

Connecting Through the Disconnect

Brick Church Station Temporary Lighting Display

Design Proposal

Together North Jersey Local Technical Assistance

TOGETHER
**NORTH
JERSEY.**



Acknowledgements

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Lighting design developed by students of the Rutgers University Mason Gross School of the Arts:

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Together North Jersey

About Together North Jersey

Together North Jersey (TNJ) was created in 2011 to develop the first comprehensive plan for sustainable development for North Jersey. Funded by a \$5 million federal Sustainable Communities grant and nearly \$5 million in leveraged funds from members, the TNJ planning effort brought together a coalition of nearly 100 diverse partners – counties, municipalities, educational institutions, nonprofits, businesses and other stakeholders – to develop the TNJ regional plan.

The TNJ planning process identified a shared vision for a sustainable future for North Jersey consisting of four themes: **Competitive, Efficient, Livable, and Resilient.**

The Plan was issued in November 2015. Since then, TNJ partners have reconvened to further implementation of the Plan. The North Jersey Transportation Planning Authority (NJTPA) and the Alan M. Voorhees Transportation Center at Rutgers University (VTC) currently coordinate the TNJ 2.0 Forum and Task Forces, with each of the four Task Forces dedicated to furthering one of the Plan's four themes.

The TNJ planning region consists of the 13 counties in the NJTPA planning area: Bergen, Essex, Hudson, Hunterdon, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union and Warren.

TNJ Local Technical Assistance Program

Funded by the NJTPA, the Local Technical Assistance Program provides VTC staff support and technical assistance to local partners working to implement the TNJ vision. Eligible applicants for the program include municipal and county governments or non-governmental organizations (NGOs) that were recipients of TNJ's planning phase re-granting programs: the TNJ Local Demonstration Project (LDP) Program, the Local Government Capacity Grant Program (LGCG), and the NGO Micro Grant (NGO) program. The program supports advancement of recommendations included in the final reports produced by the recipients through those programs.

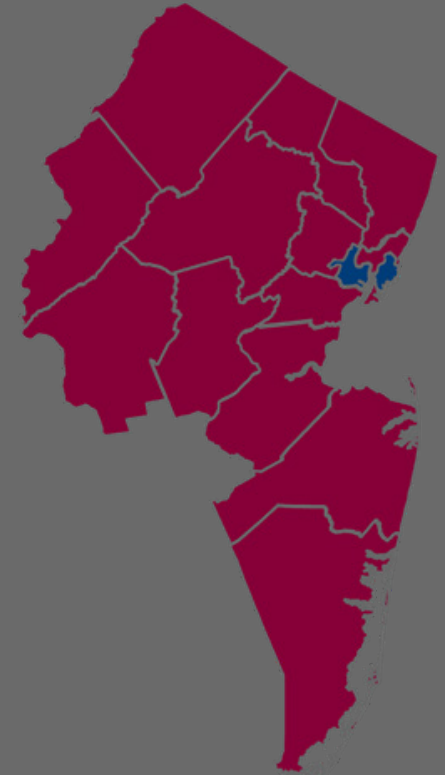
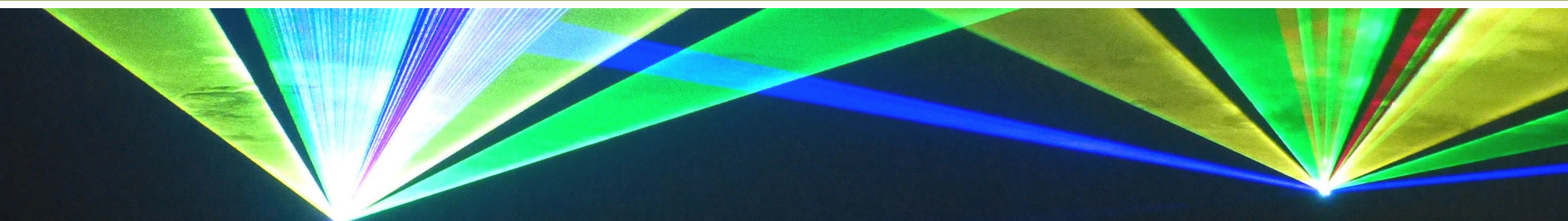


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This report presents design recommendations for a temporary lighting display to be installed at the NJ TRANSIT Brick Church Station underpass and arcade. The proposed lighting display aims to transform the gloomy, cavernous space into a colorful, festive area where pedestrians and bicyclists feel safe and community members can gather.

The recommendations in this report were developed by VTC for the Urban Essex Coalition for Smart Growth (the Coalition). The project stems from recommendations developed in past Coalition planning efforts. Those efforts identified creative placemaking strategies, including creative lighting, as solutions to pedestrian and bicyclist safety concerns along the Interstate 280 service roads Freeway Drive East and West and the NJ TRANSIT Morris & Essex commuter rail line in the Cities of Newark, Orange, and East Orange. These major transportation facilities – as well as the adjacent I-280 – provide convenient access to the surrounding region but are physical and psychological obstacles to local pedestrian and bicyclist circulation.

VTC enlisted theater lighting design students from Rutgers' Mason Gross School of the Arts to develop designs for the demonstration lighting display. The Mason Gross students were tasked with designing a "Light, Quick, Cheap" and temporary lighting installation for demonstration at a community event to be organized by East Orange in partnership with the Coalition. The design was also had to be scalable and portable, so the Coalition can move the lighting for display at other rail underpasses in the corridor.

