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Project Details

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(QS), Terra Technologies (ecology)

Title

+StL: A Landscape Master plan in St. Louis

Output

Design

Function

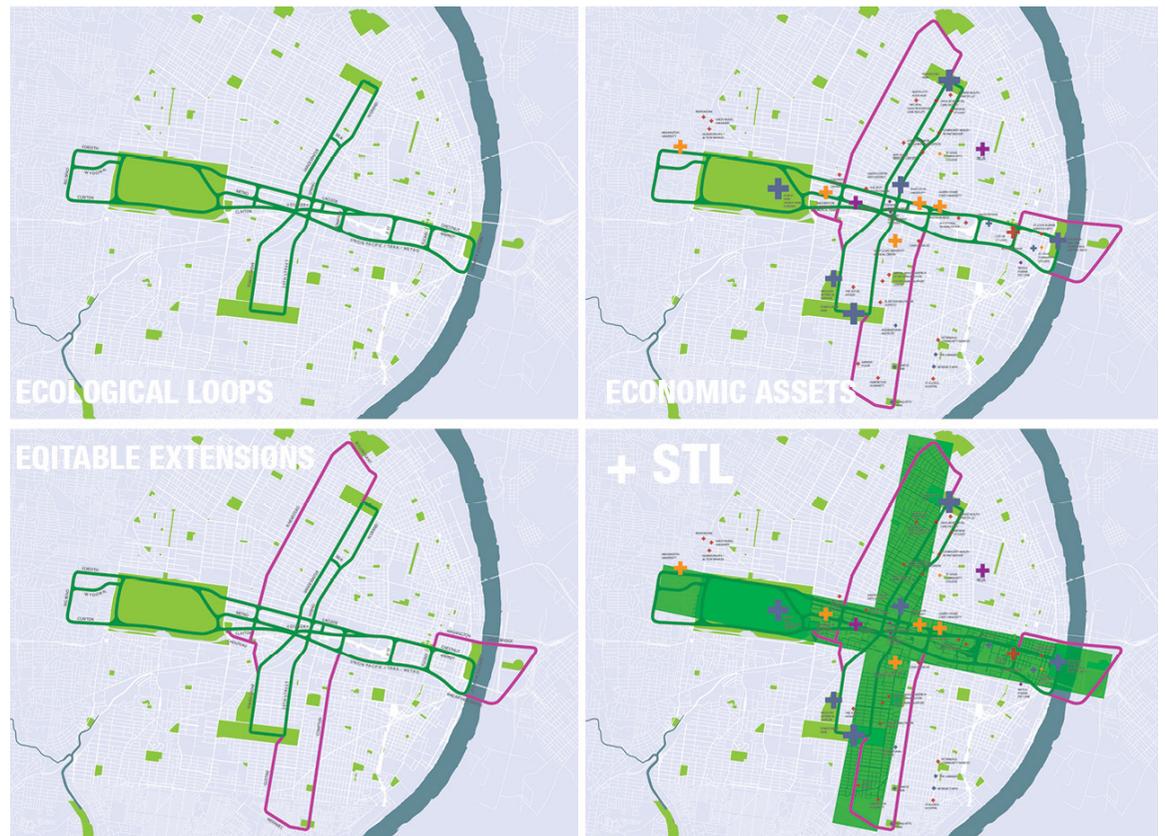
Competition, Urban Master Plan

Location

St. Louis, Missouri, USA

Dates

Nov. 2017-May 2018



¹ Layered strategies of Ecological Loops, Equitable Extensions, and Economic Assets are built on our community inventory, insuring a suitable fit with existing projects, neighborhood needs and local stakeholders.

Summary of the Work and Its Significance, Originality, and Rigor

This project consists of a master plan and strategic development proposal completed for a high-profile international urban design competition. I participated on the team of academics and professionals as a lead. Our proposal went through a two-phase review process against an international field of leading practitioners, and in the final stage competed against four other teams including one led by James Corner Field Operations and another by Stoss Landscape Urbanism.

Asked to resolve ecological, social, and economic issues with a strategic landscape intervention in the heart of St. Louis, our master plan proposal

envisioned a rebuttal of the typical resource-concentrating big landscape interventions that have ‘cornered the market’ on international urban design projects. Instead, following in the spirit of the organizer’s citizen-involved approach to building regional greenway networks, we proposed a master plan that reconnected a multi-modal network at the city’s urban core in ways that brought incremental investment back to the communities and ecologies currently faltering, or forgotten, that surround the project corridor.

Our team was assembled on a principle of multidisciplinary and on community/professional partnerships. The team included academics from the University of Hong Kong, the University of Washington Sam Fox School of Architecture and the Brown School of

Social Work with community leaders, public health advocates, and professional specialists in architecture, landscape architecture, ecology, hydrology, civil engineering, law, economics, and community finance. Committed to a horizontal design and decision making process, the resulting master plan focused on providing tactical measures to address specific problems related to equity, public health, and mobility in the city. We focused on three strategies in particular: 1) stimulating existing economic assets by planning linked investments, 2) “maximin” regeneration of disconnected ecological patches and corridors as a self-maintaining urban wilderness, and 3) an implementation sequence that would expand and ensure equity among the various communities affected by urban regeneration. These

three strategies articulated a finer set of goals for distributing development, introducing biodiversity and undoing hard water infrastructures, and planning for unbroken access to jobs, institutions, and public space.

My role as an academic on the team drew on my research on landscape systems in developing countries. I saw such systems as a potential model for low-capital investment projects in the developed world. My research for the project involved surveying existing landscape systems and habitats and proposing suitable interventions to maximize social and ecological services while minimizing disturbance. Working with hydrological engineers and ecologists, I designed a series of prairie and wetland interventions and evaluated their long-term cost-benefit for adjacent

sites. I was also an academic liaison with the leading landscape architect and professional head, TLS, often translating their professional perspective in team negotiations. Finally, I--together with the academic team at Washington University--articulated the project's "counter-proposal" narrative and its critique of international competition practice. This would ultimately cost our team the winning prize (we came in second place), but has been cited as a defining concept in the prizes and awards the project has won since.

