



Fire and Ice – The Lighting of a Smokestack and Its Riverfront

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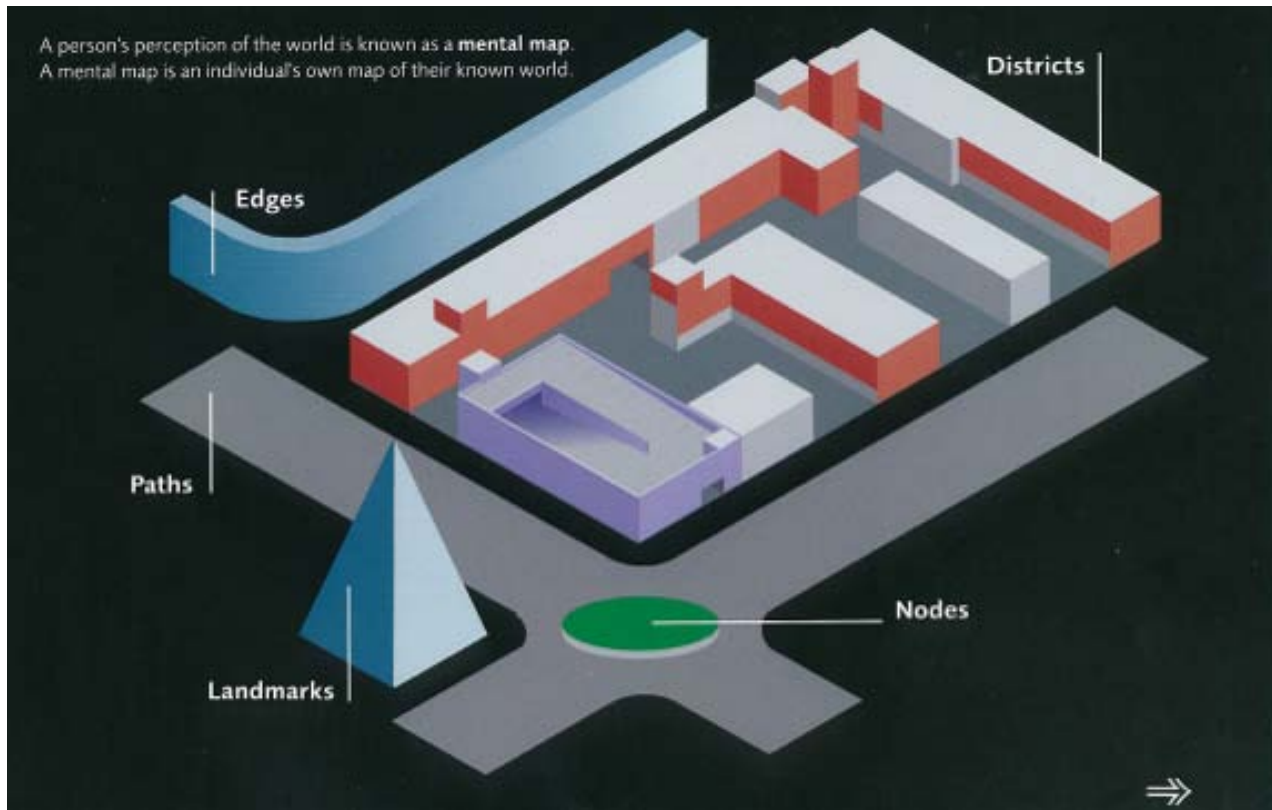
Rensselaer Polytechnic Institute



***Light is a powerful tool to
enhance a city's image,
reflect its identity, attract
visitors and commerce, and
stir the pride of its residents***

Fire and Ice – the Lighting of a Smokestack and its Riverfront

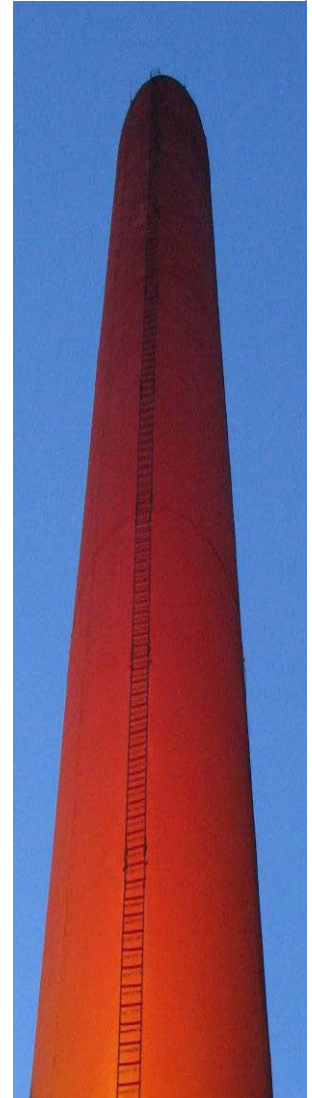
In *Image of the City*, Kevin Lynch, a 20th century city designer, talks about ‘legibility’, the ease with which people can understand the layout of a space based on five elements: paths, edges, districts, nodes and landmarks



Fire and Ice – The Lighting of a Smokestack and Its Riverfront

Our Landmark – the Hedley Smokestack – glows red hot from viewing points literally 360° around the city, setting the stage for its surrounding elements.

Evocative of a strength that has endured from century to century, this smokestack, when lit, quietly conjures up images of stories that are Troy's alone.



A Troy Story...

...a city's rebirth

- Troy, NY, a city of quiet energy, has risen to glory, receded to bare visibility, and now readies itself to sparkle once again
- Transforming itself systematically, through academic boldness, cultural diversity, and real estate expansion...
- The history of Troy is well documented.

A Troy Story...



...a city's rebirth

...yet evidence of its glory is only found in remnants – remnants of elegant architecture, strokes of intricate iron work on railings and gates, extraordinary light fixtures at entries



A Troy Story...