The Coalition aims to hold the community event in 2019. The lighting is expected to remain on display for one to five days, depending on the conditions of the special use permit granted by NJ TRANSIT. The event will serve as an opportunity to highlight pedestrian and bicyclist safety concerns, demonstrate the benefits of creative underpass lighting and solicit community member feedback. The Coalition may subsequently install similar lighting at community events held at other underpasses along the Morris & Essex Line. Ultimately, the demonstration lighting is intended to build support for future efforts by the Coalition to install more permanent, artistic underpass lighting, as well as murals and other forms of public art, in the Urban Essex corridor. The corridor comprises the station areas and adjacent lands along the Morris & Essex commuter rail line through the cities of Orange, East Orange and Newark.

From July to December of 2018, VTC staff and the student design team engaged members of the Coalition, including City of East Orange officials and members of the local arts and culture community, to understand the objectives of the project and solicit input on proposed design solutions. VTC also worked with NJ TRANSIT to provide the Coalition and the student design team with information on securing a permit for installing the lighting on NJ TRANSIT infrastructure.

This report provides an overview of the purpose and objectives of the project, the design development process, and the identified permitting, artistic, and other design parameters. The report also includes information on the proposed design solutions and presents proposed plans and visual renderings of the lighting display. It concludes with potential funding and partnering opportunities the Coalition might consider while working to implement the temporary lighting as well as subsequent, more permanent lighting for the underpass.



Freeway Drive & Station Area Safety and Public Realm Study



Inner M&E Strategic Corridor Plan for Newark, East Orange, and Orange

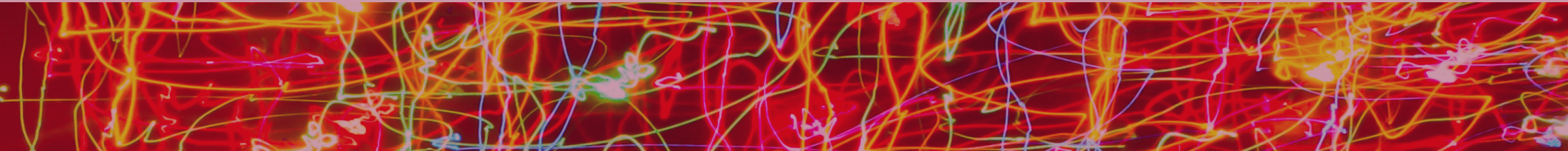
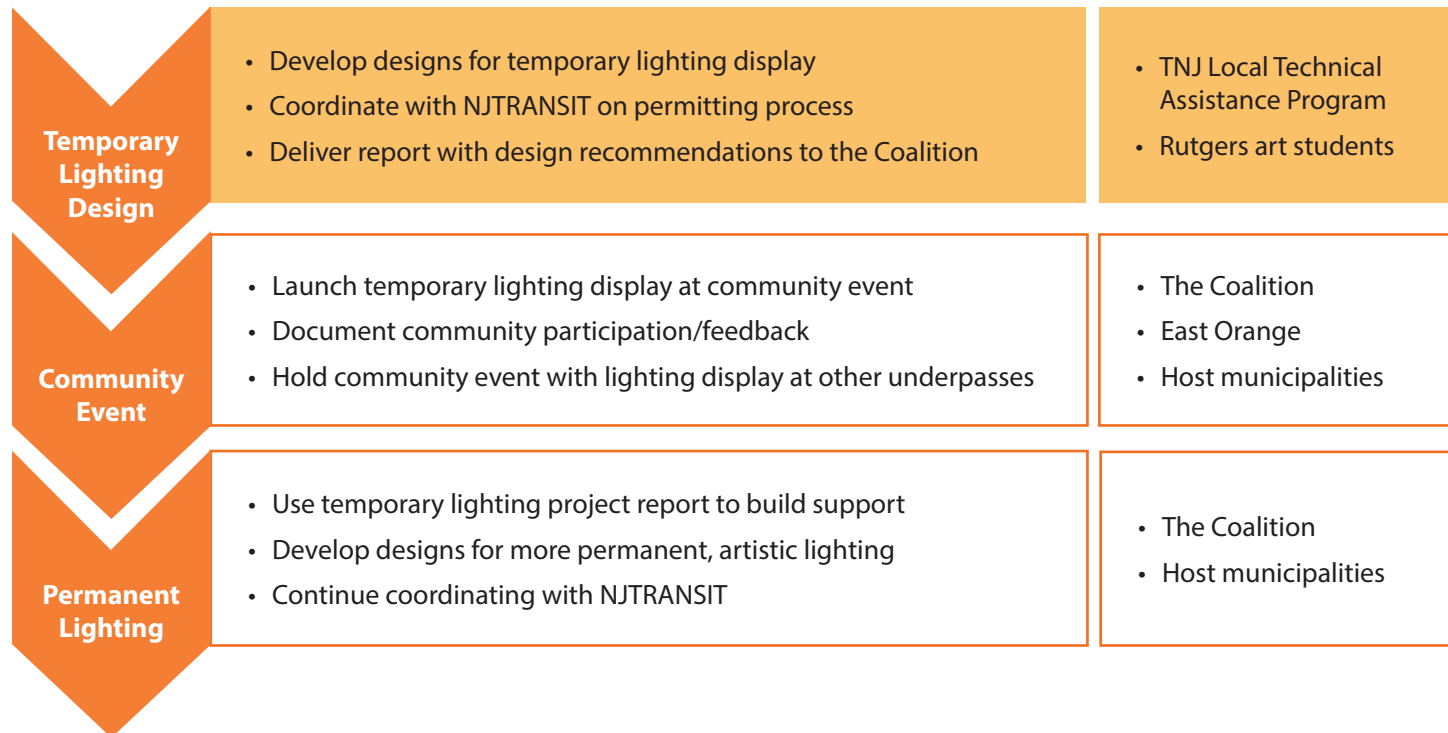
The Urban Essex Coalition for Smart Growth (the Coalition) was formed in 2013 to coordinate the planning efforts of member municipalities, community groups, non-profits and key stakeholders in Newark, East Orange, and Orange. The coalition was created as an outgrowth of the planning process conducted by Together North Jersey and NJTRANSIT to create the 2013 Inner M&E Strategic Corridor Plan. The Brick Church Station temporary lighting display project emerged from the corridor planning activities associated with the Inner M&E Strategic Corridor Plan. Among other recommendations, the plan identified the sidewalks, pathways and streets crossing under the elevated M&E rail line and across Interstate 280 as uninviting and potential barriers to safe and amenitized pedestrian and bicycle circulation. The plan proposed that these public spaces be reimagined as inviting neighborhood connectors and gateways.