The project has won six international awards, notably:

1) ASLA National Honor Award in Analysis and Planning (*American Society of Landscape Architects*);

2) AIA-New York Honor Award for Urban Design (*American Institute of Architects*);

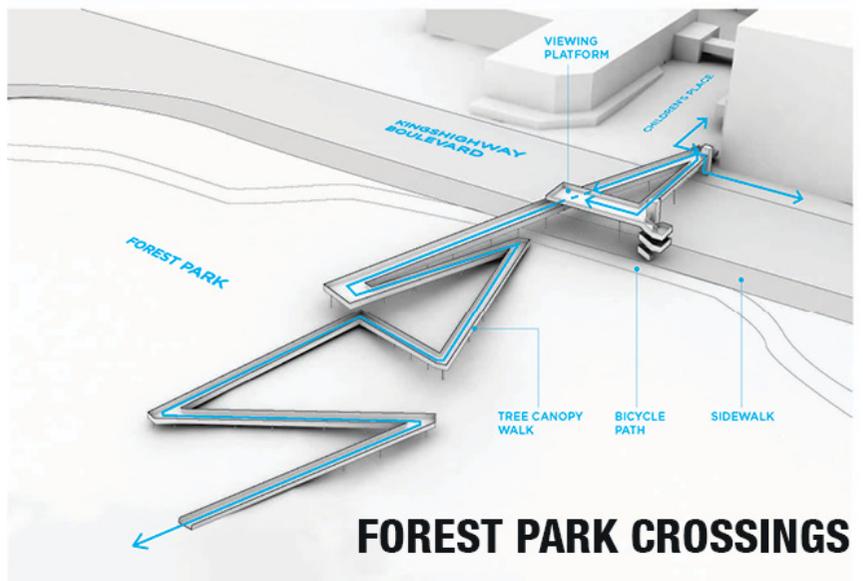
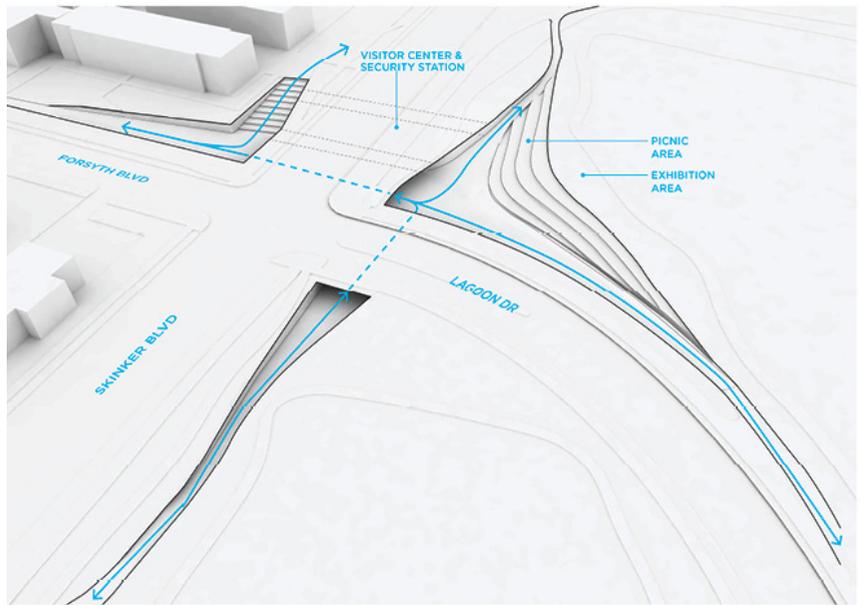
3) Sustainable Cities and Human Settlements Award for Planning and Design (*2019 Global Forum on Human Settlements*)

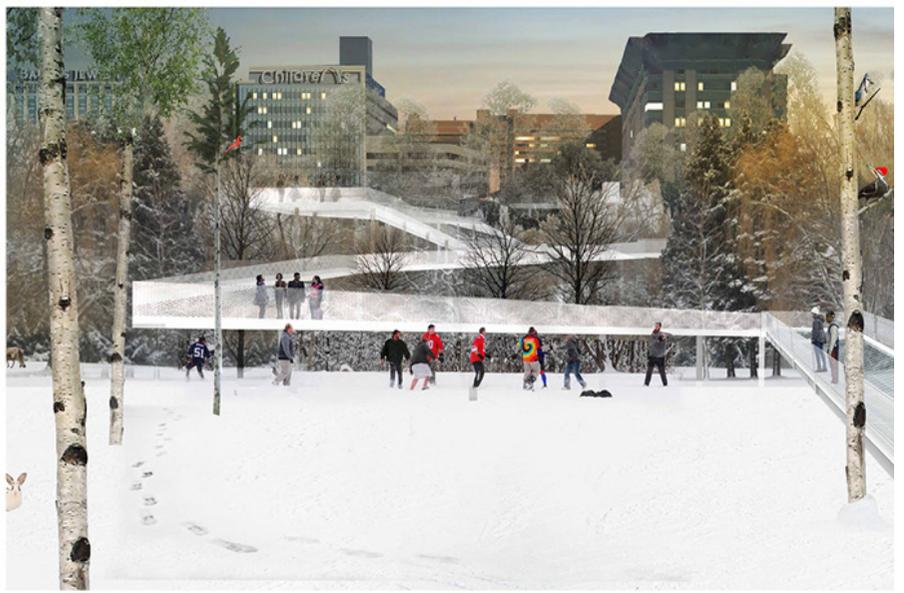
Originality

Big urban projects are too often sites of community division and our academic and community team members were important in shaping a proposal that rejected a more typical professional “big project” approach in favor of nuanced research and face-to-face engagement. Our meetings with resident and advocacy groups in St. Louis attested to underlying anxieties of displacement, waste, and inequality. Our approach to ecological restoration was equally inclusive, and relied on vegetative re-wilding and selective management practices to nurture existing plant and animal communities, however improbable, on the basis of their environmental services. Our masterplan proposal restores ecological, cultural, and economic potential within the space of this void,

while simultaneously reaching deep into the surrounding communities to stimulate connectivity, strengthen existing places of value, and synthesize investments already underway. The result is a multi-directional armature that focuses efforts to build on St. Louis' existing strengths and fosters new urban futures with an incremental and flexible master plan.







¹ Busy traffic corridors separate the Forest Park from its surrounding neighborhoods. Generous pedestrian and nature friendly underpasses or delicate bridges link the park, existing Greenway, Washington University, and hospital district

Research Questions

- How can large-scale infrastructural development in post-industrial cities benefit communities at large without draining existing social and capital resources?
 - What are new typologies in the American Midwest/Prairie Cities for ecological restoration that allow for robust wilderness and low-input ecological services back into the city?
 - How can long-term planning exercises be managed to make implementation more successful, while being accepted, and even directed, by the communities they impact and benefit?

