Citizens for Modern Transit in partnership with Metro commissioned a ULI Technical Assistance Panel (TAP) for the CORTEX Area in Midtown St. Louis. CORTEX is a not-for-profit organization focused on positioning St. Louis as a regional, national and international hub for technology research, development and commercialization. The 200-acre CORTEX site is located in midtown St. Louis between the Central West End and Forest Park Southeast neighborhoods. There currently is no MetroLink station at the site. CMT will be conducting a feasibility study on the possibility of a new MetroLink Station serving the CORTEX district simultaneously.

A panel of local ULI professionals will look at the possibilities for creative financing for the capital costs of building a station if the results of the feasibility study suggest a new station is a viable option for this site.

TOD education and advocacy is a key goal for CMT this year, and it is our hope that this ULI Study takes our education and advocacy efforts one step further by providing a tool to move development forward.

The CORTEX TAP will focus on and answer the following three questions:

1. *If a MetroLink Station is added to the current system between Boyle and Sarah Ave. in Midtown St. Louis, what specific location would maximize the potential benefits for the Cortex development as a whole and best serve residents in the surrounding neighborhoods?*

2. *There are four sites identified for a potential parking garage in the CORTEX district. If a MetroLink Station is added to the current system between Boyle and Sarah Ave. in Midtown St. Louis, what are the pros and cons of each potential garage site from a TOD perspective? How can specific site design and tenant mix enhance the opportunities? (see attached graphic).*

3. *What incentives could be utilized to bring in even further development at the site?*
Introduction to CORTEX:

CORTEX aims to transform an aging 200-acre industrial area into a vibrant, mixed-use, knowledge community that will bring jobs, infrastructure and innovation to St. Louis:

- Phase I began in 1998 and resulted in $155 million invested, and 950 jobs and 124 housing units created.

- The $73 million Heritage Building renovation by Wexford will add 190,000 square feet and 400 jobs.

- New construction of a BJC Office Building, $45 million project. This will add 200,000 sq ft of office space, housing 1000 employees.

- New MoDOT I-64 interchange will allow easy access to the district.

- Cortex Commons is a new linear park for the district and its neighbors.

- Public infrastructure that includes the CORTEX Commons, Duncan and Clayton Avenue Streetscapes and the new MoDOT I-64 Interchange will receive $7.35 million from Wexford, $11.65 million from BJC, $4.9 million from Washington University, $16 million from MoDOT and $0.8 million from a private donor.
CORTEX Public Realm Improvements Potential Garage Sites
Knowledge Community

Introduction

For years, laboratory and research campuses have stressed functional and economic considerations over quality design and place-making. This imbalance is best illustrated through the typical research park, a loose collection of suburban, single-use buildings surrounded by parking lots. Over the past few decades, numerous universities have followed this model to accommodate their applied science activities and form stronger ties to commercial science ventures.

But the quality of these environments rarely reflects the university’s accomplishments or aspirations. In fact, too many research parks fail to spark the kind of innovation and collaboration sought by most institutions. Demographic shifts among university faculty and entrepreneurs—think younger, smaller, smarter companies—along with emerging trends in research design suggest the physical settings of research environments need to change to support this changing culture and its influence. Today, a more integrated approach to research environments is emerging—one that recognizes the equal importance of function, community and artistry in the making of these places.
A vibrant and stimulating physical environment is essential to a successful research community.

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<thead>
<tr>
<th>University</th>
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<td>1. Tier 1 research</td>
<td>1. Lab-Office</td>
<td>1. Flex/Cool Space</td>
<td>1. Residential</td>
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<td>2. Business School</td>
<td>2. Quorum Innovation Center</td>
<td>2. Spiritual Center</td>
<td>2. Hotel</td>
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<td>5. Global Reach</td>
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<td>Research Park</td>
<td>Research Cluster</td>
<td>Knowledge Community</td>
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Knowledge Community Components

The Cortex District is being planned as a knowledge community, a lively setting for work, play and living. It will encompass far more than laboratories and offices for research. In contrast to past models of research parks as isolated suburban enclaves, a knowledge community is designed to become an urban neighborhood full of 24/7 activity. Housing, retail, hotels, open spaces and public amenities are all part of the development to attract young entrepreneurs and small companies in addition to seasoned scientists, corporate executives and local residents.

Architecturally, the research buildings of knowledge communities are open and dynamic to reveal the innovations taking place inside. Existing structures can be retrofitted with flex/cool space -- open, unstructured work areas -- to support unconventional workplace arrangements. Ground-floor spaces support retail, restaurants, cafes and “street science” – visible work places exposing scientific and research activities to passersby.

A knowledge community may incorporate an iconic center at its heart. This unique space provides a place for tenants to congregate and stage key events, and establishes a memorable identity for the research district.
Existing Conditions and Opportunities

Local Context

The Center of Research, Technology and Entrepreneurial Exchange (Cortex) is a not-for-profit partnership of major institutions based in St. Louis. This consortium was formed in 2002 by Washington University, Saint Louis University, the Barnes-Jewish Hospital Foundation, the University of Missouri-St. Louis and Missouri Botanical Garden.

The 240-acre Cortex District is strategically located near to these institutions to take advantage of their resources as well as community amenities and cultural assets. Located to the west of the district is Forest Park, home to a zoo, an art museum, a science center and an outdoor theater. Between the park and Cortex is the top-ranked Washington University Medical School and Barnes Jewish Christian Hospital.

Anchoring the district’s east end is Saint Louis University and its medical school. Nearby, the Center for Emerging Technologies, sponsored by the University of Missouri-St. Louis, has expanded to accommodate burgeoning start-up companies.

Further to the east is the Grand Center neighborhood, a cultural district supporting the Pulitzer Foundation for the Arts, Sheldon Concert Hall and Powell Hall, home to the St. Louis Symphony Orchestra.

To the south is the Missouri Botanical Garden where research into biodiversity is ongoing. To the north is Central West End, an historic mixed-use neighborhood, and to the south is the Grove neighborhood featuring a variety of restaurants, shops, and galleries.
**Cortex Assessment**

**Site Challenges**

The Master Planning process included interviews with entrepreneurs, city officials, university and hospital leadership, researchers and local developers to determine their needs. Their comments highlighted deficiencies within the current physical environment of the Cortex District as follows:

- Overall, the area is industrial in character and lacks green space.
- Public spaces and streets are currently neglected.
- Recently completed buildings in the district are inwardly focused, surrounded by fences and difficult to enter from a public street.
- Structures within the eastern portion of the district primarily accommodate parking, services, utility infrastructure and support staff, rather than researchers.

For Cortex to be more successful at attracting research, companies and entrepreneurs, the district requires significant physical improvements and connections to the surrounding community.
Limiting Attribute

- Institutional Partners
- Surrounding Community Context & Amenities
- Ability to Attract Research
- Entrepreneurial Environment
- Community Connections
- Placemaking of Cortex District

World Class Attribute

Existing Boyle Avenue

Existing Duncan Avenue

Existing parking areas

Existing historical assets
Guiding Principles

Think Like a Community

1. Innovate and Collaborate
2. Connect Ideas and People
3. Generate, Attract and Grow Companies

Act Like A Community

1. Place-Making Matters
2. Create Nodes of Activity
3. No Back Doors

In a Community, Every Decision Counts
Existing Land Use

Intense Focus of Activity
Forest Park to Euclid
Clinical, Research, Teaching

Support and Service
Taylor to Newstead
Parking, Utility, Support Services

Tap into existing community and institutions

North-South Streets
Boyle, Newstead, Taylor, Sarah
Residential Connectors – Central West End, Forest Park Southeast

East-West Streets
Duncan, Clayton
Institutional Connectors – WUMS, BJC, College of Pharmacy, SLU

Integrate uses and strengthen connections

Research / Clinical
Specific Uses
Lab-Office, Iconic Center(s), Flex/
Cool Space [CIC], Conferencing, Street Science

Community
Specific Uses
Residential/Hotel, Retail, Streetscape,
Open Space
Master Plan

Goals
The Master Plan establishes a vision for the Cortex District as a mixed-use knowledge community that seeks to:

1. Attract and retain top research and entrepreneurial talent.
2. Connect to surrounding amenities and neighborhoods.
3. Create a cohesive community through a structure of open space and complete streets.
4. Revitalize existing industrial buildings.
5. Strengthen connections to Forest Park through a greenway along Clayton Street.
6. Establish a public realm activated by ground-floor uses, such as retail, meeting spaces, public amenities and street science.

Land Use
Research uses are grouped around the proposed Cortex Commons and extended west to Newsstand Avenue and east to Sarah Street. This cluster is connected to the medical campus through improved infrastructure, including pedestrian and bicycle paths, along Duncan and Clayton avenues.

Along Duncan Avenue, a mix of housing and research is activated through ground-floor uses such as retail, street science and residential amenities, such as meeting spaces, fitness facilities and lounges.

To the west, a proposed retail node anchored by a significant tenant takes advantage of the visibility from the nearby highway and multiple access points from Forest Park, Vandeventer and Duncan avenues. To the north of the anchor tenant, small retailers on the ground floor of residential buildings enhance the walking experience along Duncan Avenue.
Potential Future Development
Transportation Planning

A comprehensive transportation planning needs to be undertaken to address the needs of the Cortex District as well as those of adjacent institutions, including BJC Healthcare and Washington University Medical School. Currently, each institution or business manages its individual parking and transportation policies, and coordination of parking and transportation among these entities only occurs to solve specific needs as they arise.