Building on this work, in 2017, Essex County issued the Freeway Drive & Station Area Safety & Public Realm Study, which was done in collaboration with the cities of East Orange and Orange, as well as the Coalition. The study was funded by the NJTPA's Subregional Studies Program. The Freeway Drive Study is designed to address access and circulation issues in Orange and East Orange, and around the East Orange, Brick Church and Orange train stations. It proposes a comprehensive strategy for transforming Freeway Drive in Orange and East Orange into a pedestrian and bike-friendly multi-modal thoroughfare. Among the recommendations for improving the safety, accessibility, and connectivity of areas are placemaking activities such as murals, art installations, and artistic lighting on bridges and in underpasses.

The proposed, portable, temporary lighting display at Brick Church Station is a first step in a tactical urbanism approach to installing permanent, artistic lighting in rail underpasses. It is anticipated that the proposed temporary installation and community launch event will inform and build community support by demonstrating how artistic lighting can be used to activate public spaces and increase safety and connectivity between neighborhoods. It is hoped that installation of permanent lighting will, in turn, serve as a catalyst for similar projects along the Morris & Essex line as well as infrastructure improvements recommended by the Freeway Drive Study. The lighting project seeks to bring attention to the access and safety issues encountered by local residents and visitors navigating their way across Freeway Drive and into surrounding neighborhoods. As such, the project aims to foster a sense of community ownership and engagement around improving public spaces and roadways.

The proposed portable temporary lighting is a tactical urbanism approach that fulfills one step in the Coalition’s path toward permanent lighting (**Figure 1**). The TNJ Local Technical Assistance Program was awarded to the Coalition to support the first step, “Temporary Lighting”, by developing designs for lighting at the Brick Church Station underpass and working with the infrastructure owner, NJ TRANSIT, to understand permitting requirements that the Coalition and East Orange must meet to install the display.

Figure 1 Tactical urbanism approach to achieving permanent, artistic underpass lighting



The VTC and the Coalition pursued an iterative design process that incorporated the feedback of NJ TRANSIT staff, East Orange municipal officials, members of the local arts and culture community, and other members of the Coalition. The process was coordinated by VTC and took place from July to December of 2018.

Case Example Research

VTC conducted online research on case examples of underpass lighting, both temporary and permanent, to determine whether such endeavors have been successfully implemented elsewhere and what design elements might inform a potential lighting installation for the Coalition. VTC found numerous examples of underpass lighting displays located under railroad trestles and elevated highways. Most of the displays were installed in the last few years, which indicates that creative lighting has become an increasingly important part of a growing movement to reclaim underpass spaces. The main findings from the case example research are:

- Installation of artistic lighting in underpasses is a growing trend nationally.
- Several examples were found involving the installation of temporary lighting that led to more permanent lighting improvements.
- Among the more permanent lighting examples, there was a wide range of financial cost for materials and labor, from tens to hundreds of thousands of dollars.
- Many of the case example lighting installations were designed to reflect local culture or history.
- Most of the case examples involved dynamic lighting colors that are controlled, random, or determined by input from the surrounding environment such as noise or the motion of passing pedestrians.
- Among the selected case examples, which typically involved infrastructure owned by state departments of transportation or rail agencies, permitting requirements were typically not a hindrance to implementation. In many cases, the infrastructure owners were active partners in the project from the conceptual stage and sometimes the initiators. A notable exception that faced significant delays due to permitting was a case in Washington D.C. that was initiated by a local non-profit and involved Amtrak infrastructure. The success of the projects in which infrastructure owners are involved early in the process is reason to begin coordinating with NJ TRANSIT through an initial “Lighter, Quicker, Cheaper” version of the lighting before attempting a more permanent version.

Several of the case examples are presented in the “Precedents” section later in this document. The research is presented in full in **Appendix A**.

Field Visit Findings

In August, VTC and NJTPA staff, along with representatives from the City of East Orange and the local arts and culture community toured four underpasses in the Urban Essex corridor (**Figure 2**). The atmosphere in many of the underpasses is uninviting for pedestrians; however, most underpasses were found to have architectural value and with effective creative placemaking interventions could serve as inviting neighborhood gateways. Some of the underpasses have adjacent arcades that, if improved, could serve as inviting, vibrant public spaces where commuters and other pedestrians are encouraged to linger and where community events may be held. The Broad Street underpass, which also went under an interstate highway, was found to be more recently constructed and very noisy. Following the underpass field visit, the Coalition determined that the Brick Church Station would be the best site for a lighting display to be supported through TNJ technical assistance as a first step in the tactical urbanism process. The basis for this determination was that the underpass receives significant commuter and other pedestrian traffic, is clearly visible from the north and south approach and has a large arcade space next to the underpass that East Orange wishes to activate as a public space. The other underpasses are potential sites for future installations of the temporary lighting.