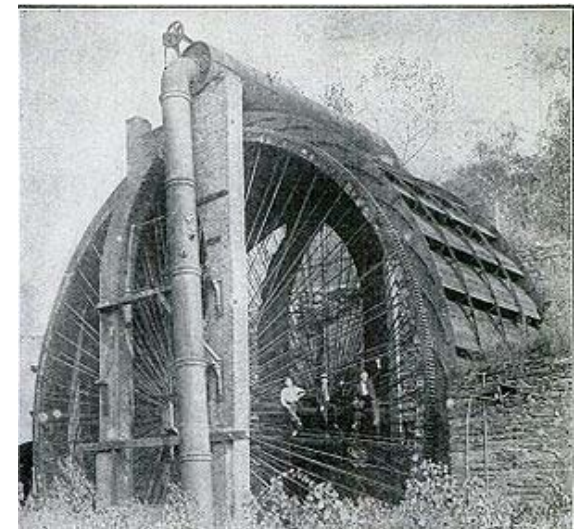
www.pbase.com/dond/tiffany

- Troy's fine 19th century architecture is host to an extraordinary number of Tiffany stained glass windows
- A giant water wheel made industrial history, and inspired a gentleman named Ferris to build a wheel of another sort – for amusement



The first Ferris wheel, built in 1893 for Chicago's Columbian Exposition

en.wikipedia.org/wiki/Ferris_wheel



Waterwheel at Burden Iron Works

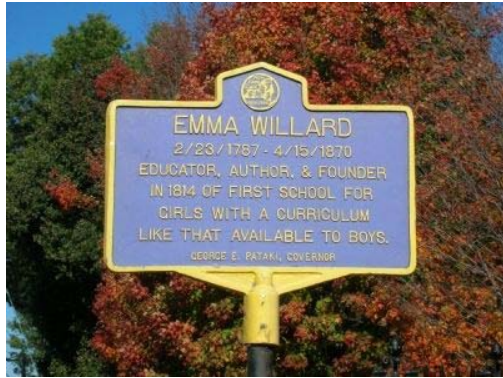
A Troy Story...



...pioneering spirit

- Academic institutions pioneered by men and women with vision
 - Rensselaer Polytechnic Institute (RPI), founded to train engineers to build the Erie Canal, is the oldest technical university in the United States.
 - RPI's innovative spirit as strong now as it was in 1824, forging new territories in biotechnology, engineering, electronic arts and experimental media, and of course, pre-eminence in lighting through its renowned Lighting Research Center (LRC).

A Troy Story...



...pioneering spirit

- Emma Willard, in 1818, presented her *Plan for Improving Female Education* to the New York State legislature
- In 1821 the city of Troy granted Emma Willard \$4000 to establish the Troy Female Seminary, now the Emma Willard School, to allow women the same education in science and math as men
- In 1829 she wrote one of the first complete histories of the United States

A Troy Story...

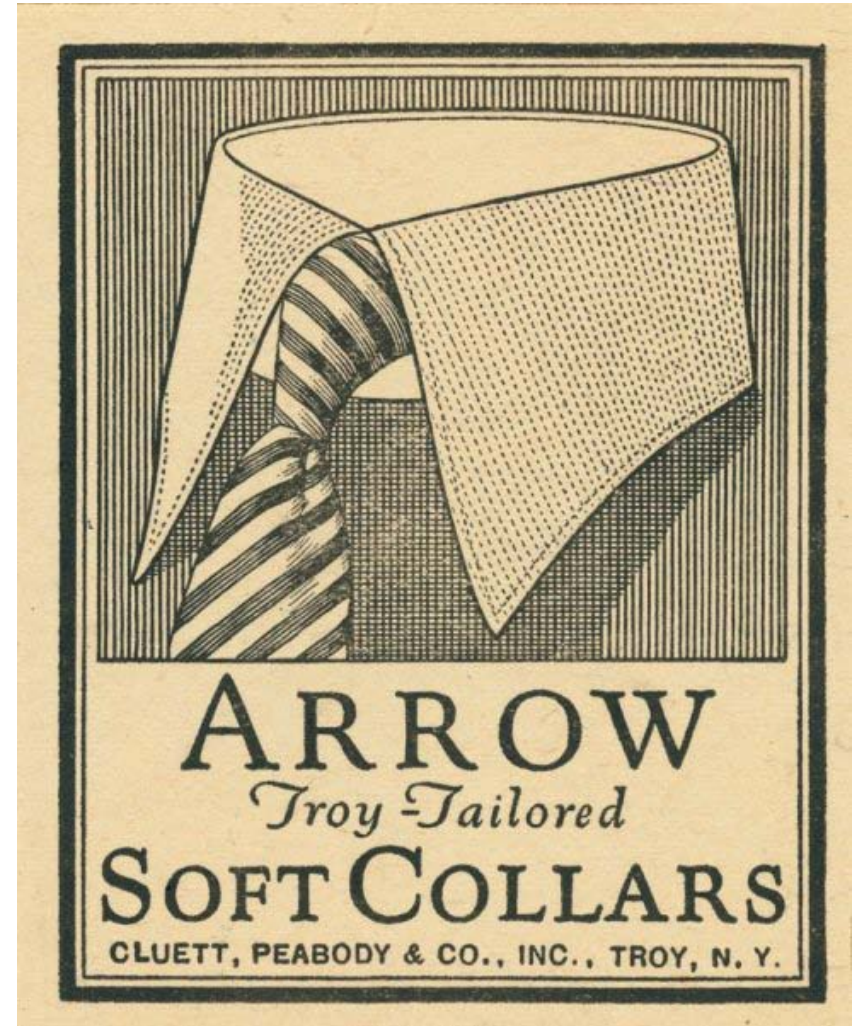
...city of wealth, prosperity and innovation

- During much of the 19th and 20th centuries, a most prosperous city
- Well known for its steel industry, iron works, horseshoes for the Civil War
- Also well known for the Cluett & Peabody shirt factory, which produced Arrow Shirts, still worn by men today



A Troy Story...