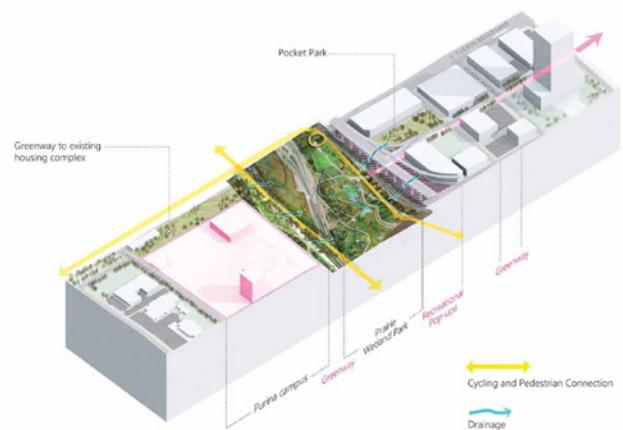
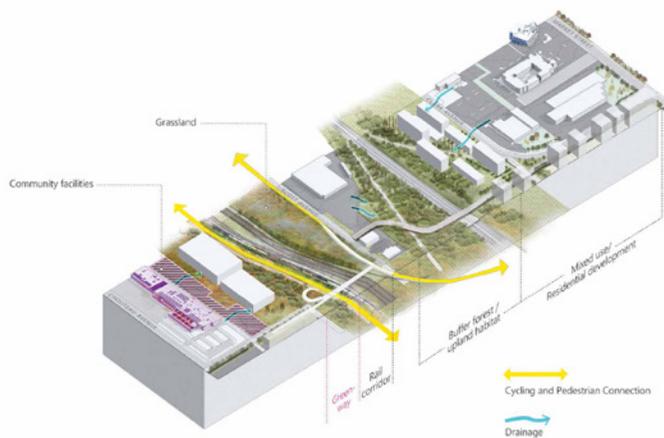
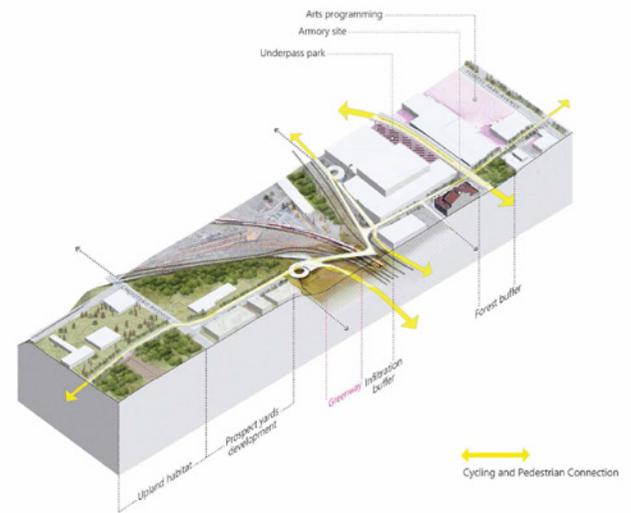
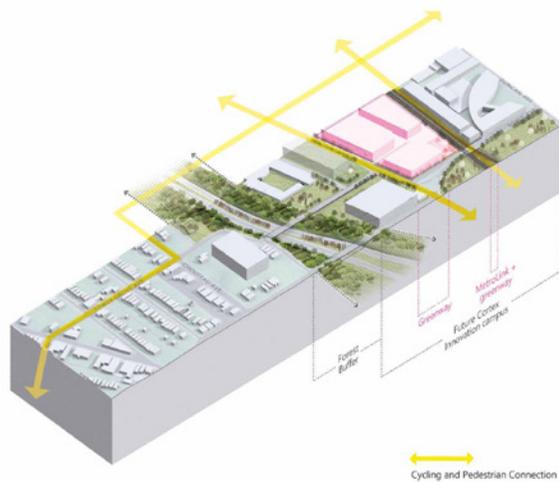


¹ Proposals for varied interventions into the project site and adjacent areas. In each instance historical uses, community interests, and ecological concerns guide the proposed programs and structures