Figure 2 Potential sites for creative underpass lighting displays toured by project team



Newark Broad Street Station – Broad Street underpass (includes I-280)



East Orange Station – North Arlington Avenue underpass



East Orange Station - Arcade Space

Figure 2 Potential sites for creative underpass lighting displays toured by project team (continued)



Brick Church Station – South Harrison Street underpass



Brick Church Station - Arcade Space



Highland Avenue Station – Freeman Street underpass



Orange Station – South Essex Avenue underpass

Student Design Team

As part of the TNJ technical assistance, VTC was tasked with identifying a Rutgers student design team to develop ideas for a “Light, Quick, Cheap” installation. Following VTC outreach efforts to the Mason Gross School of the Arts, Tony Award-winning Broadway theater lighting designer and Rutgers faculty member Donald Holder offered to make the design of the lighting an assignment for the three students in an advanced lighting design class. The students worked with VTC staff to understand the design challenge and objectives, toured the installation space, conducted research, met with the Coalition members to solicit input, developed design solutions and renderings, and presented preliminary and final designs to stakeholders.



Investigation of Regulatory Parameters

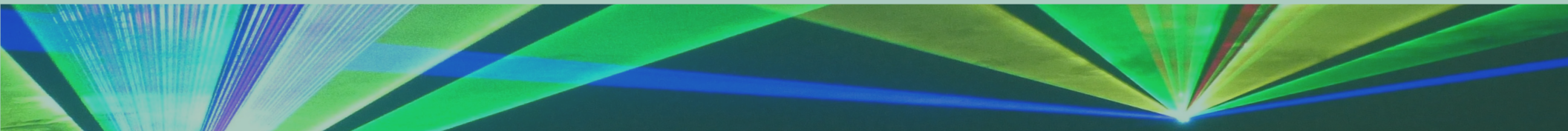
Throughout the development of the lighting design, VTC worked with NJ TRANSIT staff to understand the permitting process and the resulting constraints on design options. In August, NJ TRANSIT hosted a meeting with VTC and NJTPA staff to provide initial guidance on permitting requirements for installing temporary lighting. Following the meeting, VTC held several calls with NJ TRANSIT staff to gather more specific information on permitting requirements and how to navigate the permitting process. This information was shared with the Coalition and with the student design team to inform the design of the lighting installation.

Stakeholder Engagement

In addition to working with NJ TRANSIT, VTC coordinated with members of the Coalition to shape the design of the lighting installation. In September, VTC coordinated a tour of the Brick Church Station underpass by the student design team and Coalition members to discuss themes, materials, and methods for attaching the lighting to the NJ TRANSIT infrastructure. In early October, students met with a larger group of Coalition representatives, including several local arts and culture-oriented organizations, including Housing and Neighborhood Development Services, Inc. (HANDS, Inc.), Valley Arts, Arts Council of East Orange, and Newark Arts. The students presented initial ideas on themes to be addressed by the installation and potential lighting materials.

In late October, VTC facilitated a web conference in which the student design team presented three preliminary, proposed lighting design options ranging from simple to complex. The presentation was followed by a participant discussion of the presented options. The Coalition subsequently provided the student design team with written feedback on proposals. The meeting was attended by representatives of: NJTPA; NJ TRANSIT; La Casa de Don Pedro; the City of East Orange; HANDS, Inc.; Arts Council of East Orange; Newark Art; Center for Creative Placemaking; Pink Dragon Artist Syndicate, LLC; Unified Vailsburg Services Organization; and Greater Newark LISC.

In December, the students presented their final proposed design at a meeting held at the East Orange City Hall. The meeting was attended by representatives from: NJ TRANSIT; the East Orange Department of Policy, Planning and Development; the City of Newark Office of Planning and Zoning; Essex County Division of Planning; NJDOT; NJTPA; Project for Public Spaces; La Casa de Don Pedro; Center for Creative Placemaking; National Consortium for Creative Placemaking; and HANDS, Inc.





Brick Church Station underpass

The Rutgers student design team was tasked with developing a creative lighting display for the NJ TRANSIT Brick Church Station that would meet budgetary and permitting constraints while addressing local themes.

The students focused on the disconnect created by the major transportation infrastructure cutting through the City of East Orange – the NJ TRANSIT viaduct, I-280 and the adjoining service road Freeway Drive East and West. While providing opportunities for regional access, the infrastructure is an obstacle to local circulation, positioned between the city center and residential neighborhoods to the south.


The lighting display design proposes transforming the underpass and arcade northwest of the Brick Church Station building into a lively public space where commuters will linger and community members can gather. The display will demonstrate how creative lighting can help reconnect the community across physical barriers. Promotion of the event will raise awareness among the community and public officials of pedestrian and bicyclist safety issues in the area.

Project Area

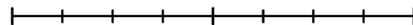
The Brick Church Station is located on the Morris & Essex NJ TRANSIT rail line in downtown East Orange (**Figure 3**). The project site consists of the underpass located on South Harrison Street to the west of the station building and the adjoining arcade that leads to the station. To the south of the project site is Freeway Drive West and I-280. To the north is Brick Church Plaza, which is a one-way street used to access the station, and a shopping center parking lot. Though there are pedestrian walkways along South Harrison Street, there are infrastructural and design shortcomings, such as faded crosswalks, non-ADA compliant curb ramps, and fast-moving traffic passing close to the sidewalk at the intersection at Freeway Drive. Pedestrians walking northbound along South Harrison Street cross the three-lane Freeway Drive East, cross the bridge over I-280, then cross three-lane Freeway Drive West, walk through the viaduct underpass and then walk adjacent to the large shopping center parking lot or a featureless building façade.