- In 1825 a local resident, Hannah Lord Montague, tired of cleaning her blacksmith husband's shirts, cut off the collars (since only the collar was dirty) bound the edges and secured them to the shirt with strings; this allowed the collars and cuffs to be starched separately, and so...the detachable collar was born
- This fashion trend for men caught on, and continued for over a century
- The patented collars and cuffs were manufactured by Cluett, Peabody and Co. under the "Arrow Shirt" label



...city of wealth, prosperity and innovation

- The large shirt manufacturing industry required an equally large labor force, thus was born the first female **labor union: *Collar Laundry Union***
- In 1864 its founder, a young girl from an Irish immigrant family, Kate Mullany, led 300 workers on a strike that lasted six days at which point the owners conceded, resulting in a 25% increase in wages for women
- In 1933 Sanford Cluett invented the process of permanently shrinking cotton, and *Sanforization* further transformed the shirt and collar industry
- Cluett Peabody's last main plant in Troy didn't close until the 1980s, when it moved further south

A Troy Story...



- The present building at 433 River Street in Troy was built in 1917 and replaced the 19th century collar shops
 - This is where our story begins...



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Hedley Park Place undergoing renovations

Fire and Ice – The Lighting of a Smokestack and Its Riverfront



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PORTALS

Two views as one
approaches over the
bridges

- Collar City
- Green Island

Marked by the riverside
composition

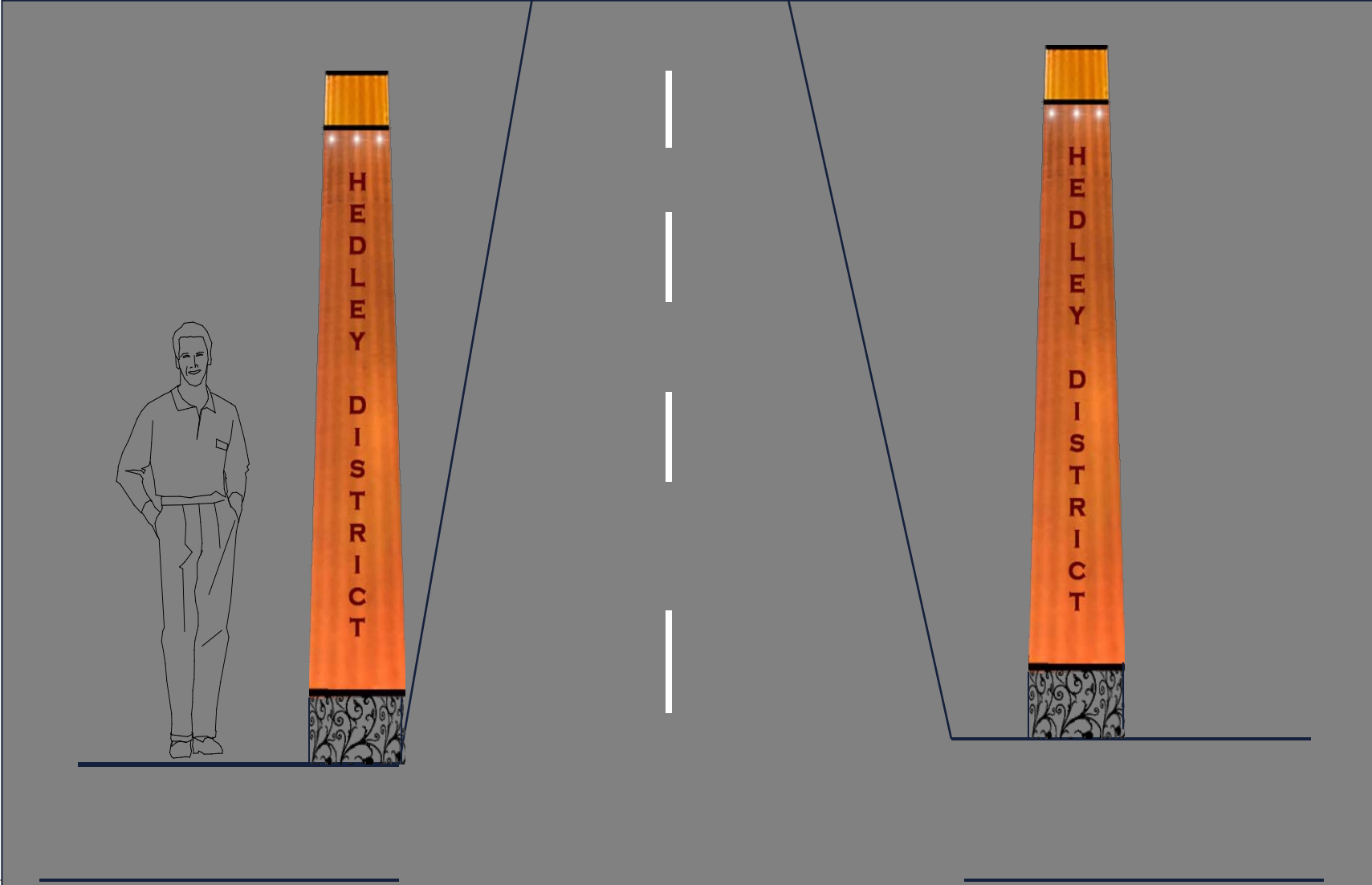
Three main points of entry:

- Hutton St
- Jacob St
- Federal St

Marked by lighted
smokestack columns



PORTALS



Hedley Smokestack Lighting – Inspiration



Inspiration for the smokestack lighting came from examples of similar industrial artifacts being brilliantly lighted throughout the world.

The fiery glow of the massive smokestack is meant to signal the persistent chug of a factory in motion, a factory that epitomized the industrial spirit of an America on the rise.