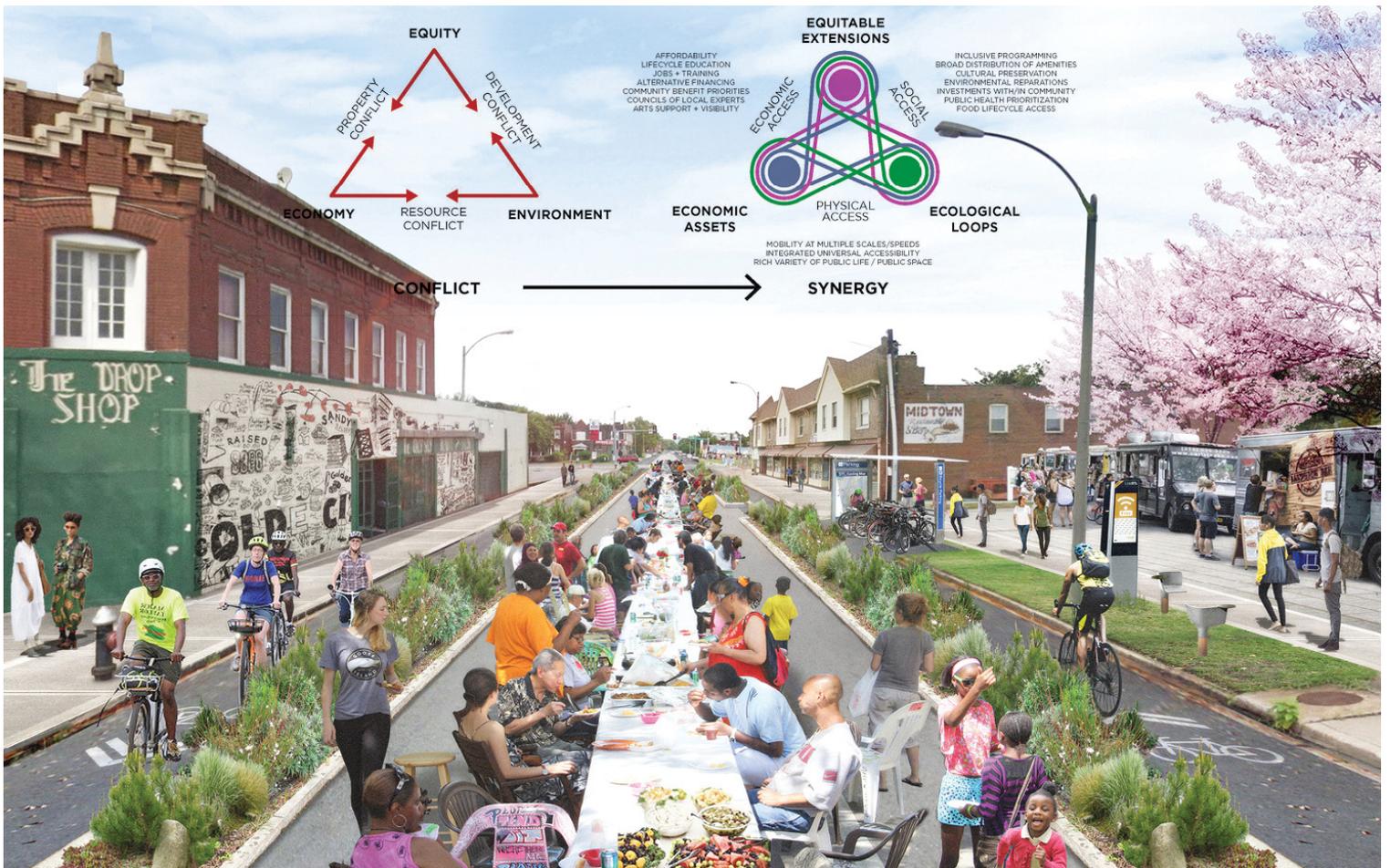
Rigor

A traditional definition of sustainable development attempts to balance environmental conservation, economic growth, and social equity, though intractable conflicts between these corners of interest. Our masterplan built on work of sustainable planning and social justice theory by Scott Campbell (i.e. 2016) and others. We proposed a set of tripartite responsibilities as catalysts with shared, rather than opposing, interests. Our plan considers three dimensions of access: **PHYSICAL ACCESS** requires affordable, timely, reliable mobility as well as universal access to place and experience. **SOCIAL ACCESS** prioritizes inclusive programming and investments in neighborhood cohesion through partnerships with organizations, the

spatial distribution of services, and a rich array of public amenities. **ECONOMIC ACCESS** makes space for a variety of land-use types for affordable places to live, access to quality education and recreation, and entryways into work.



¹ The +StL greenway reaches the dynamic river shore, increasing access to the city's predominant landscape feature. The greenway network also reaches to and connects with the communities in East St. Louis.



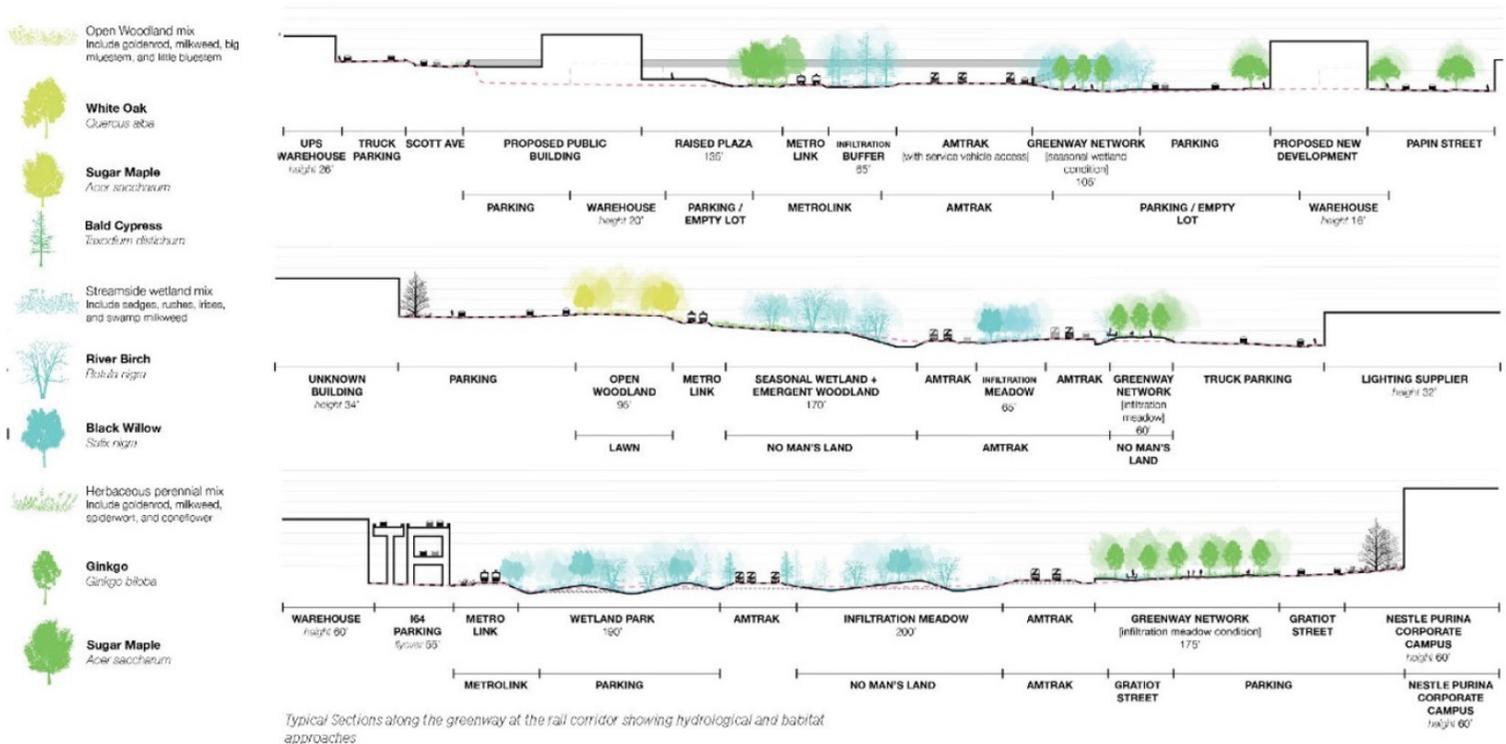
¹ St. Louis neighborhood communities are strong. The N-S axis of the greenway compliments community organization and event activities.