Figure 3 Approximate location of proposed project site



 Approximate Project Site

0 125 250 500 Feet



Brick Church Station Underpass in Daylight



The Brick Church Station underpass as seen from a bridge over I-280 looking north along South Harrison Street. Pedestrians walking north cross the bridge and Freeway Drive East and West, then walk through the underpass, before walking adjacent to a parking lot or featureless building façade on the other side.



View from the staircase to South Harrison Street. The underpass and arcade are generally sufficiently lit by natural light during the day.



View from the staircase through the arcade leading to the station building during the day. While sufficiently lit by natural light, the space nevertheless feels grim and cavernous.

Brick Church Station Underpass at Night



View to the south from Brick Church Plaza at night. Commuters descend the platform on the staircase. Some commuters head toward South Harrison Street while others descend on the other side of the staircase and walk through the arcade to the station building.



The view of the staircase from inside the arcade looking toward South Harrison Street at night. Some areas around the staircase are dimly lit.



View from the staircase through the arcade leading to the station building at night. The space is well lit, but the aging concrete, bright lighting, and cavernous space create a cold, gloomy atmosphere and sense of isolation.

THE DESIGN CHALLENGE

Based on guidance and feedback from NJ TRANSIT and community stakeholders, VTC and the student design team identified several objectives and constraints that defined the parameters of the design.

Objectives

The Rutgers student design team sought to transform a generally well-lit but gloomy and cavernous underpass and arcade into a space that makes people feel comfortable, invites them to linger, and serves as a venue for community events and gatherings. The underpass and arcade possess certain features that provide potential for the creation of a lively public space – stately columns, interesting architectural articulations, and a large space that can serve a variety of community functions. The design team worked to add to the existing features to create a festive atmosphere that would be an appropriate setting for a community event. The students also worked to develop a design that was locally informed by engaging with local stakeholders and identifying themes of local significance that could be visually expressed through lighting.

Constraints

The design of the installation is limited to “Lighter, Quicker, Cheaper” materials that are widely available in stores, can be easily installed and broken down, and meet a limited budget while still filling the space. In addition, the layout, materials used, and methods of attaching the lights are required to adhere to the applicable standards for NJ TRANSIT’s approval of permitting.

NJ TRANSIT PERMITTING REQUIREMENTS

In order to put the temporary lighting on display at Brick Church Station, the City of East Orange must obtain a NJ TRANSIT Access Permit for Special Events. The NJ TRANSIT website page [NJ TRANSIT's Requirements for Access Permits for Special Events](#) provides a list of information and materials applicants must provide to obtain the special use permit. The information provided on the website is also presented in **Appendix C** of this document.

During the course of the lighting design project, NJ TRANSIT staff provided permitting guidance specific to the proposed Brick Church Station temporary lighting display. The student design team took into consideration these constraints to select materials and attachment methods and identify possible power source types. NJ TRANSIT's guidance, as shown below, is also applicable to any future temporary lighting displays the Coalition may seek to install in other NJ TRANSIT underpasses.

- **Materials.** All materials should be durable, weather resistant, and non-flammable. To the extent practical, the materials and their placement should be chosen to prevent vandalism.
- **Attachment method.** The method to attach lighting materials to NJ TRANSIT infrastructure must be minimally invasive. Because NJ TRANSIT properties along the Morris & Essex rail line, including Brick Church Station, are listed on the New Jersey and National Registers of Historic Places, invasive attachment methods, such as screws or grommets, are prohibited. Application of adhesives to NJ TRANSIT infrastructure may also be problematic.
- **Power.** The lights should be powered by a minimum of two independent sources, such as a generator or battery pack. NJ TRANSIT does not permit third party connections to their power sources. The power source must be placed outside of any NJ TRANSIT-owned area. The Coalition must inform NJ TRANSIT of the location of the power sources and how they would be secured.

PRECEDENTS

VTC and the student design team conducted research into existing examples of creative underpass lighting. The research identified examples the Rutgers students found relevant to the Brick Church Station underpass and arcade, including use of temporary materials, dynamic lighting, and use of lighting to add color to drab surfaces. Examples of temporary lighting as a step toward permanent lighting include *Starry Night*, located in an underpass in Boston, MA and *I-93 Under-Story Lighting*, also in Boston. Several case examples were found of using lighting displays to express local culture, such as *Ballroom Luminoso* in San Antonio, TX and *Stories Interweave* in Aurora, CO. A number of the identified case examples of particular relevance to the Brick Church Station lighting project are summarized below. The case example research is presented in full in **Appendix A** of this document.



Starry Night, Boston, MA

The Fort Point Arts Community (FPAC) commissioned two artists with an amount of \$1,000 to create a temporary light display in a road underpass. The installation consisted of Christmas lights and heavy duty binder clippings. The artists then received a larger grant to install a more permanent LED light display that includes a programmable interface allowing for variation of dynamic lighting patterns.

Photo credit: Fort Point Arts Community



Stories Interweave, Aurora, CO

'Stories Interweave' celebrates the immigrants who have moved to Aurora, CO and the diversity of languages spoken in City. The artist gathered phrases and stories from members of local communities by email and combined them into lanterns to represent the city as a whole. The lanterns, which are hung beneath a light rail station platform, invite viewers to move through the space and contemplate the words crafted from welded steel.

Photo credit: City of Aurora

I-93 Under-Story Lighting, Boston, MA

As part of an effort to develop a park in an underpass, the Massachusetts Department of Transportation commissioned an artist to install a two-year pilot project of light projections on the roof of the underpass. The projection hardware allows for varied lighting patterns adjustable for holidays and local events. The pilot served as a test for the permanent lighting to be installed as part of the park.

Photo credit: Landing Studio





Light Rails, Birmingham, AL

'Light Rails' transformed a dark and derelict Art Deco rail underpass into public art in order to encourage more pedestrian traffic. The underpass is a gateway between the Birmingham central business district and a major park. The artist used computerized LED lights to form various lighting patterns of varying speeds and colors, turning a drab but architecturally interesting rail viaduct into an interesting pedestrian experience.

