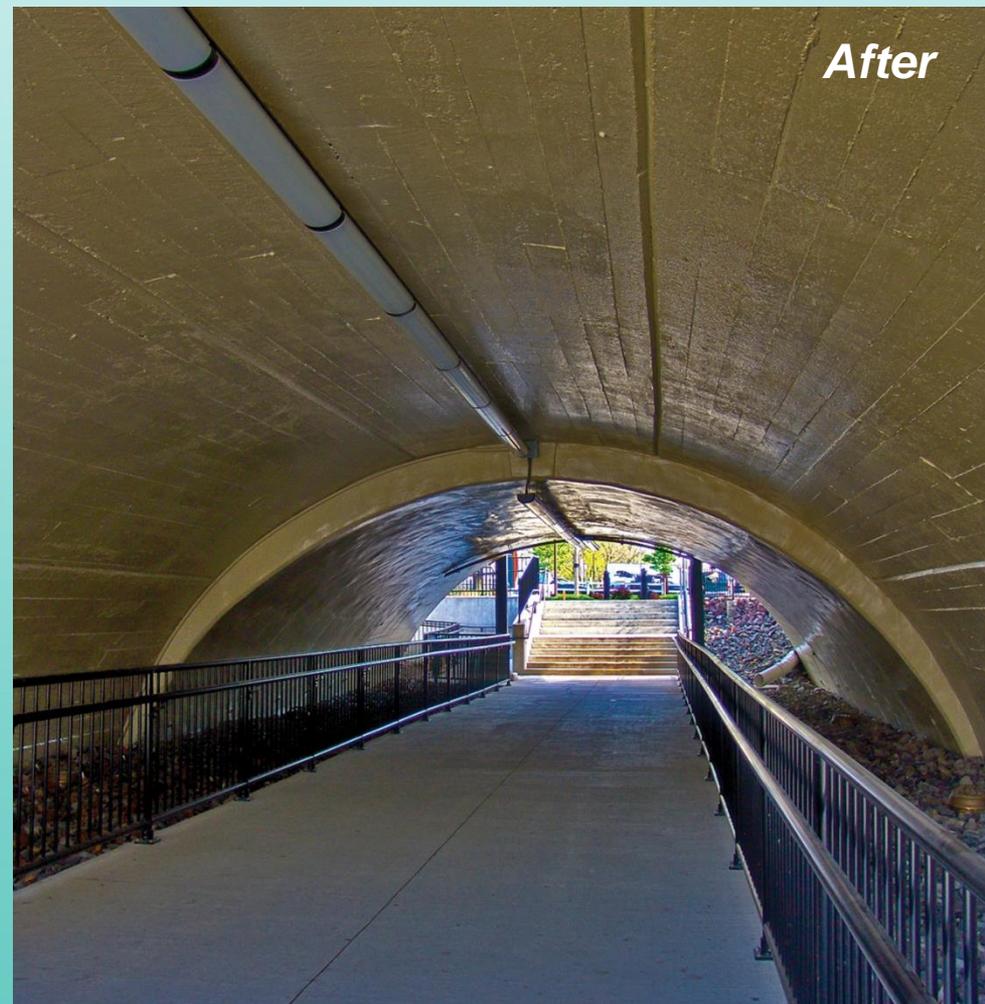
Adaptively reuse former millrace under active railroad