The transportation plan should consider sharing parking resources and shuttle routes, establishing a bicycle program and exploring the creation of a single transportation authority for the district. This scale of planning will allow the transportation infrastructure to be designed to efficiently and serve the collective needs of the entire district.
Shuttle & MetroLink

Bus: Large parking structures, key destinations and Cortex Commons should be connected by an efficient shuttle bus system. A neighborhood shuttle route should be considered over the long term to strengthen connections between the district and surrounding neighborhoods and institutions.

Bicycle Network

Bicycle: Clayton Avenue will incorporate a designated bike path to serve as a greenway extension of Forest Park. Boyle Avenue will have striped bike lanes to serve as a north-south neighborhood connector. To foster a cycling culture, each building should provide bike-share facilities in the lobby or another public space. The bikes can be checked out with the building receptionist, thus increasing the mobility of the tenants. This program can be a precursor to a more managed bicycle-sharing effort integrated with surrounding neighborhoods and institutions.

Parking Access

Parking: The large dimensions of the blocks that run between Duncan and Clayton avenues allow freestanding parking garages to be mostly hidden from public view. Locating the garages within the blocks minimizes the negative impact of parking structures on the district’s streetscapes and open spaces. It provides two ways for vehicles to exit and allows cueing within the block to mitigate stacking within the garage and nearby streets.
Stormwater Management

Sustainable Practices

Open space and streetscapes within the CORTEX District are planned to advance sustainable practices. They should comply with the regulations and best management practices of the metropolitan St. Louis sewer district, not only in public right-of-ways but in development sites within the CORTEX District to support a comprehensive approach to stormwater management.

Furthermore, landscape improvements should utilize low-impact development techniques (LID) and manage water as close to the source as possible. Plantings and vegetation in green spaces surrounding buildings should incorporate native species and sustainable measures aimed at:

1. Minimizing stormwater runoff from the surrounding streets, parking lots and buildings.
2. Limiting post-development net gain in runoff volume.
3. Installing porous and permeable pavements in hardscape and some parking areas to absorb rainwater.
4. Harvesting and reusing rainwater through the use of water conservation techniques.
5. Using recycled products.
6. Implementing soil management techniques.
Storm Relief Sewer

CORTEX District because of surcharging issues and limitations of the existing sewer infrastructure in the Mill Creek sewer shed. To resolve these issues further, the Master Plan locates a storm relief sewer below the Clayton Avenue right-of-way. Cortex has requested that MSD place this as a priority on their capital improvement list.

7. Adopting and integrating renewable energy measures where applicable, including – but not limited to – solar-powered landscape lighting.
8. Incorporating green roofs into building designs.
9. Placing bioretention features adjacent to hardscape areas, such as streets, sidewalks and parking lots, to store and filter stormwater runoff and allow it to infiltrate within the site.

These LID strategies will manage the 1.14 inch runoff as a whole district verse individual development projects.

These measures are especially important to the
Phase 1 Improvement Goals

1. Support two major nodes of activity that are focused on existing buildings and projects currently being planned.

One of these nodes is located at the intersection of Clayton and Boyle avenues where a new building is proposed for the Barnes Jewish Center. The other node is situated at the intersection of Boyle and Duncan avenues adjacent to the Heritage, Breuer, Solaie and Cortex 1 buildings.

2. Provide the urban framework for stimulating key projects in the near term.

These projects include a signature research building at corner of Newstead and Duncan avenues, potential housing sites to the south of Cortex 1, a mixed-use site to the south of Clayton Avenue at the intersection of Boyle Avenue, the Breuer Building at Boyle and Forest Park avenues, and the redevelopment of single-story warehouses along Duncan Avenue.

3. Establish the principles for future development along major streets.

This development will occur along Duncan and Clayton avenues as well as Newstead Avenue and Sarah Street, the other neighborhood connectors in the district.
Cortex Commons and Boyle Avenue

The Cortex Commons is the district’s Central Park, an open space at its heart that serves to unify the entire knowledge community. The two-acre park stretches between Clayton and Boyle avenues, and is bisected by a rail line. Where the tracks intersect the park, a future Metro Link stop will be located and incorporated into the design of the Commons.

The Master Plan envisions the park as an active, sustainable place that could:

1. Reference research and innovation: Physical features of the Commons could represent the innovations and research taking place within the district to inform and inspire visitors about the important work being pursued by Cortex.
2. **Activate open spaces:** Public spaces come alive with activity. At the center of the Cortex Commons, a lawn, two pavilions and a water spray park may accommodate recreational sports, book readings, outdoor games, fitness classes, performances and children’s activities.

3. **Advance sustainable practices:** Plantings and vegetation will incorporate native species and sustainable measures aimed at minimizing runoff from streets, parking lots and buildings.

Recycled products, soil management techniques and renewable energy measures, such as solar-powered outdoor lighting, will be incorporated.
Duncan Avenue Streetscape

Extending along the northern edge of the Cortex Commons, a portion of Duncan Avenue will be landscaped to create a tree-lined, pedestrian-oriented thoroughfare. The street is limited by a narrow, 60-foot right-of-way (ROW) with buildings developed to the property line in many places. This ROW is difficult to set back further because many existing buildings along the street will be maintained.

The street is envisioned in the Master Plan as key to a mixed-use area of renovated warehouses, new housing and research buildings. It connects the Washington University Medical Center at its western end to proposed retail around an existing grain silo to the east. Street plantings are planned to enhance the pedestrian connections between the medical center and retail.
Clayton Avenue Streetscape

Extending to the south of the Cortex Commons, a portion of Clayton Avenue will be established as a green, highly trafficked right-of-way (ROW). While Clayton Street encompasses a 60-foot ROW, the buildings are offset from the property line to create an effective ROW of 110 to 120 feet.

The Master Plan proposes using a portion of this additional setback area to allow for a tree-lined, pedestrian greenway that will eventually connect Vandeventer Avenue on the eastern side of the district to Forest Park on the western end.

In addition to sidewalks and street plantings, this area could incorporate a designated bike path that will eventually connect Vandeventer Avenue to Forest Park.
Gateway Entrances

Distinguishing the edges of the district and marking entrances with gateways are critical to establishing a strong identity for Cortex. Three of the edges are situated along the important regional connecting routes of Forest Park Avenue, Vandeventer Avenue and Interstate 64. They offer opportunities to define the Cortex District within the city from the perspective of daily commuters.

To clarify entrances along Forest Park Avenue, the Master Plan proposes building setbacks at key intersections to create a heightened sense of arrival. Adding landscape features and monument signage, and increasing the sidewalk dimensions can also enhance arrival.

These gateway features must address the pedestrian and vehicular scale to be effective. A good example of this approach is the medical center entranceway at the corner of Forest Park and Euclid avenues.

The frontage along Interstate 64 provides an opportunity for both the district and individual development sites to take advantage views from the highway. It includes the retail development node to the east, the hotel site south of Cortex Commons and a series of research, office and clinical building sites.

The visibility of the tall grain silo from the highway provides another opportunity to create an iconic marker for the district. Using lighting and signage in creative ways can make this feature an asset and distinguishing landmark of Cortex.

Gateways within the district are important. They include transitional entry points from the Cortex District to the medical center campus to the west and the retail node to the east. These entrances offer opportunities to reinforce the identity of Cortex as a knowledge community while still integrating it within the larger district of institutions.
Cortex Commons serves both as a public space and the main gateway to the site.
Streetscape Details

**Site Furniture**

- Benches
- Bus stops
- Tables and chairs
- Bollards
- Bike racks
- Trash receptacles
Site-Wide Design Principles

Site-wide design principles will guide developers and designers as they begin to plan and shape the Cortex District so that buildings and open spaces follow a cohesive and principled development pattern. These guidelines seek to ensure that new development achieves high-quality urban design; enhances the public domain; encourages research and innovation; and contributes to the vitality of the Cortex District.

Urban Design
Good urban design requires the careful arrangement of buildings, public spaces, transportation systems, services and amenities within a large site. The best urban design helps to achieve identifiable neighborhoods, site-specific architecture, active public places, prominent landmarks and focal points, and a human scale established by well-proportioned buildings and pedestrian-oriented environments. In order to achieve the goals of the Master Plan, designers and developers should pay careful attention to core urban design practices as follows:

- Create focal points, such as fountains, plazas, and courtyards, to establish a sense of place and orientation within key public and open spaces.
- Activate streets with public or semi-public uses, such as retail, on the ground floors of buildings and provide direct entry from the street where feasible.
- Develop and strengthen pedestrian connections within the Cortex District by designing streets and pedestrian pathways to be pleasant and safe.
Public Realm
The Master Plan envisions a diverse, vibrant and pedestrian-friendly public realm, with well-defined streets and high-quality open spaces. The public realm within the Cortex District consists of streets and open spaces, such as plazas and parks. These elements are defined and framed along their edges by building façades.