Photo credit: Colossal

Ballroom Luminoso, San Antonio, TX

'Ballroom Luminoso' consists of six spherical chandeliers crafted from recycled bike parts and additional steel work and lit up with LED lighting. The lights inside the spheres cast sharply detailed shadows of the gear patterns onto the surface of the underpass. The artists designed the chandeliers to reflect the community's Hispanic heritage, agricultural roots, and the environmental and bicycling movement.

Photo credit: Colossal



The student design team identified materials for creating an installation that addresses local themes and creates a festive atmosphere while adhering to budgetary, permitting, and other design constraints (**Figure 5**). The student design team's vision proposes string lights strung among the columns of the underpass and arcade. A wireless remote would allow the user to select color, dimness, and random strobe patterns. Nylon lanterns would be placed around the existing light fixtures to soften and color the light they emit.

Figure 5 Brick Church Station lighting materials



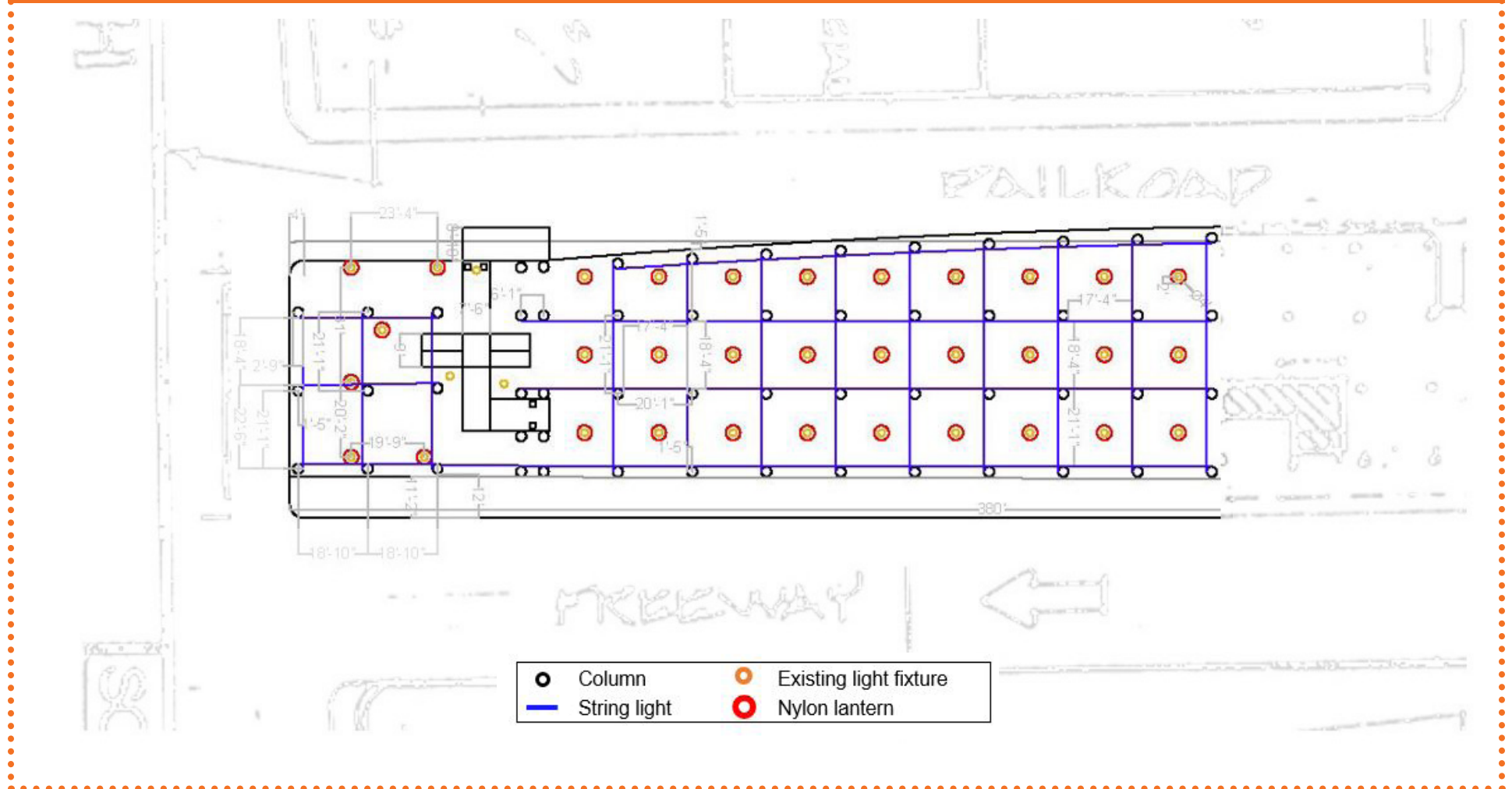
¹ Temperature at which nylon begins to deform under a small amount of pressure. Source: [Creative Mechanisms Blog](#)

² The number of pounds that can be supported by a single line before breaking. Higher breaking strength ratings available.

Spray paint would be applied to the lanterns to create a patterned shadow effect on the surfaces of the underpass. The string lights and nylon lanterns are designed for outdoor use. The string lights would be fastened to the columns and the lanterns to the light fixtures using high-strength fishing line, avoiding any need for boring or adhesives. The linkable string light segments provide flexibility in the placement of power sources.