Part of a Master Plan

The Hedley District Lighting Master Plan considers these five elements:

paths, edges, districts, nodes, and landmarks

individually and integrally, delineating and unifying them through a hierarchy of lighting that utilizes color, brightness and movement to reveal a bit of history, yet maintain a touch of mystery



Lighting Concept – Fire and Ice

Project the new face of Troy by its different views:

- From the river - a vibrant, sparkling riverfront
- From the city - its dynamic residential, commercial and entertainment district
- Through time - hinting at Troy's history, but proclaiming its future
- Of its parts - giving identity to the individual zones of the Hedley District
- Of its entirety - connecting the individual zones as a cohesive whole, linked yet distinct from the downtown of Troy



Lighting Concept – Fire and Ice

- Utilize vertical illuminance to amplify ambient light levels and create plays of brightness
- Respect the night sky and surrounds
- Utilize energy efficient, low maintenance, sustainable lighting solutions wherever possible



Lighting Concept – Fire and Ice

- Establish Hedley Park Place as the anchor from which the Hedley District will radiate
- Contrast the *fire* of the industrial age with the *ice* of the technology age through use of bold, complementary colors



Lighting Concept – Fire and Ice

- Complete the visual composition, linking strong industrial structures – the Collar City Bridge, the Hedley Smokestack, and the Green Island Bridge – by the color **copper**, symbolic of power generation



Hedley Façade Mockup – July 2007



Hedley Façade Mockup – July 2007

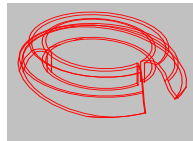


Hedley Park Place – View from River Street

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The Collar City Streetlight – a gesture towards the future



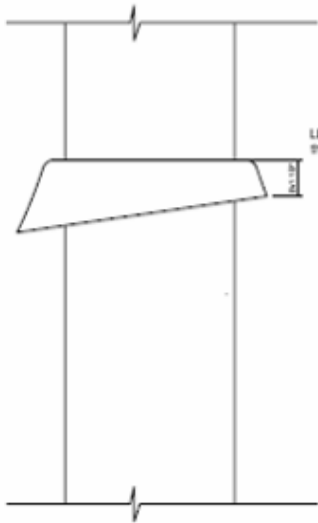
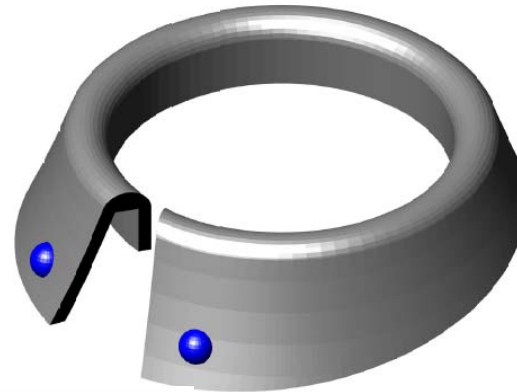
*First concept drawing –
specifications to be developed*



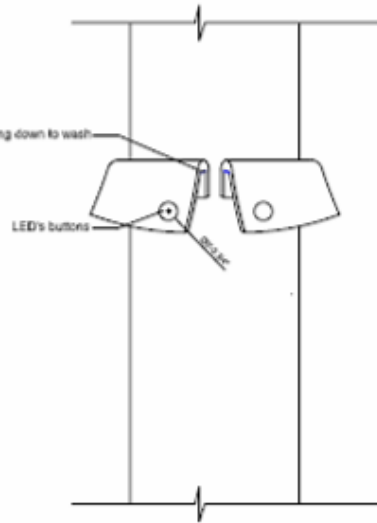
*'Collar', constructed to match pole, can be located below fixture head, regardless of fixture style; 2 LED 'buttons' as well as an array tucked below the collar will glow a certain color to identify different zones, i.e. **red** for the Jacob Street corridor, **blue** for the Promenade, **gold** for the Boat House Park. Colors can also be coordinated with holiday festivities.*

The Collar City Streetlight – a gesture towards the future

Final concept drawings



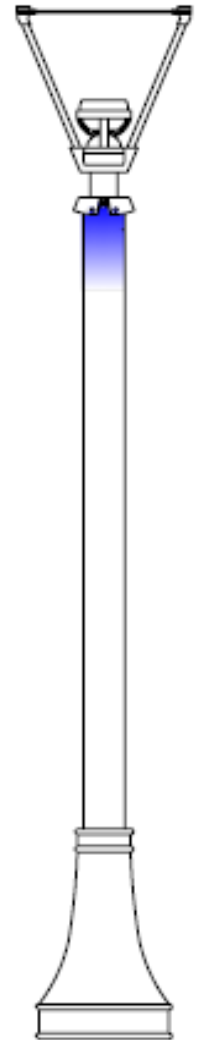
Side Elevation



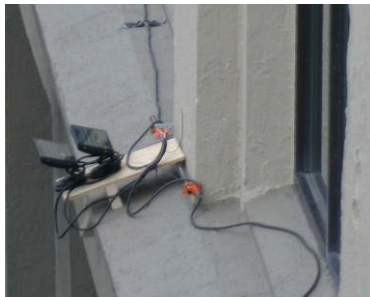
Front Elevation



Section



Hedley Smokestack & Façade Mockup – September 2007



Hedley Smokestack – view from the River Mockup – September 2007

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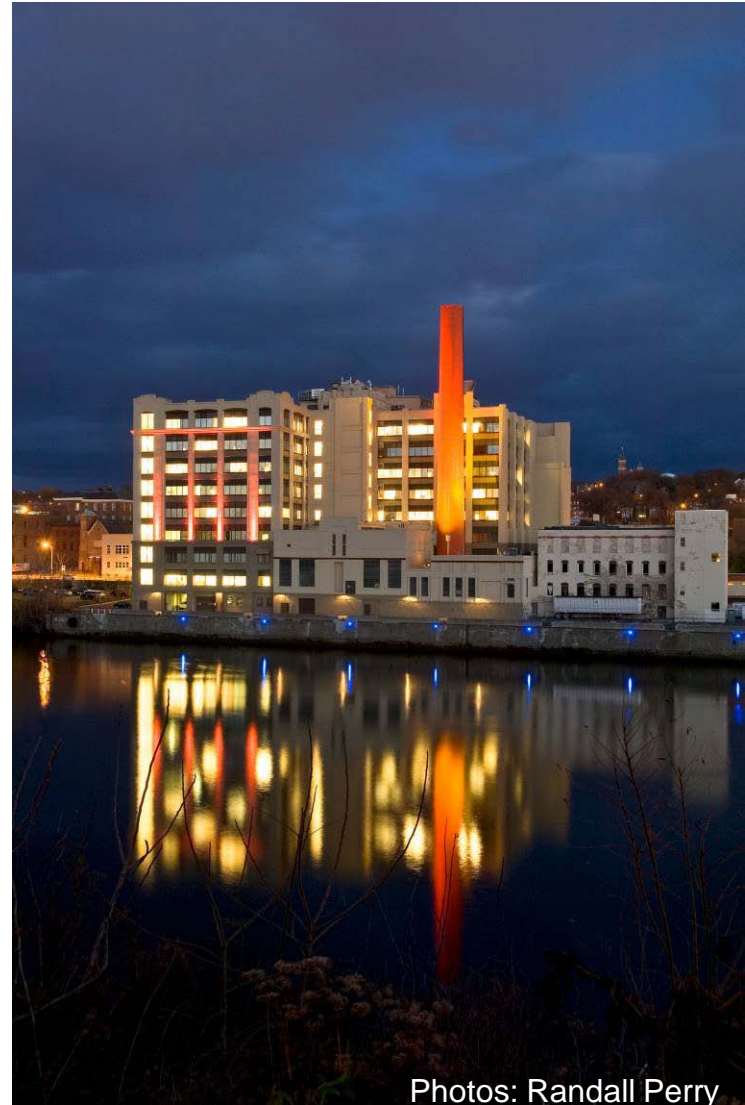
Fire and Ice – The Lighting of a Smokestack and Its Riverfront