Street Frontage
The pedestrian experience within the Cortex District is completely shaped by the character and activities of the streetscape. The zone between the roadway curb and the building face, called frontage, will vary according to the building types associated with the space.

Retail street frontage is an indispensable component of any active neighborhood. The Master Plan suggests such retail-oriented spaces are suitable along Duncan and Forest Park avenues, and clustered around proposed open spaces such as Cortex Commons.

Café and restaurant seating zones can be integrated into the streetscape; retail kiosks with merchandise, food, and beverage, and other services can be provided; and features such as interactive fountains and movable seating can be incorporated to promote the street as a destination.

Lab office buildings are the workhorses of a knowledge community. They provide the infrastructure to support state-of-the-art research undertaken by the community’s institutions and companies. It is important that these building contribute to the vibrancy of the urban environment by:

- Expressing the great research happening inside by exposing science to the street.
- Creating lobbies that turn the building inside out.
- Making a welcoming and an engaging transition from the public to the private realm.
Street Frontage Principles

- Focus retail into clusters at destination retail locations; prioritize activating retail uses (general merchandise, apparel and accessories, service, and food and beverage establishments) over storefronts filled with offices, professional services and other uses inconsistent with a dynamic pedestrian experience.
- Coordinate development of planned open spaces with adjacent retail uses to ensure a vibrant mix of uses that generates activity at multiple periods during the day and evening.
- Compose retail building fronts in a manner that encourages active streetscape environments.
- Incorporate lobbies, entrances and other elements into storefronts, while maintaining a predominantly retail character.
- Retain or implement these design recommendations even in high-security environments where trees, landscaping and hardened street furniture are preferred over barriers and bollards.

Public Sidewalks
A sidewalk describes the configuration of the sidewalk, landscaping and street furnishings in the area between the street curb and the build-to line.

Sidewalk Components
The components of the public sidewalks are labeled in the illustrations that follow, indicating:

Sidewalk Clear Zone: This area is intended to provide unobstructed passage for pedestrians along a sidewalk. The provided range of dimensions is based on the overall sidewalk width and frontage type.

Street Tree and Furnishing Zone: This zone is immediately adjacent to the curb and is defined primarily by street trees contained in tree pits or planting strips. It may include furnishings, such as lamp posts, benches, trash receptacles, planters
and similar street furnishings. On some commercial frontages, this area may be integrated into a café zone, described below.

Café/Shy Zone: This area only occurs on retail frontages. In addition to seating in front of restaurants and cafés, this realm can be used for outdoor retail display and other retail-related activities. In the absence of such uses, the zone can be furnished with benches, planters, and other items consistent with a retail environment. It may be located adjacent to the building frontage or integrated with the Street Tree and Furnishing Zone, in which case the Café/Shy Zone should be no less than the required width of the Street Tree and Furnishing Zone. The position of the Café/Shy Zone should be the same for all businesses along a block frontage.

Non-Retail Street Shy Zone: This zone only occurs on non-retail frontages and is intended primarily as a landscape buffer between the building face and the sidewalk. Landscaping elements may include yards, raised planters and continuous planting beds.

Sidewalk Material Standards
Paving Materials: Paved surfaces may consist of special paving, untreated poured concrete or some combination of these surfaces. However, for the portion of the sidewalk comprising the Clear Zone, the treatment will be concrete or stamped concrete. Additionally, the choice and installation of paving materials must comply with Americans with Disabilities Act (ADA) requirements.

Tree Pits: These recesses should be large enough to allow water and air to enter the roots of the tree. It is important to restrict pedestrian foot traffic around the tree to prevent soil compaction. Tree pits can be protected with low fencing around the perimeter where heavy pedestrian traffic is expected. A tree’s viability and vitality is directly correlated to the volume of soil in which its tree roots can seek water and nutrients. Consider expanding the soil volume for each tree by utilizing techniques such as Silva Cells and porous pavement over engineered soil.
Tree Pit Landscaping: Vegetation may include flowering plants and shrubs, but no plants with thorns or other sharp protrusions. Plants should be maintained below a height of 30 inches for safety and visibility.

Continuous Planting Strip: This design should be used on frontages with lower intensity of uses and where there is no adjacent on-street parking.

Other components of the public sidewalk frontage are the same regardless of sidewalk width or frontage type. They include typical tree spacing of 40 feet on center and centering of light fixtures between trees.

Open Space
Public open spaces in urban areas assume many forms, such as plazas, parks, squares and greenways. These spaces can differ substantially in type, particularly with respect to programming, character, size, landscaping and uses. When planned as a system, public open spaces should provide a range of activities to meet the needs and interests of the community. A well-designed system will appeal to people of all ages and encourage social gatherings.

The intent of the Cortex Master Plan is to create well-designed public open spaces that will contribute significantly to the quality of life within the district, community and city. The Master Plan calls for the creation of the Cortex Commons, a public park that will be accessible to all who work and live in the district and surrounding neighborhoods.

The Master Plan focuses on improving the quality and utilization of public open space, whether new or proposed, by increasing accessibility, visibility, programming and appearance. Recommended build-to lines are also established to define the proposed open spaces that will have limited flexibility in location and orientation, and are illustrated to represent the approximate demarcation between the public open space and sidewalk. The following principles were developed to achieve the stated goals for open space within the Cortex District:
Open Space Principles

- Ensure open spaces are accessible, usable, and designed to be safe and secure.
- Distinguish effectively between private and public spaces by reinforcing a strong sense of openness and accessibility in those spaces planned for public use.
- Provide new development areas with high-quality landscape features, using a blend of plant species found on the site and new types of vegetation.
- Locate retail plazas and parks so they have direct access to the street; office plazas, landscaped medians, and landscaped street setbacks are less desirable.
- Encourage and expand opportunities for festivals, concerts, farmers markets and other activating uses, particularly for the Cortex Commons.
- Public art could be incorporated into the architecture and open spaces of the district, and artistic lighting could highlight the Cortex Commons during the evenings.
- Crime Prevention through Environmental Design (CPTED) principles could guide the design of the Commons.
- Wind turbines and/or solar panels could be used in artistic ways to educate visitors about environmental conservation and supply power for pavilions within the Commons.
- Low Impact Design (LID) features could include pervious paving, water filtration gardens, and cisterns within the Cortex Commons and adjacent buildings to capture rainwater for park irrigation.
Building Design Strategies

Service and Loading
To support vibrant street life, the Master Plan limits service entrances and garage doors placed on or near important streets. Ideally, these elements will face alleys, internal courtyards or areas within the block where consolidated service and loading is provided for a building or multiple buildings.

Parking
Parking will be screened from view at key locations and major streets by being set behind buildings. In certain situations, non-enclosed surface parking areas will be screened from rights-of-way by landscaping or walls consistent with the architectural designs of adjacent buildings.

Structured parking garages are to be hidden from major rights-of-way, such as Duncan and Clayton avenues, and other key view corridors. If an above-ground parking garage is exposed to a public street, the structure should be clad in such a manner so it is indistinguishable from surrounding building elements. Elevator towers within parking garages should be designed as prominent features to mark entrances and introduce visual interest.

Refuse Collection
Refuse collection areas and dumpster locations will be fully enclosed within the principal buildings they serve. They will be screened from sight so as not to affect views from nearby areas.

Architecture

Architectural Features
Architectural features, such as projecting bays, roofs, towers, prominent corners and angles, should be used to create visual interest, emphasize major view
corridors and mark significant places throughout the Cortex District. An example of such an architectural element is featured in the Georgia Tech Global Learning Center (photo at bottom right) where the street corner is marked by a brightly illuminated bay.

**Building Height, Proportions and Materials**

Critical to creating a dynamic urban environment is exciting architecture. Varied building heights and massing, well designed facades and expression of key internal functions on the exterior are fundamental to design vibrancy.

To ensure new construction is coherent and compatible with existing structures within the Cortex District, these guidelines strongly recommended that each building façade incorporate three horizontal layers: base, middle and top. The specific qualities and relationships among these layers will be particular to an individual building’s design and may be explicit or subtle. Architects should consider the following:

**Base**
The role of the base is to address and resolve the relationship of the façade to the ground in terms of design, construction, visual perception and access. This ground layer could be one to two stories in height and correspond with the base height of an adjacent building. The design of the base should be consistent with, though not necessarily identical to, the design of the façade layers above.

**Middle**
The middle layer comprises the standard pattern of façade division within a building. It is recommended that this section consist of a minimum of two floors between the base and top.
Top
The role of the top layer is to address and resolve the termination of the upper portion of the façade where it meets the sky. The design of the top should be integral and consistent with, though not necessarily identical to, the middle and base.

Materials
High-quality construction materials are recommended to ensure building integrity and longevity. They include masonry (brick and stone), metal (zinc, steel, aluminum), concrete (cast-in-place or precast), tile (ceramic or terracotta) and glass (transparent, translucent, fritted). Three or fewer primary building materials, including glass, are recommended to maintain visual coherence.

Exterior materials not recommended for use are any type of stucco or render, including exterior insulation finishing systems (EIFS); concrete masonry units (CMU); painted concrete; fiber-cement panels; and vinyl.

Storefront and Retail Facades
Storefronts, entranceways and awnings should promote a welcoming sense of openness. Designs should be visually accessible with displays that encourage active street life and window shopping.