The design team used an infrared thermometer to measure the temperature of the glass and metal components of the light fixtures directly surrounding the light. The highest temperatures were found to be between 80 to 90°F; as a precautionary measure, the design team selected materials that are resistant to much more extreme levels of heat. A ground plan shows how the materials would be arranged in the space (**Figure 6**), and a rendering illustrates the proposed installation (**Figure 7**). Specification documentation for the items is presented in **Appendix B**.

Figure 6 'Connecting through the Disconnect' proposed ground plan



CONNECTING THROUGH THE DISCONNECT

'Connecting through the Disconnect' casts a cheerful, colorful glow on the grey, concrete surface of the Brick Church Station underpass and arcade. The lighting display consists of LED string lights strung to columns in a grid pattern, evoking a sense of a festive community gathering or "block party" vibe. The grid pattern also suggests a well-connected, well-lit street network as well as the less tangible links that tie together the residents and cultural communities of East Orange.

Nylon lanterns add to the festive atmosphere. The lanterns are placed over the existing light fixtures to soften and add color to the otherwise harsh, white light.

The colorful display makes passersby want to linger, rather than rush through, and transforms the space from cold, concrete rail infrastructure into a warm, inviting area for the community to gather.

Design by: Ashley Houck, Cat Cusick, and Colleen Doherty

Figure 7 Rendering of 'Connecting through the Disconnect', before and after



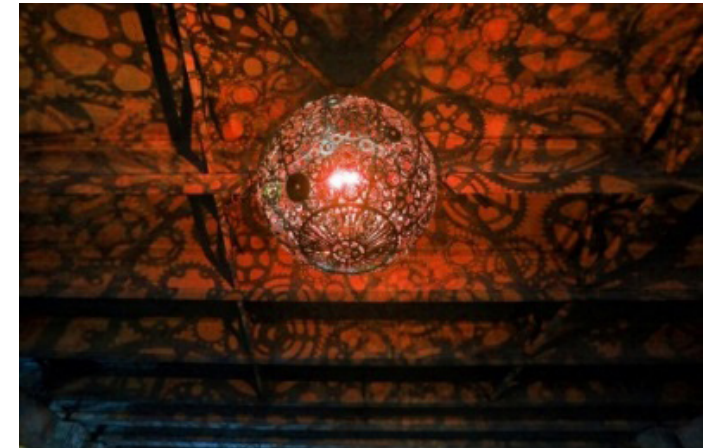
Figure 8 Example lantern shadow patterns reflecting West Indies textiles



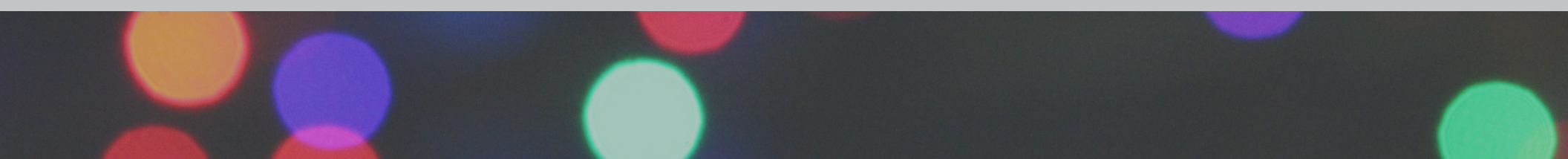
Shadow Projections

The Coalition may consider enhancing the display through the application of shadow patterns. Opaque paint can be used to apply patterns to the nylon lanterns. The patterns would be cast as soft shadows onto the surface of the underpass and arcade, without detracting from the overall illumination of the space. The effect would be similar to the 'Ballroom Luminoso' display in San Antonio, TX, though the shadows cast would not be as sharply defined.

The Coalition may apply any number of patterns that reflect transportation safety or cultural themes. As a suggested enhancement, the Rutgers student design team identified several West Indian cloth patterns that could be placed on the lanterns as a celebration of the African Diaspora community of East Orange, which includes a significant West Indian immigrant population. Based on feedback from members of the local arts and culture community, the students developed simplified versions of the patterns that are easily applied, perhaps with stencils and spray paint, to the lanterns. **Figure 8** shows a few example patterns.



'Ballroom Luminoso'. Photo credit: Colossal



LIGHTING MATERIALS BUDGET

The proposed lighting materials result in a project budget of around \$8,277 (**Table 1**). This estimated materials cost includes spares. Assembling and powering the display would be an additional cost.

Table 1 Connecting through the Disconnect cost estimate



#	Item	Approx. Cost/Unit	Approx. Units Required	Total Cost
1	Enbrighten Me 24ft LED String Lights	\$100	80	\$8,000
2	Nylon Lanterns	\$4.30	40	\$172
3	Black Spray Paint	\$10	10	\$100
4	Fishing Line	\$7	5	\$35
			Total Cost:	\$8,307

CONCLUSIONS AND LESSONS LEARNED



The Coalition and TNJ conducted a community stakeholder-driven design process for a temporary, creative underpass lighting installation to be launched at Brick Church Station in East Orange. Students from Rutgers Mason Gross supported the effort by conceiving a design proposal that will transform the underpass into a festive setting, reflect local themes, and conform with regulatory and budgetary requirements.

It is recommended that the Coalition hold a launch event at Brick Church Station to kick off the lighting demonstration at that location. The event will be an important step in the Coalition's ongoing endeavors to use creative placemaking as a tool to make transportation infrastructure in the Urban Essex corridor more pedestrian friendly. Subsequent steps may include installation of the temporary lighting displays at other rail underpasses along the Morris & Essex line, and installation of permanent artistic underpass lighting.