Significance

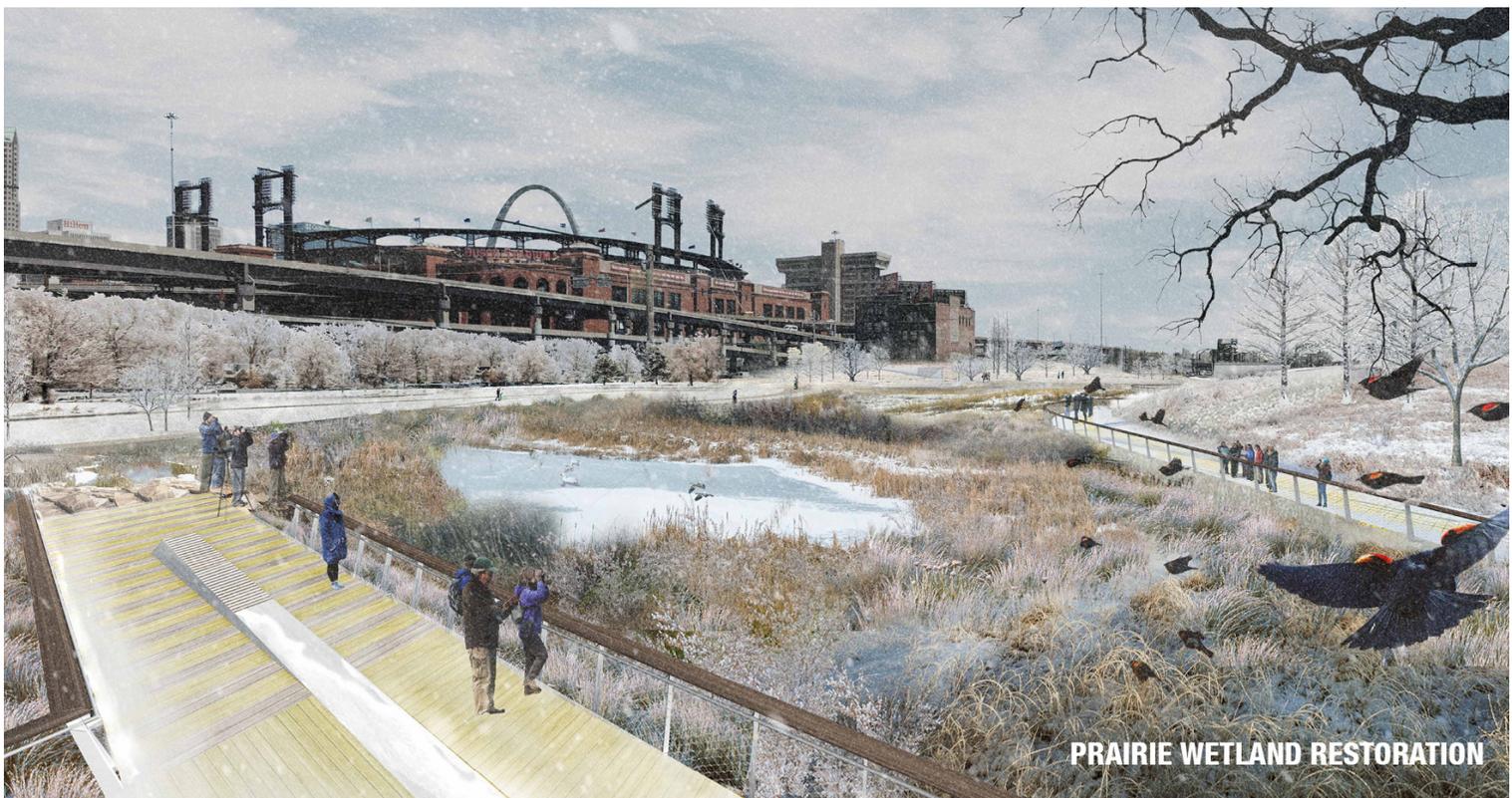
Our team was a runner-up in the international competition. Our proposal was well received by the public and by the Community Action Committee, and the Technical Advisory Group in particular. For the academics in the group, our contributions to the design and planning strategy were founded in our own approach to large scale landscape systems, to urban hydrology, and to accessibility and equity within lower-income communities. My own research into the urban wilderness in developing cities was especially informative in developing ecological strategies in the post-industrial context of an American city. Our project offered a critique of the competition sponsor in rejecting the big-project, single investment strategy that was presumed

by many of the stakeholders and common among high-profile, international urban design competition.

That our proposal has gone on to win top awards within an international audience in the landscape, architecture, and urban design fields lends credibility to the merits of our proposal and helps advance our theoretical critique among a professional and academic audience, while giving leverage to the community advocates and ecological managers of St. Louis we engaged along the way.



PRAIRIE RESTORATION AND WETLAND SECTIONS



¹ New habitats are built through a process of scarifying the ground to create small water-collection zones and uplands that over time are inhabited by wild plants from the region

² This biologically productive site anchors the greenway and provides opportunities for environmental education, bird, frog, and bat watching, short nature hikes and prairie picnics—unique recreational programs for the emerging downtown district.



- ¹ Traffic diets provide space for improved cycling networks and link between residential districts, recreational sites, and job centers.
- ² Studies of flora and fauna thriving in urban St. Louis reveal potential communities of birds, pollinators, and small vertebrates that can re-inhabit this infrastructural landscape with minimal imported soils or re-grading. 20th century heritage is re-contextualized as a new urban wilderness.

Dissemination and Evidence of Peer Review

As part of the competition judging process, the proposal was reviewed and critiqued by a jury of professional, and academic leaders. The proposals were also reviewed multiple times by technical experts (Technical Advisory Group) and a Design Oversight Committee (composed of major stakeholders and competition organizers). We also held meetings and received feedback from local community and advocacy groups. Final and midterm presentations were made in front of a public audience, while our proposals were displayed in public venues throughout the city.

Our team was one of four finalists, though the project was not selected as the prize winner. The three other teams

were led by prominent professional and academic figures in the landscape architectural discipline. (Chris Reed, Stoss Landscape Urbanism (winner); James Corner Field Operations, and W Architects).

The project has won six international awards:

- 1) ASLA National Honor Award in Analysis and Planning (*American Society of Landscape Architects*);
- 2) Sustainable Cities and Human Settlements Award for Planning and Design (*2019 Global Forum on Human Settlements*)
- 3) Honor Award for Urban Design, AIA-New York (*American Institute of Architects*);
- 4) Honor Award, AIA-St. Louis (*American Institute of Architects*);
- 5) Distinguished Award, AIA-Central States (*American Institute of Architects*);
- 6) First Prize, Architizer A+ Award in Landscape & Planning



¹ Mid-review presentations to Technical Advisory Group. Two interim reviews with this group preceded a final review of our proposal





Appendix

Prizes

Honor Award, 2019 ASLA
(American Society of Landscape
Architects) Research and
Planning Category.

(https://www.asla.org/2019awards/640658-StL_Growing_An_Urban_Mosaic_In_St_Louis.html)

Honor Prize, 2019 AIA-
NY (American Institute of
Architects) Design Award,
Urban Design Category.

(<https://www.aiany.org/architecture/featured-projects/view/stl-growing-an-urban-mosaic/>)

Winner, 2019 Architizer A+
Award in the Landscape &
Planning – Unbuilt Masterplan
category.

(<https://architizer.com/projects/stl-growing-an-urban-mosaic/>)

Distinguished Prize, 2019
AIA Central States (American
Institute of Architects) Design
Award, Urban Design Category.

(link not published until Oct. 11)

Honor Award, 2019 AIA-St.
Louis (American Institute of
Architects) Design Award, Urban
Design and Planning Category.

(link not published until Oct. 11)

Winner, 2019 Global Forum
on Human Settlements,
Sustainable Cities and Human
Settlements Award for Planning
and Design .