Retail storefronts can incorporate display windows amounting to a minimum of 50 percent of the surface area of the entire ground floor façade. The area between 3 and 8 feet above grade should reach a minimum of 80 percent transparency.
To maintain accessibility, retail floors should match the grade of exterior sidewalk wherever possible. Store entrances should be spaced along frontage at intervals that encourage active streetscapes, not more than 60 feet apart on average.

**Canopies**

Canopies and awnings are encouraged as they provide weather protection and provide visual interest and delight to the streetscape environment. These elements are to be decorative, lightweight and varied. Canopies can be constructed of metal or fabric with retractable elements. Lettering and logos are permitted on the valence flap of the awning but discouraged on the main body of the awning.

**Signage and Lighting**

A wide variety of signage types and locations, including rooftops, canopies and vertical marquees, are envisioned for the Cortex District. Signage should be integral with a building design and pedestrian-oriented in size, placement, material and color.

In designated areas, larger, iconic signage can be auto-oriented and designed to be seen from a long distance. Lighting for signage should come from direct, shielded sources and be carefully integrated into the overall design of the building so as to avoid glare and light pollution. Neon signs may be allowed so long as they are carefully designed to complement the architecture of the building and the district.
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Executive Summary
STUDY OBJECTIVE

Many years in the making and located in the heart of the City of Saint Louis' central corridor, the CORTEX district is nestled between the Central West End, Forest Park Southeast, Midtown, and the bustling BJC Kingshighway Campus. CORTEX is bounded on the south by I-64 and bisected by the MetroLink Red/Blue Line, making it ideally-located for a life-sciences research park from the standpoint of visibility, accessibility, and adjacency to significant medical centers and universities. These assets are supported by great amenities including residential neighborhoods and commercial main streets. However, the district as a whole is ill-defined in terms of identity, character, and perceptible boundaries. Originally developed as a light-industrial enclave, the CORTEX district faces major challenges moving forward to make itself feel welcoming, pedestrian-friendly, and fundamentally connected to its surrounding neighborhoods and amenities.

Market research has demonstrated that the knowledge-worker of the 21st century places a high premium on issues of livability, sustainability, and access to a vibrant public life after work. Adjacency to great neighborhoods and main streets; dense mixed-use development supporting a variety of uses and activities; vibrant walkable and bike-able streets; and access to transit all provide a competitive edge that can be most fully realized in both great neighborhoods and urban research parks. In order to capitalize on years of public and private investment and attract and retain the best and the brightest, it is imperative that development in the CORTEX district unlocks the latent potential present in the district's enviable location in the heart of Saint Louis. A key component of this development is the proposed construction of a new MetroLink station at Boyle Avenue.

The Transit Oriented Development Study (TOD) for the CORTEX District (the Study) seeks to establish projections for net new riders on the MetroLink light rail system over a 20-year planning horizon resulting from the construction of a new MetroLink station in the CORTEX District. This Study is focused on proposed ridership projections based on planned investments in CORTEX and the surrounding areas. Metro Saint Louis Transit and the Bi-State Development Agency (Metro), owners and operators of the MetroLink and MetroBus transit systems, have established target thresholds as goals for proposed stations.

This station will be an invaluable asset in the future development potential of both the CORTEX district and the region-wide MetroLink system. The proposed station has the potential to function both as a
transit option for current and future area residents and employees, as well as a major amenity and connective element for the surrounding neighborhoods and residents. In order to capitalize on years of public and private investment and attract and retain the best and the brightest, it is imperative that development in the CORTEX district unlocks the latent potential present in the district’s enviable location in the heart of Saint Louis. The City of Saint Louis, Metro, and CORTEX possess a significant opportunity to recreate the district as a key link between surrounding neighborhoods, with the ability to tie these neighborhoods together with public spaces, great pedestrian streets, mixed-use development, and multi-modal transit access.
STUDY DEVELOPMENT & FUNDING

As noted above, the Study is funded with a portion of the $4.7 million Sustainable Communities Regional Planning Grant from the U.S. Department of Housing and Urban Development through the East-West Gateway Council of Governments. Additional funding for the Study was provided by three partners: the Saint Louis Development Corporation (SLDC), CORTEX, and the Missouri Botanical Garden. The Missouri Botanical Garden's interest was specifically focused on improving the connectivity between its facility and MetroLink, which led to the Study's emphasis on the Tower Grove Avenue corridor.

The Transit Oriented Development Study for the CORTEX District is closely aligned with the goals of the HUD-DOT-EPA Partnership for Sustainable Communities Livability Principles and is comprised of the following components: 1) a projection of MetroLink system net new riders over a 20 year planning horizon based on CORTEX district and surrounding area development plans; 2) planning Scenarios to increase net new ridership projections; 3) a Street-Level Connectivity Plan to enhance pedestrian and bike access to the proposed station from surrounding neighborhoods and institutions; and 4) TOD and Sustainable Development Strategies for the CORTEX District.

Connecting existing residents to existing and planned modes of transit is a major component of sustainable neighborhood development and a stated requirement of the Study. The project Study Area incorporates the existing Central West End MetroLink station and extends from approximately one quarter mile west of Kingshighway Boulevard (west) to one half block east of Compton Avenue (east) and from one half block north of Olive Boulevard (north) to one half block south of Hartford Avenue (south). This study area contains approximately 25,000 existing residents and 50,000 existing employees, a significant opportunity for enhancing connectivity, mobility, and access to transit.

The Saint Louis Development Corporation (SLDC) is responsible for the project administration. Karin Hagaman, Major Project Manager, is in charge as project coordinator. The Client Group team consists of Karin Hagaman, Dennis Lower (CORTEX), Mike Sullivan (CORTEX), Bob Herleth (Missouri Botanical Garden), Catherine Werner (City of Saint Louis Director of Sustainability), and Don Roe (City of Saint Louis Planning and Urban Design Agency). The Project Team lead is H3 Studio, with partners Bernardin, Lochmueller & Associates (BLA); Innis Consulting; David Mason & Associates (DMA); and Vector Communications Corporation.
PROJECT ASSUMPTIONS & EXISTING CONDITIONS

The TOD Study for the CORTEX District is predicated on a number of assumptions based on the existing CORTEX development plans and other information provided to the Project Team. The CORTEX plan is based around the concept of the CORTEX Commons, a plaza-like central square located along Boyle Avenue between Duncan Avenue and Clayton Avenue. It is also the general location of the proposed new MetroLink Station. In addition, CORTEX’s current plans call for the re-creation of Duncan Avenue as a major east-west bicycle and pedestrian street. These are the public space amenities around which the first phase of planned redevelopment projects are located.

In the context of regional connectivity, both Tower Grove Avenue and Clayton Avenue are identified in the Regional Bike Plan as important shared bike facilities. Clayton Avenue is a key east-west connector through the CORTEX district and Forest Park but provides limited access to the east. Tower Grove Avenue is an essential north-south connection between the proposed MetroLink station, the Missouri Botanical Garden, and neighborhoods to the south; it is the only neighborhood street that continues south of Vandeventer Avenue. However, the proposed MoDOT interchange improvements at Tower Grove and Boyle Avenues and I-64 will significant inhibit north-south bicycle and pedestrian connectivity across the highway; vehicular access will be enhanced but I-64 will remain a major pedestrian barrier.

Finally, the proposed redevelopment plans for the CORTEX district will generate a net increase of 11,500 jobs over twenty (20) years. This increase is based on: 1) current CORTEX development plans provided to the Project Team and 2) the assumption that employment in the BJC/Washington University Medical Center Kingshighway Campus will remain at current levels or increase over the same timeframe. Please note that this Study was completed between February and June 2012. Subsequent to completion of this Study, CORTEX amended their Master Plan and thereby revised the district development program and employment projections. Despite these revisions, overall ridership forecasts for the proposed MetroLink station remain valid.

In addition to the project assumptions and existing conditions outlined previously, the Project Team identified and compiled a number of Consensus Issues and Consensus Ideas for the Study Area, CORTEX district, and proposed MetroLink station. These Consensus Issues and Ideas were developed from on-site analysis, stakeholder interviews, and feedback from the Client Group and Advisory Committee.
CONSENSUS ISSUES
CORTEX DISTRICT

1. In order to justify a new MetroLink station, it must be demonstrated that the new station will result in a net increase of new riders over 20 years.

2. The new interchange at Boyle and Clayton Avenues results in complex movement patterns, difficult connections for pedestrians/bikes and facilitates greater volumes of vehicular traffic into the district.

3. Large quantities of free surface parking are prohibitive to developing a dense, urban district.

4. The lack of a district-wide parking strategy puts pressure on the adjacent Central West End and Forest Park Southeast residential neighborhoods as CORTEX users turn to these areas for free parking.

5. In order to achieve necessary densities, ridership, walkability & vibrancy, mixed-use development is required for the CORTEX/BJC-WUMC district.

6. The ability of the new MetroLink station to attract riders is heavily dependent on the surrounding uses, amenities and connectivity.