The process of developing a lighting design for the Brick Church underpass identified a replicable approach to coordinating creative placemaking efforts with community stakeholders and transportation agencies. A number of lessons emerged from this process that can inform the Coalition's pursuit of additional "Light, Quick, Cheap" installations, as well as more permanent underpass lighting:

- The "Light, Quick, Cheap", tactical urbanism approach can be an effective strategy for achieving an "early win" and building up community enthusiasm for more permanent improvements. Communities can create installations of artistic value using affordable and widely available materials.
- It is important to work with stakeholders early in the process to establish objectives and clearly identify what can be accomplished within the scope and budget of a "Light, Quick, Cheap" project. To promote understanding of the true value of



The design team at Brick Church Station.



Final design proposal presentation at East Orange City Hall.

the “Light, Quick, Cheap” step, stakeholders should also be made aware of the more substantial interventions that are expected to follow the temporary improvements. In this case, permanent artistic lighting.

- Engaging regularly with a core group of local artists, community developers, and municipal officials through meetings, conference calls, and occasional site visits, was an effective and efficient means of incorporating local input and guidance.
- Involving the infrastructure (or other site) owner early in the process helps gain the owner’s acceptance of non-traditional use of the space and helps ensure the project team is aware of any owner dictated constraint – in this case, regulatory requirements and permitting.
- Art schools can be a valuable resource for community organizations seeking artistic assistance. The Rutgers Mason Gross faculty advisor was supportive of including the design project as part of his course work, and the students were eager to deploy their skills and talent to help improve quality of life in East Orange. The students’ passion generated enthusiasm among stakeholders and provided enormous cost saving to the project.

The process of carrying out this project served as an opportunity for the Coalition to continue to grow its relationship with NJ TRANSIT and to continue their collaboration toward implementation of placemaking strategies in and around the station areas along the Urban Essex corridor.

FUNDING AND PARTNERING OPPORTUNITIES

The Coalition might consider pursuing potential funding and partnering opportunities to implement installation of the proposed Brick Church Station temporary lighting display, subsequent temporary lighting at other underpass, as well as more permanent lighting displays (**Table 2**).

Table 2 Potential funding and partnering opportunities

Program Name	Program Description	Eligibility Description	Eligibility	Source	Website
ArtStart	Begun in 2001, the Newark Arts Council's ArtStart program is designed to act as a catalyst for cultural activity that is either not available, sporadic, or available only in limited supply within the local arts community. A selection committee representing a broad spectrum of the community considers all proposals. The projects stimulate arts and cultural activity in the city's neighborhoods, and local schools, and provide direct funding to individual artists. These innovative programs take the arts into locations that are often overlooked by traditional programs.	Local arts organizations in Newark	Non-profit organizations	Newark Arts Council	Link
Geraldine R. Dodge Foundation	Funds Arts, Education, Environment and Informed Communities initiatives that are innovative and promote collaboration and community-driven decision making.	no restrictions	State, County, Municipal, Private, Non-profit organizations, Other	Geraldine R. Dodge Foundation	Link
ioby	ioby is a nonprofit crowdfunding platform for local, resident-led positive change. ioby offers customized one-on-one fundraising coaching.	no restrictions	County, Municipal, Non-profit organizations, Other	crowdfunding donations	Link
M&T Charitable Foundation	The M&T Bank's Charitable Foundation provides grants, employee volunteers, and in-kind services to support a range of activities that improve community quality of life, including in the area of arts and culture. Applications are accepted on a rolling basis.	Non-profit organizations working in the areas of arts/ culture, civic affairs, health care, human services, and education	Non-profit organizations	M&T Bank	Link

Table 2 Funding and partnering opportunities (continued)

Program Name	Program Description	Eligibility Description	Eligibility	Source	Website
National Association of Realtors Placemaking Program & Grant	The Placemaking Grant funds the creation of new, outdoor public spaces and destinations. The Placemaking Grant is available only to state and local REALTOR® Associations. Grants of up to \$5,000 provide an opportunity to test the viability of long-term investments, plans, and initiatives that increase public engagement, or implement “lighter, quicker, cheaper” placemaking projects. Eligible projects include parklets, pop-up parks, biking & walking events, pedestrian plazas, alley activations, and others.	The Placemaking grant is only available to state and local REALTOR® Associations.	REALTOR® Association	National Association of REALTORS®	Link
New Jersey Council on the Arts - Grant Opportunities in Community Arts	The New Jersey Department of State provides funding through a variety of grant programs to support local community arts. These programs include the following: the Community Arts Program; the Local Arts Program; the Local Arts Staffing Initiative; Community Development Through the Arts; the Folk Arts Program; Folk Arts Apprenticeships; Folk Art Project Grants; and Folk Art Infrastructure Planning.	Eligibility varies by program, but generally these grants are geared toward counties, municipalities and community arts organizations.	County, Municipal, Non-profit organizations, Other	New Jersey Department of State - New Jersey Council on the Arts	Link
Our Town	Grants are available for arts engagement, cultural planning, design, and/or artist/creative industry support that contribute to improved quality of life in local communities. Matching grants range from \$25,000 to \$200,000.	Requires a partnership between a nonprofit organization and a local government entity, with one of the two being a cultural organization.	County, Municipal, non-profit organizations, Others	National Endowment for the Arts	Link
Southwest Airlines Heart of the Community	The Project for Public Spaces in partnership with Southwest Airlines provides grants for financial and technical assistance to local community partners to bring new life to public spaces.	no restrictions	State, County, Municipal, Private, Non-profit organizations, Other	Southwest Airlines, Project for Public Spaces	Link
The Kresge Foundation Place-based Initiatives	Grants support cross-sector and cross-disciplinary collaborations that infuse creativity into comprehensive development and urban planning practices that engage low-income communities.	Geared toward collaborations among governments and non-profits	State, County Municipal, non-profit organizations	The Kresge Foundation	Link

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