(<http://www.gfhsforum.org/SCAHSA-2019>)



1 ECOLOGICAL LOOPS

The first "E" establishes a series of performative "Ecological Loops" that connects four major areas in St. Louis. The loops allow "St. Louis Greenway" to choose their own adventure. Following the line on the loops, one can choose a fast commuter route, a leisurely stroll through nature, a quiet neighborhood walk, an encounter with art, industry or cultural heritage, or a combination of all of the above experiences. The loops allow linear, circular, loop or circular pathways that amplify and create new experiences in the city while constantly opening up to the greater urban fabric. While all loops are located primarily on quieter secondary routes for cyclists, various segments of the loops offer different experiences.

The East-West urban route from the Gateway Arch to Chestnut and Market aligns on one with Lincoln, a quiet and nearly pedestrian street that runs through heart of St. Louis' premier educational institutions and districts. The West-East route from Forest Park to Capitol Avenue and the Metro in the Union Pacific. Beyond to Chestnut's Landing allows a new experience (especially unique to St. Louis) integrating ecology, woodlands, streams, and wildlife ecologies with St. Louis' industrial fabric.

The North-South loops connect Fairground Park, Tower Grove Park, the Missouri Botanical Garden, and the Washington University in St. Louis. The North-South Loop Greenway provides vital neighborhood access and habitat corridors for improved environmental health and biodiversity. All of the Ecological Loops handle water infrastructure in the form of atmospheric rain gardens, streams, and wetlands while creating new and varied habitats for people, flora, and fauna.

2 EQUITABLE EXTENSIONS

The second "E" expands the Ecological Loops with three primary "Equitable Extensions". The "St. Louis Greenway" will bridge not only the North-South Divide, but also make an effort to cross the river to East St. Louis, a city that works together and bridges its divisions will create a stronger more vibrant city that more and more people will believe in, need, and love. The "St. Louis Greenway" extends into some of the most financially, infrastructurally, and socially challenged neighborhoods in St. Louis, in so doing, we create a Greenway that invites and welcomes a multitude of users to the city, it offers affordable housing, culture, and educational institutions - a new Greenway that not only provides safety and security, but accessibility and opportunity.

The extensions to the North along Newstead and to the South along Carondeau will grow the neighborhoods such as The Ville, The Grove, and O'Fallon in the North and Groves Park, Tower Grove South, and DuSable in the South. Improving bus transit frequency and reliability, sidewalks, roads, and street lighting, and introducing protected walking lanes will have a major impact on the quality of life and amplify ongoing efforts and investment in these neighborhoods.

Many plans have been made to connect across the Mississippi River. This project has the opportunity to finally bridge the long standing divide between Missouri and Illinois. Utilizing existing bridge infrastructure by building a light-weight bicycle pathway on the MacArthur Bridge and pedestrian bridge the newly used East Bridge would bring more equitable opportunities for East St. Louis and St. Louis residents alike.

3 ECONOMIC ASSETS

The third "E" builds on existing "Economic Assets" investment capital flowing to St. Louis. And takes increasing its following - quality of life places that embrace diversity and inclusion, a mix of uses, and other spaces for connection and fun. Theaters, parks, institutions, cultural venues, social facilities, and small, medium, and large businesses are all considered "Economic Assets."

From Washington University and Forest Park, through Cortex, Grand Center, Saint Louis University, and Harris-Stowe University, and Downtown, the Greenway will connect, strengthen, and build St. Louis' existing assets that are either strong or under performing in their capacity to catalyze economic growth, act as underwriting public realm, and provide a framework to expand economic opportunities throughout the city. Create some systemic infrastructure can leverage placemaking as a key component of a powerful development strategy.

Strategically building on proximity to transit, parks, and culture is a powerful and proven strategy for expanding economic opportunity. Enhancing access to these assets with a new, well-programmed greenway network can support the real estate market of their surrounding area and attract new residents, companies, and investment as proven by research from around the country. This network can also help to fix voids in the existing fabric by creating a framework for where public and private investment should be directed.

ST. LOUIS: A PREAMBLE

St. Louis is home to world class institutions, many reaching back to the city's early foundation when St. Louis was one of the largest cities in the United States and built with commerce, facilitated by the river and railroad. Today, the city and county continue to benefit from these early investments in such cultural assets. Many of the institutions reside within architecturally significant structures from the early 20th Century or earlier. Though many of the buildings remain standing, the central civic realm has suffered. In the 1950s, the northern downtown underwent development of areas that were once the central civic realm. The city's urban fabric has been largely dismantled and the city's urban fabric has been largely dismantled. The city's urban fabric has been largely dismantled.

The region benefits from several higher educational institutions, many of the most prominent in the world. The University of Missouri System, St. Louis University, Washington University in St. Louis, Saint Louis University, and Saint Louis Community College are among the most prominent in the region. The city's urban fabric has been largely dismantled.

neighborhoods and multi-modal transportation options. In recent years, the city has seen a resurgence in its urban fabric. The city's urban fabric has been largely dismantled.

Grand Arts District with historic facilities like the Fox Theatre (1929) and Grand Center (1929) along with new additions like the Pulitzer Arts Foundation (2005) and the Contemporary Art Museum St. Louis (1996, 2006), can contribute as an anchor to a blossoming arts scene. Contemporary art programs and organizations, formal and informal, can direct the greenway both in conceptual goals and in its implementation.

Employment centers - the B.C. Hospital complex, civic institutions, and corporate offices - need to be reimagined. The city's urban fabric has been largely dismantled.

in under-served areas between B.C. and Vandeventer Avenue. The new MetroLink stop and greenway access will help connect this as a vital emerging economic hub in the region. Smart economic development and greenway connections can help do the same for other under-served areas like around Union Station and Chestnut's Landing.

St. Louis' two major professional sports teams serve as major organizational players from their headquarters. Ballpark Village, home of the Cardinals, and the Ballpark Sports Center Arena, both within the gateway corridor and will continue to be great anchors for surrounding investment. Ballpark Village is a great example with entertainment programs that will be used to anchor programs in the rest of the same way, it brings them to other elements of the gateway, while the courts can be encouraged to target their focus on the city's future.

The ingredients already exist. Programs, institutions, physical resources, neighborhood investments, and regional physical conditions will only continue to amplify these efforts if complementary connecting strategies between different areas.

THREE E'S

ECOLOGY, EQUITY, ECONOMY

1 ECOLOGICAL LOOPS

2 EQUITABLE EXTENSIONS

3 ECONOMIC ASSETS

EXTENDING THE GATEWAY MALL

LINKING TO A LINEAR PARK
A NEW DEVELOPMENT HUB

At the Gateway Mall, the new gateway connects existing blocks of park space into a more cohesive linear park between Memorial Drive and 21st Street. Redefined by the redevelopment of Union Station and the new riverfront park, the Mall contains many assets such as City Hall, the Missouri Courts, Circuit Court, the Opera House, the Poplar's Museum History Museum, and the Old Courthouse. The Mall should remain a place of civic presence, but is not embedded by increased activity.