7. CORTEX MetroLink station needs to be integrated into a larger transit and transportation strategy for the CORTEX/BJC-WUMC district.
CONSENSUS ISSUES
SURROUNDING CORTEX

1. Forest Park Avenue is perceived as
   unfriendly to bikes and pedestrians
   for east-west travel and crossing.

2. Laclede Avenue is the major east/
   west pedestrian connector north of
   Forest Park Avenue.

3. Euclid and Newstead Avenues
   are the primary pedestrian north/
   south crossing points of Forest Park
   Avenue.

4. Walkability from the east and St.
   Louis University is inhibited by
   adjacent land uses and streetscape
   conditions, although people do walk
   to the CWE station.

5. Boyle Avenue and Sarah Street
   are perceived as unfriendly to
   pedestrians due to streetscape
   conditions and adjacent land uses.

6. Boyle Avenue is perceived as
   unsafe and unfriendly for cyclists
   due to poor streetscape quality and
   pavement condition.

7. Tower Grove Avenue is perceived
   as unsafe and unfriendly for bikes
   due to poor streetscape quality,
   pavement condition, and the
   Vandeventer intersection.

8. The area of the Forest Park
   Southeast neighborhood bounded
   by Chouteau (north), Arco (south),
   Boyle (east), and Taylor (west) is
   perceived as very unsafe for cyclists
   and pedestrians.

9. Major opportunities for east/west
   pedestrian/bike connectivity exist on
   Chouteau and Manchester Avenues.

10. The I-64 corridor and proposed
    interchange is a significant barrier
    to major pedestrian and bicycle
    connectivity.

11. The roundabout as proposed at the
    new Tower Grove/I-64 interchange
    is unfriendly to pedestrians and
    provides little support for cyclists.

12. North of I-64, Boyle Avenue as
    proposed will carry higher volumes
    of vehicular traffic.
SYSTEM RIDERSHIP STRATEGIES

The planning target for net new MetroLink riders, established by Metro, is 1,900 net new boardings per day. Baseline ridership projections for the proposed stations indicate an increase of approximately 600 to 700 net new boardings on opening year, and increase of approximately 1,250 to 1,350 net new boardings on year 20. These numbers would be achieved based solely on planned development in the area with no other actions to attract riders. To increase ridership to meet the Metro target, the Planning Team has identified a number of connectivity, development, and operational strategies that can be employed to increase ridership.

IMPROVE CONNECTIVITY: Stronger connections to the Central West End and Forest Park Southeast would yield additional boardings above the 1,250-1,350 range previously cited. These boardings are still limited, however, by continued usage of the Central West End MetroLink station at Euclid Avenue by portions of both neighborhoods. Strategies to improve connectivity are listed on the facing page.

INCREASE RESIDENTIAL DEVELOPMENT: Based upon additional research, TOD-style development will yield a higher ridership capture than employment. These capture rates are highly dependent on proximity to the MetroLink station (as outlined below) and to the provision of mixed-use amenities. Capture rates in TOD-style development are listed on the facing page.

A special capture rate of 15 percent for TOD directly adjacent to stations (1/4 mile or less) was developed by Robert Cervero (UC-Berkeley) as part of the MetroLink MetroSouth Study in the mid-2000s. The rate is predicated on developments attracting residents who are predisposed to riding transit; this rate cannot be applied to typical residential uses.

MANAGEMENT & OPERATIONS: There are a variety of management and operational initiatives that can implemented to incentivize transit use or make transit a more attractive option to district employees and residents who currently commute by car. Management and operations strategies are presented on the facing page.

By utilizing some or all of these strategies, net new system ridership can be increased to achieve Metro planning threshold. The following alternative scenarios illustrate the combined effects of employing these strategies in various ways.
IMPROVE AREA CONNECTIVITY

- Develop pedestrian first streets
- Increase bike accessibility & facilities
- Improve Streetscape, Visibility & Imageability
- Provide Active Ground Floor Uses on Key Streets
- Install Security Lighting and Monitoring System
- Install Blue Light Safety Call system
- Increase safety patrols

INCREASE RESIDENTIAL DEVELOPMENT

- ¼ Mile Radius from MetroLink: 8-10% Capture Rate
- ½ Mile Radius from MetroLink: 3-5% Capture Rate
- Greater than ½ Mile Radius: <2% Capture Rate

MANAGEMENT & OPERATIONS

- Increase Bus Connectivity
- Neighborhood Shuttle Services
- Park-And-Ride Facilities
- Bike Transfer Facilities
- District-wide Parking Management Plan
- Subsidized- or No-Cost MetroLink Fares or Passes
If all Scenario 1 recommendations are implemented and mutually leveraged toward the purpose of enhancing transit ridership, it will result in a total of 1,800 to 2,000 net new daily riders by year 20.

SCENARIOS TO INCREASE RIDERSHIP: SCENARIO 1

Scenario 1 is designed to achieve Metro’s planning threshold of 1,900 net new riders if that target is understood as the year 20 ridership goal. Scenario 1 involves moderate modifications to existing proposals and planning initiatives to enhance north and south connectivity, initiate new mixed-use, transit oriented development near the proposed station, and incentivize current and planned district employees to use MetroLink as their means of commuting to work.

CONNECTIVITY
1. Provide shared lanes on Tower Grove Avenue and widen Boyle Avenue overpass with widened sidewalks and dedicated bike lanes.
2. Provide dedicated bike lanes on Tower Grove Avenue south of Vandeventer Avenue to the Missouri Botanical Garden.
3. Extend CORTEX Commons north to Forest Park Avenue and create a “front door” to the CORTEX district at Forest Park Avenue.

DEVELOPMENT
5. IN ADDITION provide 650 to 750 units of new, TOD residential development and mixed-use development in the CORTEX district (975 to 1,125 new residents.)
6. Focus TOD residential and mixed-use development between Sarah Avenue and Vandeventer Avenue and extend planned Duncan Avenue streetscape improvements east to Vandeventer.

MANAGEMENT & OPERATIONS
7. Provide bike storage, lockers, and shower facilities at the CORTEX MetroLink Station.
8. Provide subsidized transit passes to CORTEX district employees (BJC model: approximately $20 per month subsidy or pass discount.)

If all of these recommendations are implemented and mutually leveraged towards the purpose of enhancing transit ridership, it will result in an additional 550 to 650 net new riders at year 20. In addition to the base level ridership of 1,250 to 1,350 in year 20, this would result in a total of 1,800 to 2,000 net new riders.
SCENARIOS TO INCREASE RIDERSHIP: SCENARIO 2

If all Scenario 2 recommendations are implemented and mutually leveraged toward the purpose of enhancing transit ridership, it will result in a total of 2,350 to 2,550 net new daily riders by year 20.

Scenario 2 is designed to achieve Metro’s planning threshold of 1,900 net new riders if that target is understood as the opening year goal. Accounting for a projected 16% growth in overall system ridership, an opening year goal of 1,900 would translate into a year 20 ridership goal of 2,200 net new riders. Scenario 2 involves more aggressive actions and all recommendations of Scenario 1 are included.

CONNECTIVITY
1. Make the CORTEX Station double-sided, with entrances from both Boyle Avenue & Sarah Avenue.
2. Extend CORTEX Commons north to Forest Park Avenue and south to I-64, creating two “front doors” to the CORTEX district.
3. Provide dedicated bike lanes on Boyle Avenue and Vandeventer Avenue; widen Boyle Avenue overpass with widened sidewalks and dedicated bike lanes.
4. Provide a dedicated “cycle track” on Tower Grove Avenue south of Vandeventer to the Missouri Botanical Garden.

DEVELOPMENT
5. Focus TOD residential and mixed-use development between Sarah Street and Vandeventer Avenue and improve Duncan Avenue, Sarah Street, and Vandeventer Avenue streetscapes.

MANAGEMENT & OPERATIONS
6. Extend shuttle service and/or provide neighborhood circulator service to surrounding neighborhoods and south to the Missouri Botanical Garden.
7. Provide subsidized transit passes to CORTEX district employees (enhanced model; $50 per month subsidy or discount.)
8. Implement a district-wide access, circulation and parking strategy that balances accessibility, convenience and transit ridership.
9. Implement a neighborhood parking management strategy.
10. Consider creating a Transportation Management District to facilitate ALL forms of transportation.

If all of these recommendations are implemented and mutually leveraged towards the purpose of enhancing transit ridership, it will result in an additional 1,250 to 1,350 net new riders at year 20. In addition to the base level ridership of 1,250 to 1,350 in year 20, this would result in a total of 2,350 to 2,550 net new riders.
FIGURE 3.2: SCENARIO 2 PLAN

- CORTEX Redevelopment Area
- Small Circles: 1/4 Mile (5 Minute Walking) Radius from existing or proposed MetroLink station
- Large Circles: 3/4 Mile (5 Minute Bike Ride) Radius from existing or proposed MetroLink station
- MetroLink Route
- MetroLink Stop
- Major Street-Level Connectivity Routes
- District Shuttle
- Proposed Parking District Boundary
TRANSIT-ORIENTED DEVELOPMENT & SUSTAINABLE DESIGN STRATEGIES

Today, the CORTEX district is segregated from its neighbors, surrounded by significant barriers, and provides few incentives to cross these barriers. In order to ensure both the success of the proposed MetroLink station and continuing success for the CORTEX district as a whole, the future CORTEX development must work to tie the district to existing residential populations, commercial centers, and surrounding institutional amenities, making the CORTEX district an integral part of its surrounding neighborhoods. While the recommendations and scenarios put forth in this study address particular technical issues, the sum total of these recommendations can and should be leveraged together in order to create a vibrant, mixed-use, transit-oriented district that is well connected to adjacent neighborhoods and amenities and overcomes the fundamental barrier of I-64 to the south.