Left to right we see the transition in coppers and golds as they pulse along the smokestack, changing every few seconds so viewers get a hint of movement as they approach Troy's downtown area – in contrast with the cool blue of the riverwall lights

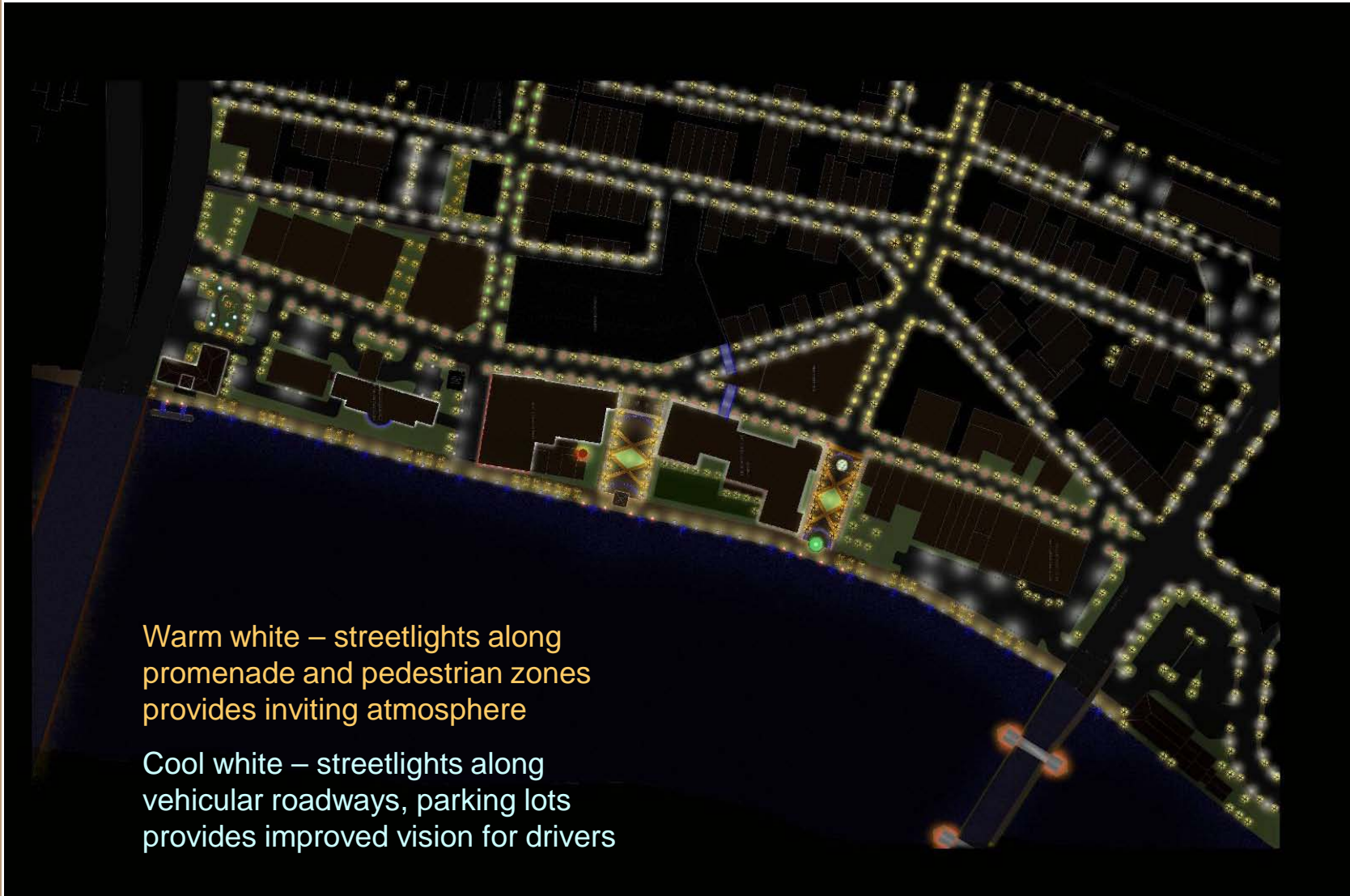
(photos by Dennis Guyon, LRC)