The Gateway Mall does not have a pedestrian-friendly gateway to the riverfront. To address this, we propose a new gateway to the riverfront. This gateway will be a new gateway to the riverfront. This gateway will be a new gateway to the riverfront.

At the western end of this axis, between 18th and 21st Streets, this area was part of the 19th Creek Park study area. This area was part of the 19th Creek Park study area. This area was part of the 19th Creek Park study area.

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TRESTLE AT THE FOUNDRY

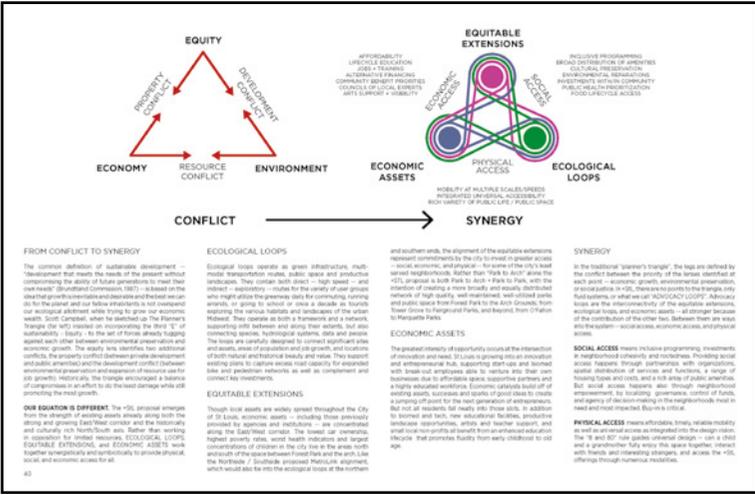
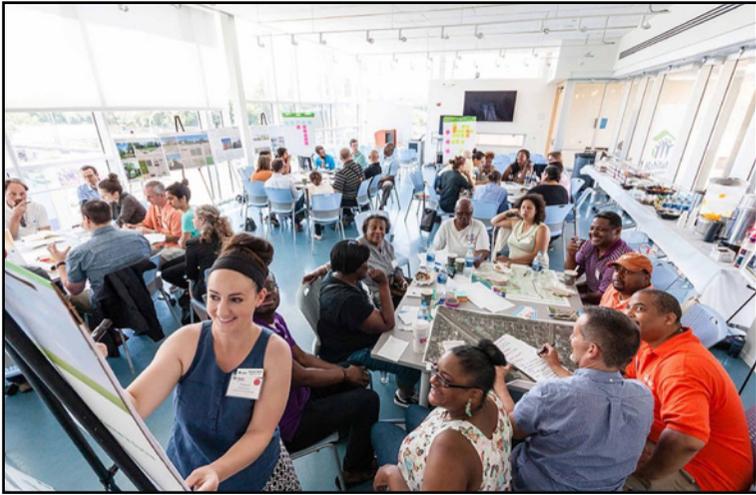
CORTEX CAMPUS
GRAND ARTS EXTENSION

The gateway through the Cortex Innovation District is located at the intersection of the 18th and 21st Streets. This gateway will be a new gateway to the riverfront. This gateway will be a new gateway to the riverfront.

As envisioned in the 2016 Planning Character Summary, the gateway vision is to create a new gateway to the riverfront. This gateway will be a new gateway to the riverfront.

Living to an existing section of 18th's park network and connecting to the new gateway, the gateway will strengthen the overall hydrological and ecological functionality.

The trestle, with its structure over the St. Louis 20th Century gateway and adjacent to the 18th Street park and cultural center, will be a new gateway to the riverfront. This gateway will be a new gateway to the riverfront.



COMMUNITY ENGAGEMENT STRATEGY: SYSTEMS OF ADVOCACY

DESIGN GOAL

Enable the community to engage in a process of shared decision-making and problem-solving to address the needs of the community. The strategy will be designed to address the needs of the community, and to be a catalyst for change. The strategy will be designed to address the needs of the community, and to be a catalyst for change. The strategy will be designed to address the needs of the community, and to be a catalyst for change.

COMMUNITY GOAL

Design the strategy to be designed to address the needs of the community, and to be a catalyst for change. The strategy will be designed to address the needs of the community, and to be a catalyst for change. The strategy will be designed to address the needs of the community, and to be a catalyst for change.

1) EDUCATION & INNOVATION

2) CULTURE & HERITAGE

3) HEALTH & FOOD

4) HOUSING & ECONOMY

SEE "PROGRAM RECOMMENDATIONS" SECTION FOR MORE DETAIL ON THE "FOUR SYSTEMS OF ADVOCACY"

CATALYZE THE COMMUNITY BUILDING

DESIGN GOAL

Enable the community to engage in a process of shared decision-making and problem-solving to address the needs of the community. The strategy will be designed to address the needs of the community, and to be a catalyst for change. The strategy will be designed to address the needs of the community, and to be a catalyst for change.

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3) HEALTH & FOOD

4) HOUSING & ECONOMY

SEE "PROGRAM RECOMMENDATIONS" SECTION FOR MORE DETAIL ON THE "FOUR SYSTEMS OF ADVOCACY"

SHAPE A SUSTAINABLE FUTURE

DESIGN GOAL

Enable the community to engage in a process of shared decision-making and problem-solving to address the needs of the community. The strategy will be designed to address the needs of the community, and to be a catalyst for change. The strategy will be designed to address the needs of the community, and to be a catalyst for change.

COMMUNITY GOAL

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1) EDUCATION & INNOVATION

2) CULTURE & HERITAGE

3) HEALTH & FOOD

4) HOUSING & ECONOMY

WASHINGTON UNIVERSITY

WASHINGTON UNIVERSITY

- Over \$2 billion in direct spending
- Supporting more than 42,000 jobs in the region
- In the midst of a \$240 million campus expansion

FOREST PARK

- Over 15 million annual visitors a year
- Two hours visiting from over ten miles away

WASHINGTON UNIVERSITY MEDICAL CENTER

- 18-acre medical campus
- \$6.3 billion annual economic impact
- Over 20,000 jobs in combined medical center institutions
- \$1 billion investment in West US School of Medicine campus

CORTX

- 200-acre innovation district
- 300 high-tech companies generating 4,300 jobs
- Over \$500 million in physical investments

GRAND CENTER

- 50 arts organizations
- 20 theaters and bars
- 12,000 theater seats
- Two hotels
- Hosts more than 1,500 arts and festival events annually