Equally important is the role that a MetroLink station within the CORTEX district would play in providing a direct connection to regional assets such as the airport, colleges, downtown St. Louis, Clayton, and other job centers. Making the MetroLink system more accessible to CORTEX and its adjacent neighborhoods will lead to increased ridership throughout the system.

The Transit Oriented Development Study for the CORTEX district proposes eight TOD and Sustainable Design Strategies to advance this goal. The first four TOD and Sustainable Design Strategies are necessary to facilitate transit-oriented development in the district. The remaining four strategies represent best practice opportunities that should be utilized to maximize development investment. These TOD and Sustainable Design Strategies address new development, creating vibrant places for social and professional interaction, district parking, pedestrian and bike connectivity, high-performance infrastructure, building and site performance requirements, district water and energy strategies, and district wide branding and imaging. It is recommended that these strategies be incorporated into all future master planning efforts for the CORTEX district, in order to capitalize on new development opportunity.
1. REQUIRE HIGH-DENSITY, MIXED-USE & RESIDENTIAL DEVELOPMENT

In order to ensure the future financial and operational sustainability of transit, development must be high-density and provide a mix of uses and amenities. Transit-oriented development is typically defined as 1) 20-unit per acre residential density or greater or 2) 0.75 floor area ratio (FAR) or greater within a one-quarter mile radius of transit; and 3) 15-unit per acre residential density or greater or 4) 0.5 FAR or greater within one-quarter to one-half mile radius of transit. These density levels yield the ridership necessary for mass-transit to operate economically, and the presence of transit can induce greater market demands for high density development. Primary residential and office uses should be supplemented with commercial, retail, and entertainment mixed-use. Actions to achieve this strategy include:

- Develop a district regulatory plan that establishes building minimum and maximum heights and massing requirements throughout the district.
- Develop a district building use plan that dictates ground-floor and upper-floor building programs throughout the district that promote social interaction and provide for the community’s and users’ needs.
- Establish a primary mixed-use corridor through the district
- Establish district-wide mixed-use guidelines to ensure the proper proportions of development types and programs.
- Establish location-based development density thresholds (units per acre and/or FAR) and require or incentivize new buildings to achieve these thresholds.
- Implement a greater fine-grain mixing of residential and research buildings.
- Develop a form-based code and overlay district so that development meeting these requirements is allowed by right and not by variance.
2. CONNECT TO SURROUNDING ASSETS, NEIGHBORHOODS & AMENITIES

The CORTEX district is ideally-positioned in the heart of the Saint Louis central corridor to deliver on the promise of urban, life-sciences research parks. In order to realize this potential, provide the kind of livable, sustainable, and vibrant mixed-use urban neighborhoods that the 21st century knowledge-based worker desires, and increase access to regional transit, CORTEX must leverage and capitalize on its surrounding neighborhoods and amenities. To the north, the Central West End remains one of Saint Louis’ premier residential neighborhoods and the Euclid Avenue corridor continues to be the region’s most successful mixed-use main street. To the south, The Grove commercial and entertainment district has made great strides and the Forest Park Southeast neighborhood possesses huge latent value because of its location, historic building stock, and potential for reinvestment. In addition, the Sarah Street corridor and areas adjacent to SLU represent a future redevelopment opportunity. Actions to achieve this strategy include:

- Create a double-ended MetroLink station with entrances at both Boyle Avenue and Sarah Street.
- Create two front doors to the district at Forest Park Avenue and I-64.
- Develop Sarah Street as a key neighborhood main street
- Provide high quality pedestrian and bike connections south across the I-64 barrier.
- Connect to existing and planned adjacent greenways and bike routes including Chouteau Avenue and Tower Grove Avenue.
- Require ground-floor mixed-use and commercial uses with street frontages and storefronts.
- Design and implement public spaces that support and encourage social and professional interaction.
- Connect to existing business and commercial centers, main streets, and amenities in surrounding neighborhoods.
- Encourage and support new development and redevelopment in surrounding neighborhoods and districts.
3. REDUCE PARKING REQUIREMENTS, ENHANCE ACCESSIBILITY & DEVELOP A CORTEX PARKING DISTRICT

In order to facilitate necessary TOD densities and help incentivize transit ridership, typical municipal parking requirements must be reduced. On average, modern parking codes require 500 to 600 hundred square feet of parking per 1000 square feet of residential or office development. In order to achieve necessary densities, parking must be accommodated in garages, which cost about 10 times more than surface parking. The costs of structured parking make residential and office developments infeasible in most development markets; high levels of provided parking also disincentivize transit ridership. The CORTEX district should reduce parking requirements and establish a Parking District that meets the needs of park and ride users while at the same time supporting and incentivizing transit ridership with the ultimate goal of creating a car-optional district. Actions to achieve this strategy include:

- Develop location-based alternative parking requirements for development in the CORTEX district.
- Establish maximum parking ratios for all development within one-quarter mile of MetroLink stations.
- Allow market-based parking ratios for all development in the CORTEX district.
- Require or incentivize distributed, shared-use parking garages located adjacent to other development.
- Implement a system of shuttles to link surrounding neighborhoods to the CORTEX district and new MetroLink station through CORTEX Commons.
- Establish a Parking Management District for the CORTEX district to provide a coordinated approach to parking.
- Implement reduced-fare or free parking for transit riders based on paid transit tickets to provide free park-and-ride parking while still incentivizing transit use.
4. ENSURE PEDESTRIAN AND BIKE CONNECTIVITY, SAFETY, AND COMFORT

Transit-oriented developments and districts rely on safe, comfortable, walkable and bike-able streets and public spaces to provide access to transit. In the CORTEX district, streets are currently designed to give preference to vehicular traffic; most streets have only a 36-foot curb-to-curb width, which accommodates only two travel lanes and two parallel parking lanes. In addition, sidewalks are only 4- to 5-feet wide, pedestrian right-of-ways are often obstructed by utility poles and other infrastructure, and there are few street trees or other pedestrian amenities. Given limited right-of-way width and vehicular traffic restrictions, enhancing bike and pedestrian connectivity, safety, and comfort will need to occur on some streets while vehicular service requirements are accommodated on others. Actions to achieve this strategy include:

- Create “pedestrian first” streets and vehicular-centric streets through the district.
- Repair all sidewalks and maximize sidewalk width in all locations.
- Provide planting strips and/or tree lawns on all streets.
- Relocate utility poles and other infrastructure out of pedestrian right-of-ways.
- Provide lane-width, shared lane markings (“Super Sharrows”) on all streets.
- Provide parallel parking on all streets.
- Provide street trees on all streets with a maximum spacing of 40-feet on-center.
- Provide pedestrian-scaled street lights with a maximum spacing of 80-feet on center.
- Provide trash receptacles, benches, bike racks, safety call boxes, and other street furniture.
- Provide ADA-accessible curb cuts, oriented perpendicular to the street, at all intersections and crosswalks.
- Provide pavement changes at all crosswalks.
5. CONSTRUCT HIGH-PERFORMANCE BLUE & GREEN INFRASTRUCTURE

Streets, sidewalks, parking lots, driveways, and turf grass all contribute to runoff due to their low rainwater absorption coefficients—the amount of water that a given material or surface can absorb. This contributes to increased stormwater discharge, which stresses on aging, combined stormwater/sanitary sewage systems such as those found throughout the City of Saint Louis. In heavily urbanized areas, this runoff contributes to poor water quality from oil and other hydrocarbon pollution resulting from car and truck traffic. The CORTEX district will undergo a wholesale improvement of street and sidewalk infrastructure over the next 20 years; this is an opportunity to construct high-performance blue and green infrastructure. High-performance blue and green infrastructure comprises permeable pavement, bioswales, rain gardens, native hydrophytic plantings, and other infrastructure elements to reduce stormwater runoff and increase water detention, filtering, and recharge. Actions to achieve this strategy include:

- Utilize tree lawns and planting strips as bioswales and rain gardens.
- Construct crosswalks out of permeable unit pavers.
- Construct parallel parking lanes out of permeable unit pavers or permeable concrete.
- Construct bike lanes out of permeable concrete.
- Construct parking lots and service drives out of permeable materials ("green parking lots" and "green alleys").
- Establish native plant lists for district landscaping.
- Establish tree canopy coverage ratios for parking lots and street right-of-ways.
- Establish run-off abatement targets and benchmarks for the district.
6. ESTABLISH BUILDING & SITE DESIGN & PERFORMANCE STANDARDS

Buildings are the largest consumers of energy; increasing design and performance standards for buildings not only helps to minimize environmental impacts but also improves operational and life-cycle costs and economic performance. CORTEX, its partners, and investors will be constructing numerous new buildings in the district over the next 20 years, providing an opportunity to implement sustainable site and building standards. The U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) program provides an industry-standard evaluation and benchmarking programming for new buildings, existing buildings, operations, and neighborhoods. The Sustainable Sites Initiative (SITES) provides a comparable program for sites and landscapes. The CORTEX district is ideally positioned to take advantage of these programs due to its proximity to existing mixed-use development, residential neighborhoods, and transit. Actions to achieve this strategy include:

- Establish and incentivize compliance with minimum LEED Operations & Maintenance (OM) standards for existing buildings.
- Establish minimum LEED New Construction (NC) and LEED Neighborhood Development (ND) standards for new buildings.
- Establish minimum Sustainable Sites Initiative (SITES) standards for landscapes, sites, and public space.
- Establish maximum greenhouse gas emission targets and benchmarks for the CORTEX district.
- Establish energy use targets and benchmarks for the CORTEX district.
7. IMPLEMENT DISTRICT AND ALTERNATIVE ENERGY FOR NEW DEVELOPMENT

Cortex, its partners, and investors will be constructing numerous new buildings and renovating existing buildings in the district over the next 20 years, providing an opportunity to implement district energy. Centralized district heating, cooling, and energy generation strategies offer a number of benefits over building-by-building energy and air conditioning solutions. District energy can realize greater levels of efficiency over distributed building systems; a typical district heating and cooling plant can achieve 80-percent efficiency, versus only 40- to 50-percent efficiency for distributed building systems. In addition, district energy plants can more feasibly use alternative energy sources—including solar, geothermal, and biomass—than individual building systems and a centralized systems can lead to increased efficiency in operations and maintenance costs. One of the major difficulties with district energy is that it cannot easily be retrofitted to existing buildings. In cases of new development and significant rehabs, however, district energy can be a cost-effective and sustainable solution. Actions to achieve this strategy include:

- Construct a district heating and cooling plant and distribution system.
- Construct alternative energy supplemental power generation for the district.
- Incentivize individual building alternative energy supplemental power generation.
- Utilize natural gas and alternative energy for district shuttle service vehicles.
- Provide charging stations for plug-in hybrid vehicles.
- Utilize district-created waste for biomass energy generation.
- Establish self-generated energy ratio targets and benchmarks.
8. CREATE A COHERENT CORTEX DISTRICT BRANDING IMAGE

One of the major challenges faced by the CORTEX district is a lack of an easily-recognized identity. Today, the district is largely inhabited by transitioning and underutilized light industrial buildings and administrative back office and utility functions. It does not possess the character exhibited in the Central West End or the Grove and Forest Park Southeast. As a result, the district is perceived as a kind of “no man’s land” between an established neighborhood to the north and an emerging neighborhood and commercial district to the south, limiting the connectivity potential through the district. As part of district development and in order to elevate the CORTEX district as distinct and recognizable district or neighborhood in the area, CORTEX should engage in a strategy to create new image or brand for the district. Actions to achieve this strategy include:

- Establish new and recognizable gateways into the CORTEX district.
- Reconceive of I-64 as a front door to the CORTEX district and create two front doors by extending CORTEX Commons north to Forest Park Avenue and south to I-64.
- Establish design standards for street lighting, street trees, and street furniture.
- Establish landscape standards for streetscapes and building sites and “green” the district with new trees and landscape.
- Create a primary east-west link through the district utilizing green infrastructure, signature landscaping, design elements, and street furnishings.
- Establish material and design standards for sidewalks and crosswalks.
- Establish a district color palette for public space fixtures and equipment.
- Create district branding and signage standards.
- Create district imagery, advertisements, and banners.
- Establish partnerships for district art and public art installations.
CONCLUSION

The proposed MetroLink station at Boyle Avenue in the CORTEX district should be a key development initiative for the City of Saint Louis, CORTEX, and Metro and will be an invaluable asset in the future development potential of both the CORTEX district and the region-wide MetroLink system. While the opening year projections for the station falls short of the Metro planning ridership threshold, the location of the proposed station has some of the greatest and most high-value development potential in the St. Louis metro area. As this Study demonstrates, appropriate residential densities, transit-oriented development strategies, and programming & operations will allow the proposed CORTEX station to operate in the top 20 percent of stations system-wide.

For the future of the CORTEX district, construction of this station is essential. Market research has demonstrated that the knowledge-worker of the 21st century places a high premium on issues of livability, sustainability, and access to a vibrant public life after work. Adjacency to great neighborhoods and main streets; dense mixed-use development supporting a variety of uses and activities; vibrant walk-able and bike-able streets; and access to transit all provide a competitive edge that can be most fully realized in urban research parks. In order to capitalize on years of public and private investment and attract and retain the best and the brightest, it is imperative that development in the CORTEX district unlocks the latent potential present in the district’s enviable location in the heart of Saint Louis. A key component of this development is the proposed construction of a new MetroLink station at Boyle Avenue.

Finally, construction of this station and implementation of the Street-Level Connectivity Plan and TOD & Sustainable Design Strategies will broad-reaching effects on neighborhoods and institutions surrounding the district. The MetroLink station will provide a transit amenity that is strongly desired by residents of the Central West End, Forest Park Southeast, Botanical Heights, and Shaw neighborhoods. Combined with high-quality pedestrian and bike crossings at I-64, streetscape and public realm improvements, and new commercial development and neighborhood service amenities, it will ensure that the CORTEX district becomes an integral and important linkage interconnected these neighborhoods, their workers, and their residents.
ST LOUIS INNOVATION DISTRICT
TAX INCREMENT FINANCING (TIF)
REDEVELOPMENT PLAN

October 15, 2012
(Revised December 4, 2012)
(Revised January 11, 2013)

Prepared By
St. Louis Innovation District, LLC
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APPENDICES

A Legal Description of the St Louis Innovation Tax Increment Financing Redevelopment Area and RPAs

B Evidence of Commitment to Finance Project Costs

C Developer's Affidavit
1. INTRODUCTION

Overview of Redevelopment Area

The St. Louis Innovation District Redevelopment Area (the "Redevelopment Area" or "Area") is located in the southern portion of the Central West End neighborhood in the City of St. Louis, between the Washington University Medical Center to the west and St. Louis University to the east. The Forest Park South East neighborhood is located immediately south of I-64, which forms the southern boundary of the Redevelopment Area.

The Area is generally bounded by Taylor Avenue and Newstead Avenue to the west, Forest Park Avenue and Laclede Avenue to the north, Vandeventer Avenue to the east, and Interstate 64/Highway 40 to the south (see Aerial Photograph and Appendix A for legal description of the Redevelopment Area). In total, the Redevelopment Area contains 160 parcels comprising approximately 128 acres of land (excluding rights-of-way). If rights-of-way are included, the Area contains approximately 168 acres. As discussed in Section 6, the Redevelopment Area is divided into eleven (11) "Redevelopment Project Areas."
The existing development in the Area was constructed over many decades, with some structures dating back to the 1890s. On the whole, the stock of buildings in the Redevelopment Area is quite old. Thirty-seven percent of the buildings in the Area were constructed prior to 1930 and almost half (47%) of the buildings were constructed prior to World War II. In addition, 78% of the buildings and 79% of the square footage are at least 35 years old, which is recognized as the age when significant rehabilitation of structures is required to bring them up to modern standards.

Not only are structures in the Redevelopment Area old, but many are functionally obsolete. These structures were built when the Area was largely a warehousing and manufacturing area supported by rail service, which no longer exists. Today, the vast majority of the Redevelopment Area is clearly in decline. Although there are businesses that should be preserved, significant portions of the Area are vacant or contain vacant structures, a reflection of the age of a deteriorating building stock and obsolescence.

**Purpose of Redevelopment Plan**

Given the close proximity of the Redevelopment Area to the Washington University Medical Center (the largest employer in the City of St. Louis and St. Louis region), St. Louis University, and the ongoing revitalization efforts in adjacent neighborhoods, the Redevelopment Area represents one of the most important redevelopment opportunities for the City of St. Louis. Given the significant vacancy of the existing buildings and land, the Redevelopment Area is clearly underutilized and significantly short of the economic benefit it could provide for the City of St. Louis and other taxing jurisdictions.

In addition, transforming the Redevelopment Area into a quality mixed-use development will provide needed services and additional impetus for the continued revitalization of the residential neighborhoods that surround the Area, as well as an employment center that will provide economic benefits for the entire St. Louis Metropolitan Region.

Another very important purpose of the Redevelopment Plan is to provide a funding vehicle to construct the infrastructure and public amenities needed to make the Redevelopment Area attractive to regional and national research and technology tenants. In 2006, a Chapter 353 Redevelopment Plan was adopted for the vast majority of the Redevelopment Area (see TIF vs. 353 Area map). While the availability of Chapter 353 incentives was useful in attracting Solae to the Redevelopment Area in 2008, marketing the Redevelopment Area to potential tenants has been a significant problem because of the physical environment that currently exists in the Area. The 353 Redevelopment Plan recognized this potential problem stating that, “Consideration will be given by the Developer to seeking public approvals necessary for use of the city’s tax increment financing mechanism as enabled under Chapter 99.800 RSMo 2000, as amended. This mechanism could be designed to assist in financing major infrastructure investments critical to the revitalization of the overall Redevelopment Area or to make financially feasible one or more redevelopment projects.”
Summary of Redevelopment Plan

The Redevelopment Plan for the revitalization of the Redevelopment Area has a number of important components (see Proposed Land Use map):

Office/Research/Institutional Development – Mixed-use office/research focused development is proposed for the portion of the Redevelopment Area primarily located to the south of Duncan Avenue and to the west of Sarah Street. Ground floor retail is proposed for a number of office/research buildings.