Fire and Ice – The Lighting of a Smokestack and Its Riverfront



Photos: Randall Perry

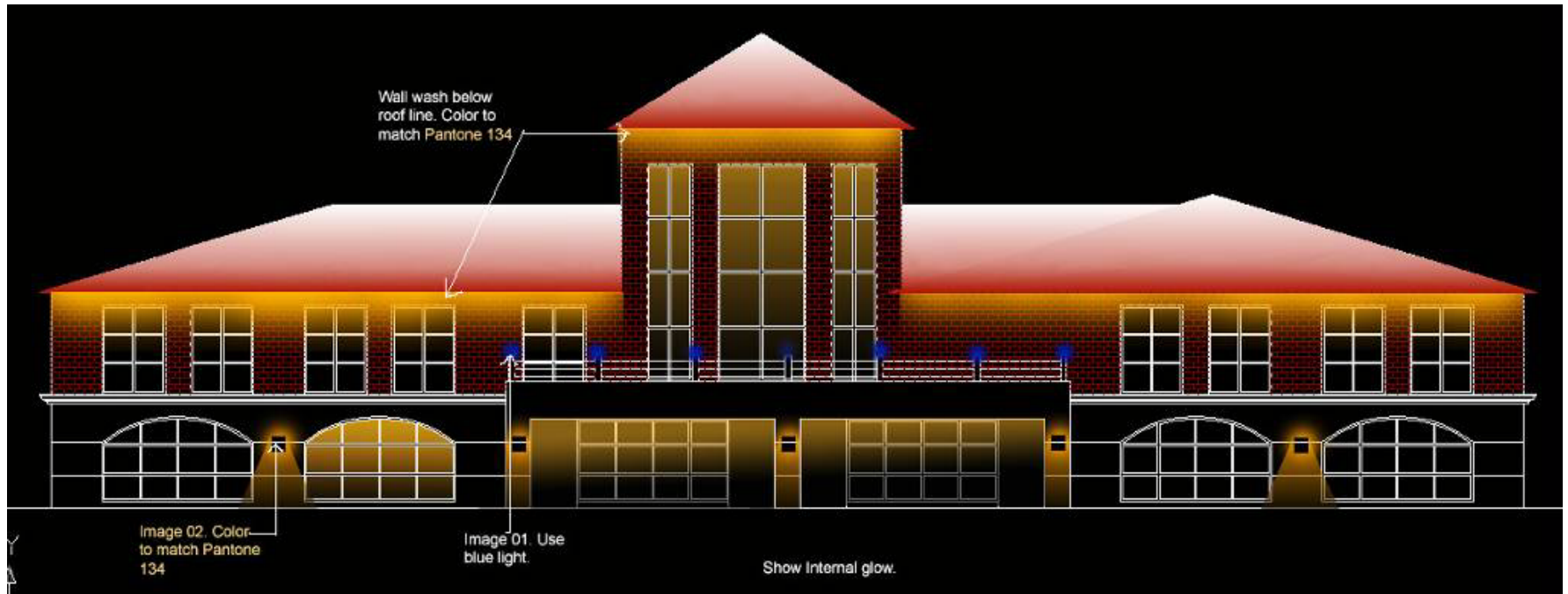
Hedley District Lighting Master Plan



Warm white – streetlights along promenade and pedestrian zones provides inviting atmosphere

Cool white – streetlights along vehicular roadways, parking lots provides improved vision for drivers

Boat House Lighting



Lines of warm and dots of cool

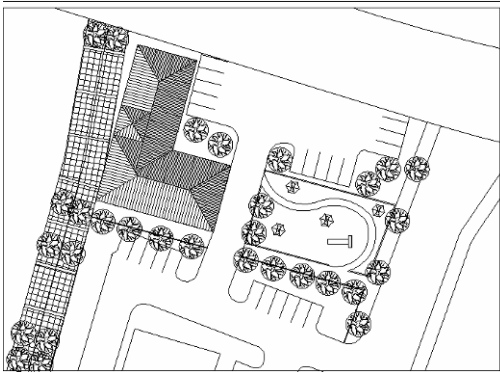
Soffit lighting will ultimately depend on building structure –



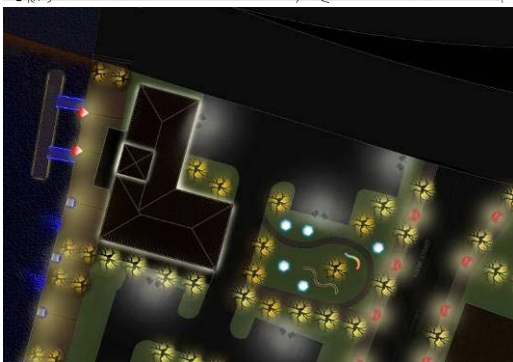
Boat House Park

Lighting considerations:

- Create an environment that is *vibrant, friendly, attractive* and *safe* for families, children, and visitors
- Provide both pathway and pedestrian scale lighting for *security* and *wayfinding*



Include elements for fun and whimsy, such as slides or other child-friendly features that light up in different colors when activated by contact



*Lighting Design For
Urban Environments and
Architecture, Kaoru
Mende, Rikuyosha Co.,
2005*

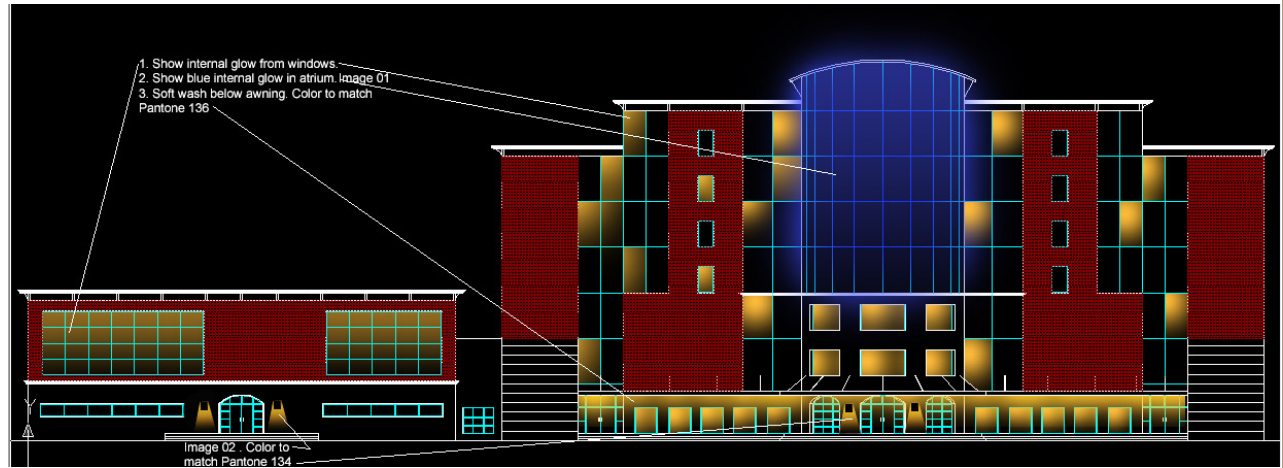
Boat House Dock



Rendering of Boat House and dock along the promenade illustrates the proposed 'sail' light – an attachment to the indirect streetlight whose sail will alert boaters by changing color depending on the wind direction.