SAINT LOUIS UNIVERSITY SCHOOL OF MEDICINE AND SLU HOSPITAL

- \$75 million in annual economic impacts
- Nearly 7,000 jobs

HARRIS-STOWE STATE UNIVERSITY

- \$65 million in annual economic impacts
- Nearly 700 jobs

DOWNTOWN WEST

- Home to assets that draw thousands of visitors, including:
 - City Museum
 - Union Station
 - Southside Park
 - St. Louis Aquarium (planned)
 - Penobscott Open House
 - Washington University Art Museum (planned)

DOWNTOWN

- \$1 billion in planned development
- Three million annual visitors to Gateway Arch
- Three million annual visitors to Busch Stadium
- Over 600,000 visitors to America's Center

USE GREEN INFRASTRUCTURE AS CATALYST

SUPPORT POSITIVE HEALTH BEHAVIORS

IMPROVE ACCESS TO FRESH & QUALITY FOOD

POTENTIAL PROGRAMMING

- Urban Farming
- Community Gardens
- Food Access
- Food Security
- Food Education
- Food Safety
- Food Justice
- Food Policy
- Food Systems
- Food Waste
- Food Security
- Food Access
- Food Security
- Food Access
- Food Security
- Food Access

Organization focused on access to quality and healthy food through a cluster-based approach to create an inclusive and resilient food system in collaboration with St. Louis Neighborhood and The Food Front Connection. They have created **FOOD ACCESS CLUSTER**, an inclusive approach to develop food front systems.

INSPIRE CULTURAL AWARENESS

PROMOTE VALUES-BASED PUBLIC ART

INCREASE HERITAGE VISIBILITY

POTENTIAL PROGRAMMING

- Historical Events
- Public Art
- Heritage Tours
- Community Engagement
- Education
- Research
- Documentation
- Preservation
- Restoration
- Recreation
- Interpretation
- Education
- Research
- Documentation
- Preservation
- Restoration
- Recreation
- Interpretation

Allocation of 20 acres and 1,000 feet of shoreline in former industrial site Clevelight (Light Gas Company) into a contemporary park - one of the first post-industrial landscapes to be transformed into a public space in the United States (CFL). Its landscape integrates a combination of rehabilitated industrial structures and new contemporary public art.

BICYCLE AND PEDESTRIAN CROSSING SYSTEMS

For the numerous pedestrian and bicycle bridges proposed for the Greenway, we are proposing a robust and safe system technology to span over freeways and other roadways. We are exploring a precast, cast-in-place concrete bridge system with steel support structures. The bridge system is a non-structural loading followed by paving. The beams will serve double-duty as structural members and as a pavement for the bridge. The advantages of this system are that it is a well-known technology and is a proven system around the country, including MDOT. Concrete is a durable material that is widely used by the transportation industry while requiring minimal maintenance. Higher strength concrete mixes as well as prestressing helps to achieve significant span to weight ratios, and precasting elements help to maximize the quality of the concrete work under ideal conditions in the plant. For these reasons we are proposing a precast concrete system for all of the pedestrian/bicycle bridges. We believe this will provide a consistency of design and appearance for all the bridges in the Greenway.

We have not addressed foundations for the bridge in our conceptual design. Obviously site specific structural studies by a geotechnical engineer will be required to determine the most appropriate foundation systems, which may vary from site to site. Given the geology of the region and the limited subsurface data for these bridges, we believe that in most cases conventional, shallow spread footing will suffice. Site specific conditions as well as constructability.

Shoring beams will necessitate other foundation types, such as tie-back piles. Obviously, some soil conditions should be made for foundation for each of these bridges. List site specific geotechnical investigations, soil test performed. Also, list the soil conditions in the vicinity of the bridge. List the soil conditions in the vicinity of the bridge.



SEASONAL CONDITIONS AND TRANSFORMATION IN THE GREENWAY

SPRING COLOR SCHEME

ECOLOGICAL LOOP COLORS

Each Ecological Loop will focus on three distinct, medicinal plants, phytochemicals and some functions such as mental clarity, mood regulation and will be habitat will be identified through the use of color. Each loop will also have four color palette among the botanical plantings at each site.

As a result, in the springtime each loop will be dominated by either pink or yellow flower colors. Along with other factors, these group colors will help make the experience of each loop unique and memorable. This design feature will also add an additional seasonal aspect to visiting the greenway.

Despite the focus on certain spring flowering colors, each ecological loop will still have a diversity of plant species and a variety of planting conditions, including shade, sun, wet, dry, etc. This focus on color flowering plants will be affecting but not overwhelming other flower colors that will be present and featured in the landscape. However, the focus on the planned colors will be apparent as one travels along one of the major loop paths.

People are not the only ones attracted by spring wildflowers. The spring blooms along these ecological loops will also draw a large number of pollinating insects, adding another layer of interest for greenway visitors.

PINK & YELLOW LOOPS

Yellow is a classic color of spring and its bright cheer color is a welcome sight after winter.

As visitors travel along a path, they will see trees with yellow spring flowers, such as tulip trees. This species is a common ornamental shade tree and grows naturally in southern Missouri's forests. Spring brings its large flowers resemble those of tulips and are readily yellow with some white and orange markings. Its flowers attract a wide variety of pollinating bees species along with many kinds of butterflies. Yellow-flowered magnolia could also be planted to add to the effect as a cold yellow flowers, both deciduous shrubs.

These are many medicinal plants with yellow spring flowers. As a greenway visitor travels past an island prairie area, they could see common medicinal plants with light yellow flowers. Plants commonly would stand out from this mixture as they feature a vibrant red color along the trailing of the yellow flowers. Black-eyed Susans would also catch the eye with their bright yellow and dark brown centers. These species attract a wide variety of bee species, butterflies, and hummingbirds. Many other plants bear on the flowers and stems, and berries are also sometimes attracted by the visitor.

After turning a corner the bicyclist passes a planer featuring smooth yellow wilds and then starts climbing upwards in a long, narrow, shallow valley. They find colorful wildflowers. A close inspection of the species might reveal black wildflower catnip growing on the banks. It is a member of the mint family and is a member of the butterfly family. This species attracts pollinators like honey bees and small butterflies.

This is another wonderful spring palette color that really brightens the landscape.

Going for a spring walk, a young family begins their greenway walk on a park loop. They find colorful wildflowers. A close inspection of the species might reveal black wildflower catnip growing on the banks. It is a member of the mint family and is a member of the butterfly family. This species attracts pollinators like honey bees and small butterflies.

As they near the end of the loop they pass an open garden with several pink flowers providing different shades of color and a diversity of textures, including, but not limited to, evening primrose, and dove flowers. Bees and butterflies are attracted to the evening primrose and other flowers. The rose yellow and lemon trees add a wonderful scent to the family's experience.



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