Create safe pedestrian link from town center to regional trail

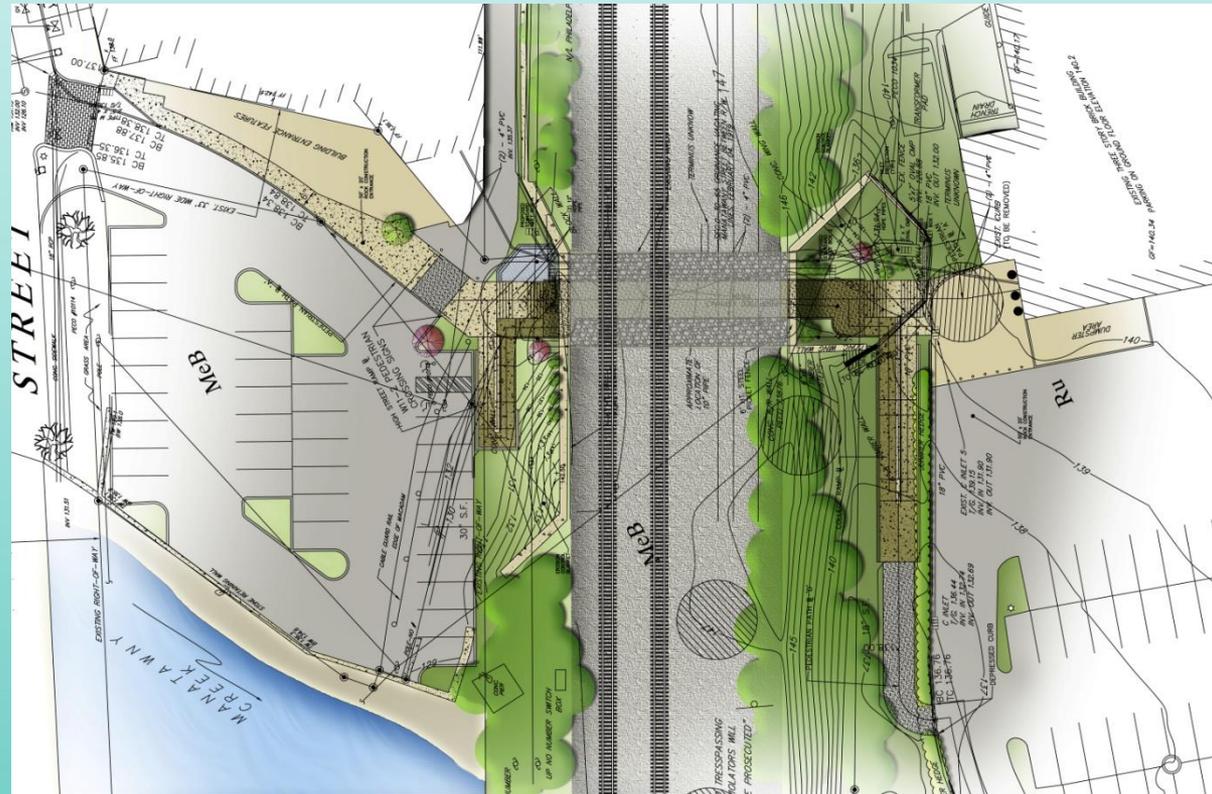
Connect two halves of college campus



Pottstown Pedestrian Underpass



Pottstown Pedestrian Underpass



LA Services

Park master plans, funding strategy

Underpass architecture, site design

Compliance justification to SHPO

LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

Simone Collins
Landscape Architecture

APA Webinar July 24, 2015

Pottstown Pedestrian Underpass

2000 – 2008

\$1.08 M – Rehabilitation

Funding Partners

- PennDOT – TE \$
- PA DCNR
- Montgomery County

Awards

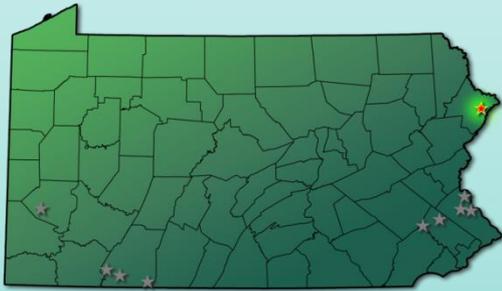
- Revitalization - MCPC, 2008
- Project of the Year - ASHE, 2008



Through

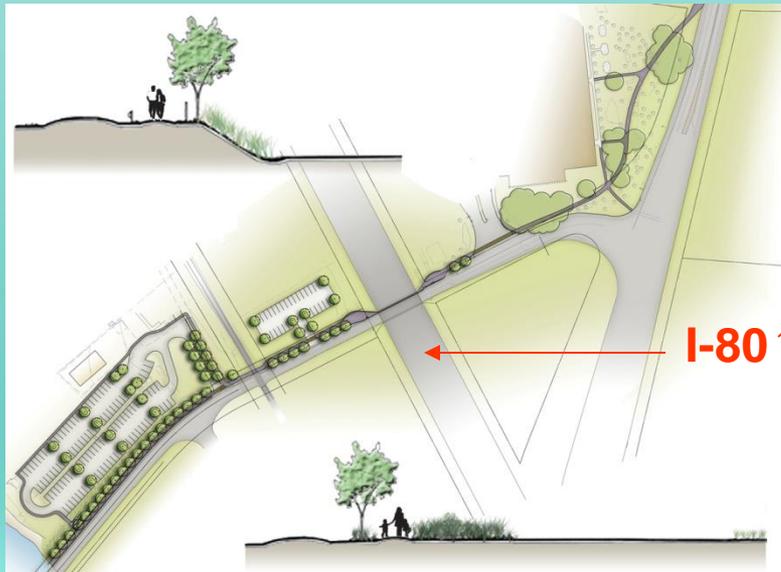
“THROUGH”

Minisink Greenway Trail



Smithfield Township
Monroe County

Create pedestrian walkway thru existing overpass



Link between Appalachian Trail – NPS McDade Trail

Minisink Greenway Trail

Obstacles:

X Physical

X Costs

X Bureaucratic

X “Friends”

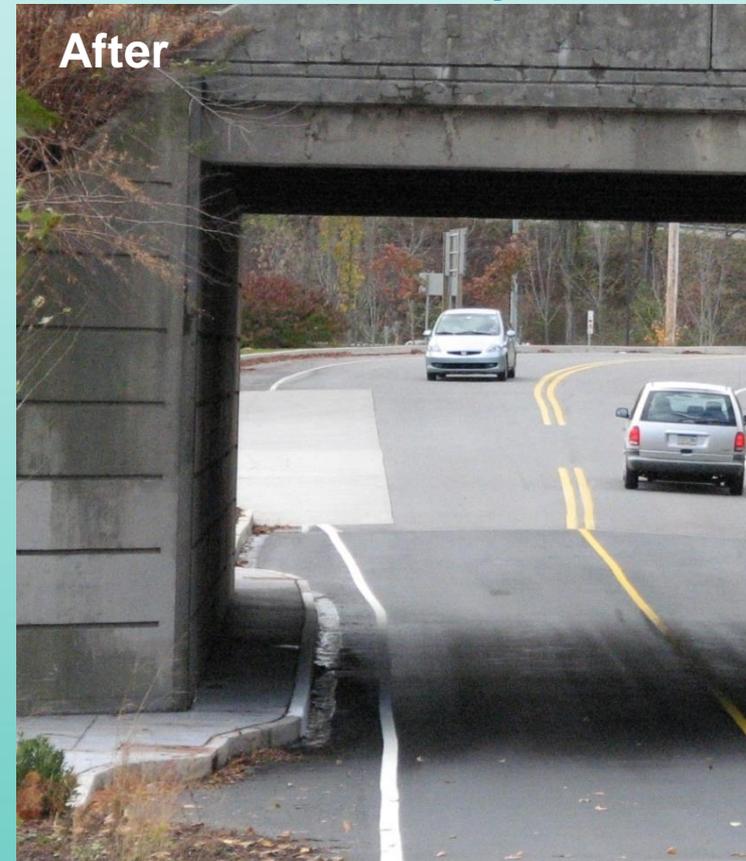


Before



After

Minisink Greenway Trail



LA Services

Trail plan, funding strategy, grant application

Thoroughfare / trail design / documentation

PennDOT negotiation

Minisink Greenway Trail



Concept



Built

Minisink Greenway Trail



3-foot sidewalk = 11 years



1997 – 2008

\$0.8 M – Rehabilitation

Funding Partners

- DRJTBC
- Commonwealth of PA

Client

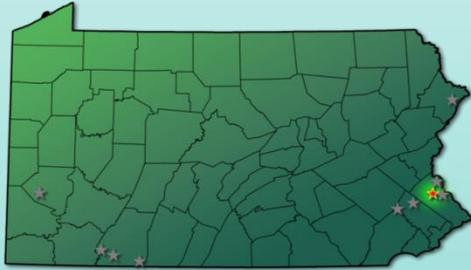
Smithfield Township

Minisink Greenway Trail



“THROUGH”

Solebury Route 32 Trail



Solebury Township
Bucks County

Obstacles:

X Physical

X Costs

X Bureaucratic

Retire a lane of the state scenic highway for a new bike trail



LANDSCAPE ARCHITECTS AND THE TRANSPORTATION PLANNING PROCESS

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Landscape Architecture

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Solebury Gateway Trail



Existing



Proposed

Strategies: Road diet, stormwater bioswale, trail

2005 – 2008

\$1.9 M – Total Project

Funding Partners

- DRJTBC
- Solebury Township
- PennDOT
- PA DCNR
- PA DCED

Solebury Gateway Trail



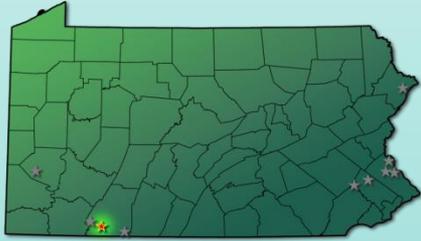
LA Services

Concept strategy / funding strategy

Grant applications, site design

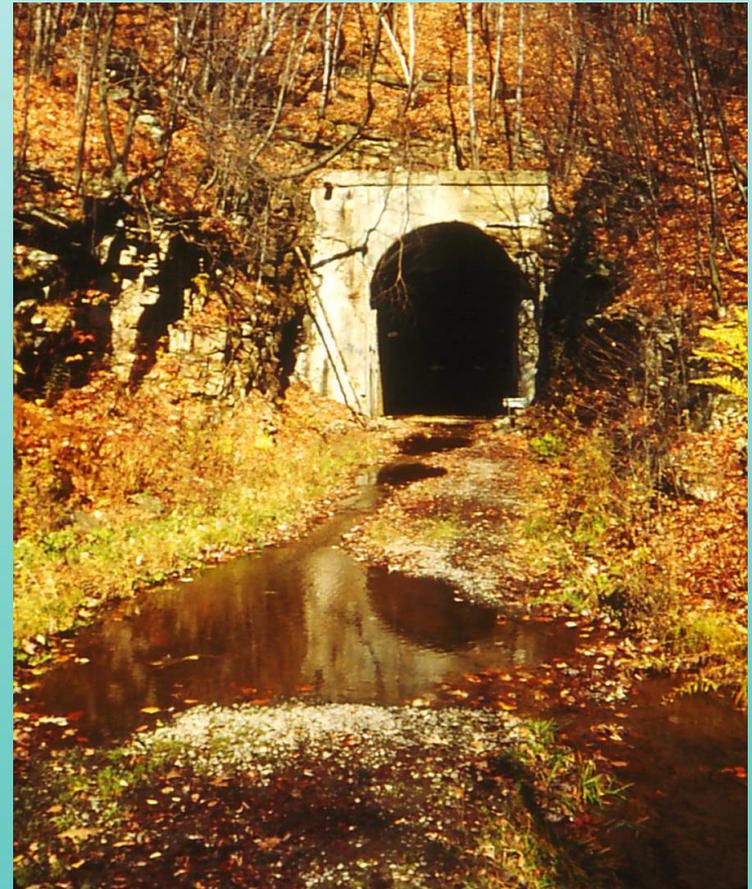
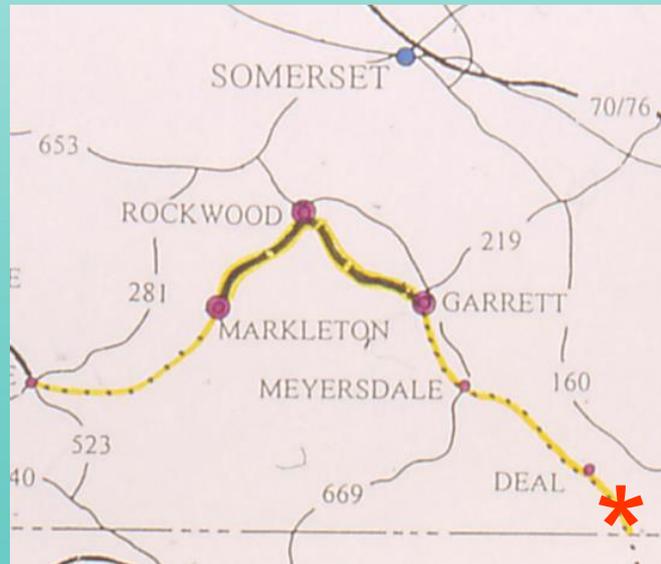
“THROUGH”

Big Savage Tunnel



Mason Dixon Line
Somerset County

Rehabilitate former railroad tunnel for interstate trail



Great Allegheny Passage (GAP)

Big Savage Tunnel

Obstacles:

X Physical

X Costs



Strategies:

Analyze alternative routes

Rehabilitate former RR structure

“THROUGH”

Big Savage Tunnel



Completed – *new liner, drainage, lighting, doors, trail*

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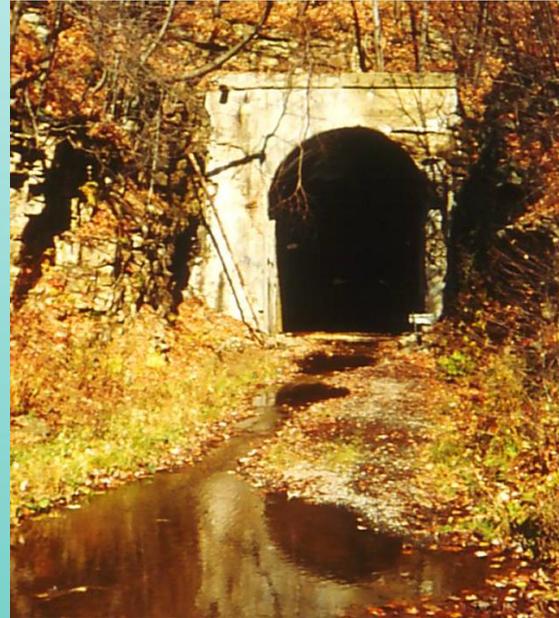
1997 – 2003

Big Savage Tunnel

\$12 M - Rehabilitation

Funding Partners

- Commonwealth of PA
- National Park Service
- Allegheny Trail Alliance
- USDA Forest Service
- Somerset County



Thank you

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