(rendering by Soontharuch Panitkwan)

Troy Hotel & Conference Center



Icy **blue glow** through glass atrium along with '**blue dots**' along river wall, and '**blue buttons**' on streetlight collars will project '**cool – corporate – high tech**' image to visitors as they cross over the bridges into Troy

Soffit lighting, if feasible

Lower façade lighting by wall mount luminaires



Jacob Street Corridor



(rendering by Diamond Computer Graphics)

A palette of coppers and blues frame a view of the pedestrian gathering area along the Promenade – a place for shopping, dining, boaters to disembark, and a community to celebrate; trees and facades glow allowing vertical illuminance to fill in, and provide pleasant and safe passage

In terms of brightness, aside from the Hedley Smokestack, pedestrian areas such as the Jacob St. Corridor, Hutton St., and the Promenade should be brightest, diminishing in brightness as we progress to the residential neighborhoods east of River Street

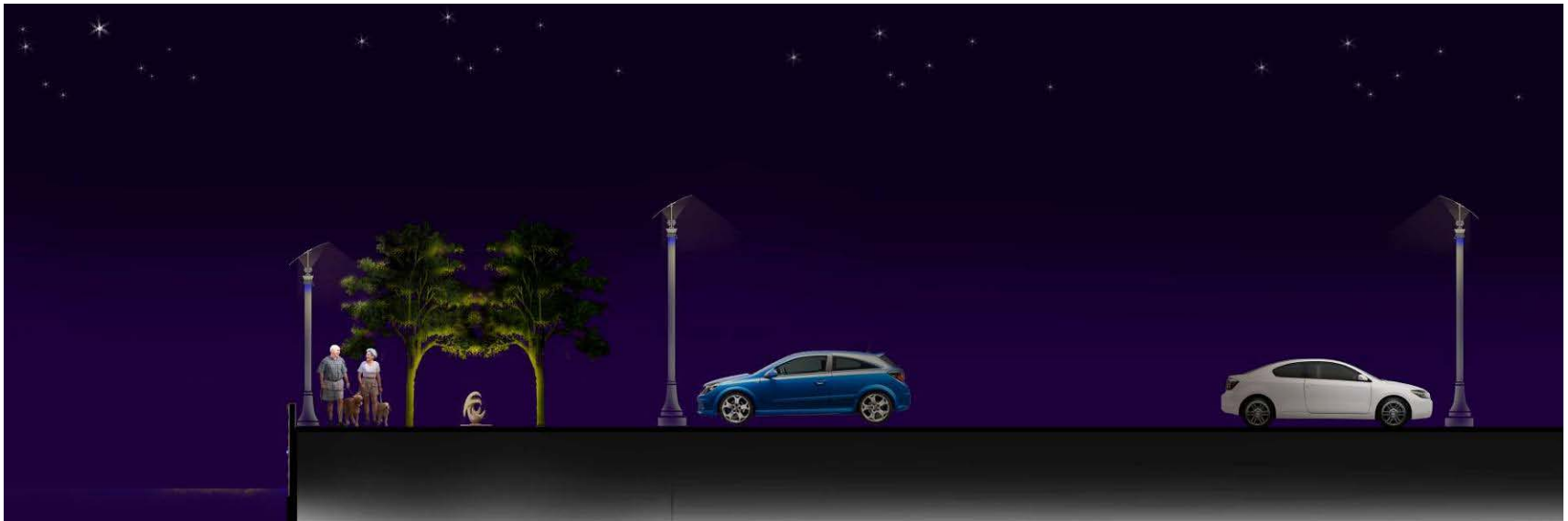
Jacob Street Corridor



Layers of light – emphasis on the vertical:
façade, trees, soffit, gazebo, fountain, sail lights

(rendering by Soontharuch Panitkwan)

Promenade Parking Lot

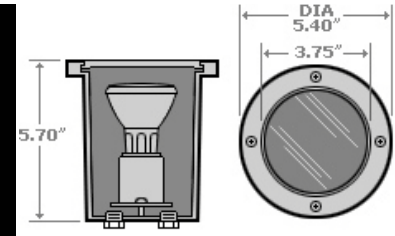
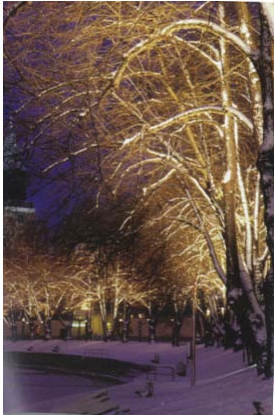


Soft vertical illuminance from trees, adjustable indirect street lights, blue collar glow

The Trees of Troy



Tree Lighting Techniques



Flanigan Square



Flanigan Square Mock-up

August 2007

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2009



Rich in texture, and multi-faceted in detail, just a hint of light will bring them to life

Flanigan Square Mock-up

July 2008

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Flanigan Square Mock-up

July 2008

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Flanigan Square Street Side

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(rendering by Diamond Computer Graphics)

Flanigan Square as it was...



Photo: Don Rittner

Flanigan Square River Side



Projections can depict 'old-fashioned' style advertisement of choice; consistent palette of coppers and golds coordinates Flanigan with Hedley and its smokestack, linking the two buildings as they fill your view driving into Troy....

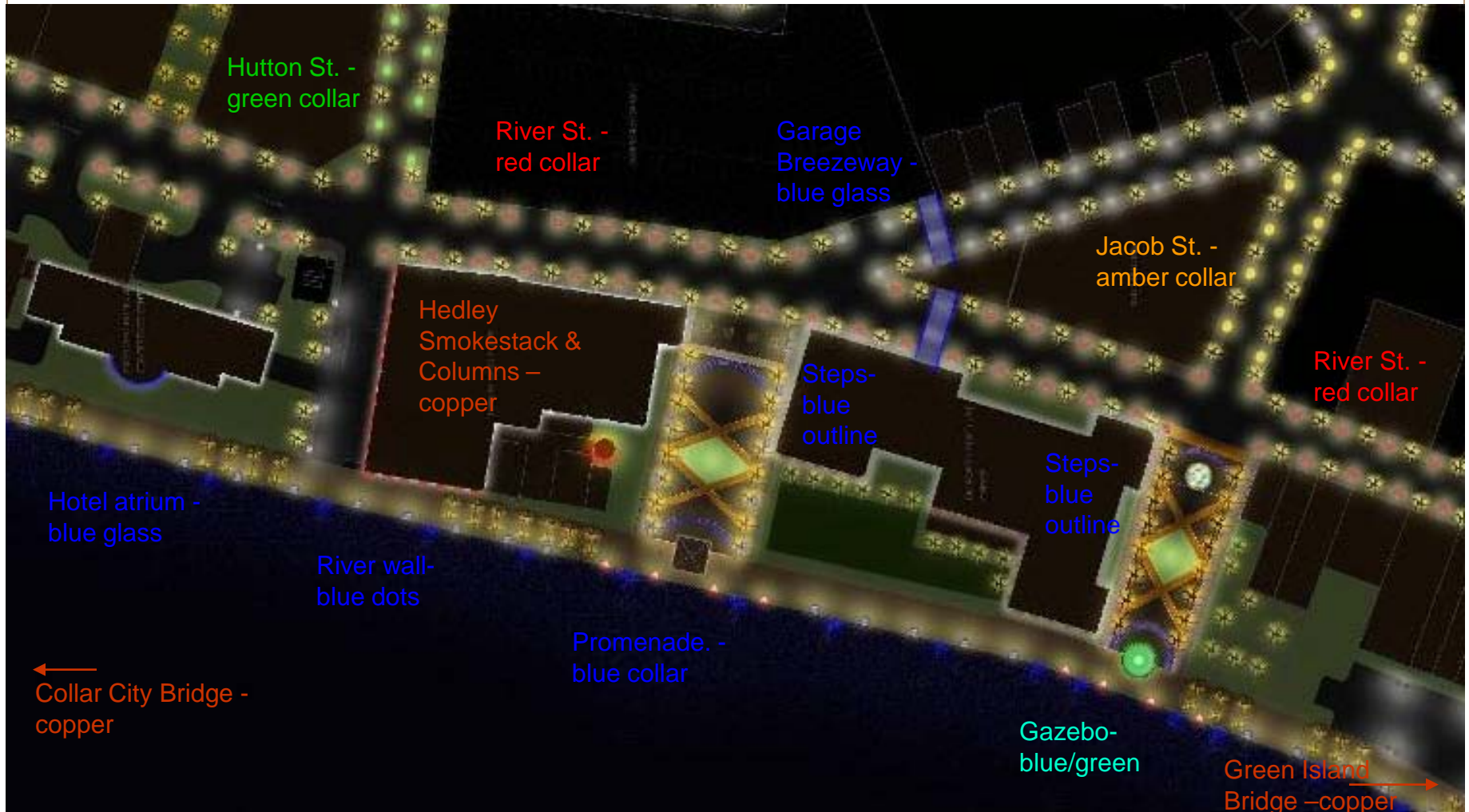
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...and begin to form a composition

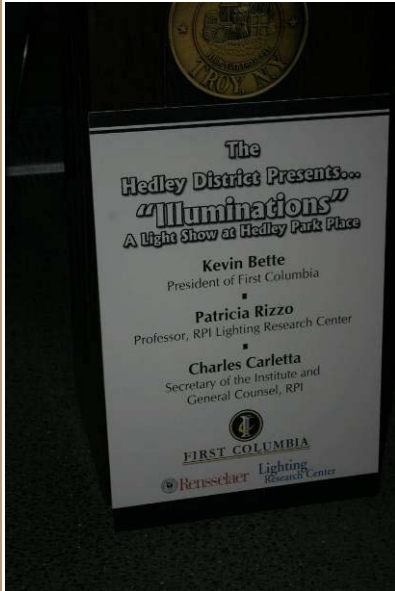


(photo: Randall Perry)

The Colors of the Hedley District



Troy Celebrates



Troy celebrates the unveiling of the lighting of Hedley Park Place and its smokestack in April of 2008; firethrowers excite the crowd, then various speakers involved in the efforts introduced the event



First Columbia, LLC coordinated with the city of Troy to have the Green Island Bridge closed for two hours so the whole community could enjoy the festivities (photos by Dennis Guyon, LRC)

Exterior Lighting: Economic Benefits \$\$\$



How do you quantify something which is highly visible but nevertheless perhaps abstract or psychological in its effect?

Taken from: *Urban Lighting Boosts the Economy*, Jill Entwisle,
Professional Lighting Design Magazine, Nov.-Dec. 2006

Exterior Lighting: Economic Benefits \$\$\$



Carefully designed urban lighting is a key factor in successful urban regeneration efforts

2005 Jon Dawson Associates studied the socio-economic effects of Phase 1 of the “City of Light” program in Liverpool, England

\$6.4 million of additional economic benefit was generated as a result of the exterior illumination enhancements

Exterior Lighting: Economic Benefits \$\$\$



Both Social and Financial Impact

46% of visitors to the redeveloped site said they spent more time in the City Centre after dark

37% reported that the enhanced lighting had influenced them to purchase more goods and services in the area

83% of survey participants stated that they (post-project) “...enjoyed the City Centre more after dark”

73% asserted that they would invite friends and relatives to see the newly-illuminated buildings and monuments

Exterior Lighting: Economic Benefits \$\$\$

Both social and financial impact



Phase 2 would not have happened without the impact assessment from Phase 1

“It was essential to convince funders. For the first time we have been able to put specific numbers to the benefits of the lighting strategy. It has helped to justify the investment public funders have made in the first phase. It has helped us secure more money for the second phase and it has helped us to convince other building owners of the benefits of lighting.”

Cities and their people are meant to interact...



...and the Collar City is positioned to do so



(photo: Randall Perry)

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