Mixed-Use Retail Development – The Plan anticipates the creation of a mixed-use retail-focused development in an area generally bounded by Duncan Avenue to the north, Vandeventer Avenue to the east, the MetroLink right-of-way to the south, and Sarah Street to the west.

Mixed-Use Development - New development integrated with existing development that is to be retained or rehabilitated is proposed for the portion of the Redevelopment Area located to the north of Duncan Avenue. As indicated by the Proposed Land Use map, all of the mixed-use developments include residential uses with various combinations of office, research, retail, and hotel uses.

Signature I-64 Entry Development – Construction of a full access I-64 interchange at Boyle Avenue/Tower Grove Avenue is scheduled to begin in the first quarter of 2013. A new signature mixed-use development that would incorporate hotel, office and retail uses is proposed for this important entry to the Redevelopment Area.

Healthcare Facility – A new healthcare facility is proposed to be built by the Shriners Hospital for Children on the southwest corner of Newstead Avenue and Clayton Avenue.

Open Space – The Plan proposes the construction of a “commons” that would run along the east side of Boyle Avenue between Clayton Avenue and Duncan Avenue. This open space is envisioned as a central meeting space and passive recreation space that could also contain dining and retail space.

Other open space areas are proposed throughout the Redevelopment Area.

MetroLink Station – A new station is proposed to be located between Boyle Avenue and Sarah Street to serve the extensive development proposed for the Redevelopment Area, and to serve as an amenity for the surrounding neighborhoods.
Use of Tax Increment Financing

To facilitate the revitalization of the Redevelopment Area, the use of tax increment allocation financing ("TIF") pursuant to the TIF Act is proposed. TIF has proven to be an effective tool for remedying conditions in "blighted areas" and for encouraging growth and development through investment by private enterprise in situations such as that faced in the Redevelopment Area.

Why Tax Increment Financing is Needed in the Redevelopment Area

While the revitalization and redevelopment of the Redevelopment Area has been desired for many years by the City of St. Louis and others, a number of serious impediments have kept significant private redevelopment from happening. First, the extraordinary costs associated with land acquisition, site preparation, public works and rehabilitation needed to redevelop the area have made the redevelopment economically infeasible without the use of Tax Increment Financing. For example, the extraordinary cost of essential infrastructure improvement, site preparation, and environmental remediation are significantly higher than private developers can typically pay to develop commercial and residential property in this market. While these extraordinary development costs increase the overall project cost and resulting annual expenses, residents and tenants are typically unwilling to bear those additional costs. Consequently, an imbalance between expense and revenue is created that makes the project economically infeasible unless selected development costs are effectively reduced by means of TIF. These economic factors represent the second component of the "but for" justification upon which this project's use of TIF is based. That is, without the use of tax increment financing, the Redevelopment Area would not reasonably be anticipated to be developed.

Appendix C contains an affidavit from St. Louis Innovation District, LLC, the master developer of the Redevelopment Area (the "Developer") attesting that the Redevelopment Area qualifies as a "blighted area" as defined by the Act and that the Area has not been subject to growth and development through investment by private enterprise and, therefore, would not reasonably be anticipated to be developed without the adoption of Tax Increment Financing.

Use and Benefits of Tax Increment Allocation Financing

Upon the City's adoption of TIF and approval of the Redevelopment Projects described herein, incremental increases in real property taxes resulting from increased assessed valuations on new development occurring within the Redevelopment Area ("Payments in lieu of taxes" or "PILOTs") and fifty percent of incremental increases in certain taxes
generated by economic activities within the Redevelopment Area ("Economic activity taxes" or "EATs") are reallocated and deposited for a limited period of time into a special fund of the City. The revenues so deposited may be used to secure obligations, the proceeds of which, in turn, may be used to finance the various Redevelopment Project Costs enumerated in section 99.805(15) of the TIF Act. Because reallocation is limited to "incremental" increases in tax revenues, all ad valorem taxing districts will continue to receive the same amount of real property taxes they currently receive from properties within the Redevelopment Area. Further, for the duration of the Redevelopment Projects, all increases in personal property tax revenues and fifty percent of economic activity taxes such as sales and earnings taxes will be passed through to the applicable taxing districts.

Once the TIF obligations are retired, the TIF will be dissolved and all real property taxes and economic activity taxes generated in the Redevelopment Area will be based on the then current assessed valuation and tax rates.

TIF, as a redevelopment tool, provides several benefits. Typically, the stream of future revenues available through TIF is used to secure and finance TIF bonds or notes. The City and the redeveloper can sell these TIF bonds and notes and thus have funds available at the inception of the Redevelopment Projects, when most needed. Unlike other redevelopment mechanisms, TIF does not rely solely on real property tax relief. Instead, TIF requires that the dedication of portions of all incremental increases in most tax revenues, thus avoiding disproportionate burdens on those taxing districts relying solely on ad valorem levies. Additionally, TIF provides for representation of affected taxing districts on the commission that reviews and recommends redevelopment plans and redevelopment projects to the City.

**Organization of this Redevelopment Plan**

Sections 99.805(13) and 99.810 of the TIF Act set forth the requirements for redevelopment plans. Accordingly, this Redevelopment Plan represents the comprehensive program of the City intended by the payment of costs for Redevelopment Projects to reduce or eliminate those conditions, the existence of which qualify the Redevelopment Area as a "blighted area", and to thereby enhance and insure the tax base of the taxing districts that extend into the Redevelopment Area.

Succeeding sections of this Redevelopment Plan set forth a summary of key findings, Redevelopment Plan objectives and a general description of the program and activities to accomplish the objectives; existing and proposed land uses for the Redevelopment Area; the estimated costs of Redevelopment Projects; the anticipated sources of funds to pay costs; evidence of the commitments to finance the costs of projects; the anticipated type and term of the sources of funds to pay costs; the anticipated type and terms of the obligations to be issued; the most recent equalized assessed valuation of the property within the Redevelopment Area which is to be subjected to payments in lieu of taxes and economic activity taxes pursuant to section 99.845 of the TIF Act; and an
estimate of the equalized assessed valuation after redevelopment. This Redevelopment Plan also provides the basis and documentation for findings required by sections 99.810(1) through 99.810(6) of the TIF Act and summarizes reporting requirements imposed by section 99.810(7) of the TIF Act.
2 SUMMARY OF KEY FINDINGS

Introduction

In order to establish a Redevelopment Area, adopt a Redevelopment Plan, and create a Tax Increment Financing District, the City must find pursuant to Section 99.810 of the TIF Act that:

a. The Redevelopment Area on the whole is a blighted area, a conservation area, or an economic development area, and has not been subject to growth and development through investment by private enterprise and would not reasonably be anticipated to be developed without the adoption of tax increment financing. This finding shall include, but not be limited to, a detailed description of the factors that qualify the Redevelopment Area or project pursuant to sections 99.805(1) and 99.810(1) of the TIF Act and an affidavit, signed by the Developer and submitted with the Redevelopment Plan, attesting that the provisions of section 99.810(1) of the TIF Act have been met;

b. The Redevelopment Plan conforms to the comprehensive plan for the development of the municipality as a whole;

c. The estimated dates, which shall not be more than twenty-three years from the adoption of the ordinance approving a Redevelopment Project within a Redevelopment Area, of completion of any Redevelopment Project and retirement of obligations incurred to finance Redevelopment Project costs have been stated;

d. A plan has been developed for relocation assistance for businesses and residences;

e. A cost-benefit analysis showing the economic impact of the Redevelopment Plan on each taxing district that is at least partially within the boundaries of the Redevelopment Area. The analysis shall show the impact on the economy if the project is not built, and is built pursuant to the Redevelopment Plan under consideration. The cost-benefit analysis shall include a fiscal impact study on every affected political subdivision, and sufficient information from the Developer for the TIF Commission to evaluate whether the project as proposed is financially feasible; and

f. The Plan does not include the initial development or redevelopment of any "gambling establishment" (as that term is defined in section 99.805(6) of the TIF Act).
Documentation of the determination that the Redevelopment Area meets the requirements of the TIF Act follows:

**Blighted Area and Not Subject to Growth and Development by Private Enterprise and Not Reasonably Anticipated to be Developed Without TIF**

The Redevelopment Area meets the requirements for designation as a “blighted area” as defined by Section 99.805(1) of the TIF Act. The “Data and Analysis of Conditions Representing a Blighted Area for the St. Louis Innovation District Redevelopment Area” report details and documents the conditions which qualify the Redevelopment Area as a “blighted area”.

The Redevelopment Area has not been subject to growth and development through investment by private enterprise and would not reasonably be anticipated to be developed without the adoption of tax increment financing. Appendix C to this Redevelopment Plan contains an Affidavit, signed by the Developer that is submitted with and incorporated in this Redevelopment Plan by this reference, attesting that the provisions of section 99.810(1) of the TIF Act have been met.

**Conformance to the City’s Comprehensive Plan**

The land uses proposed for the Redevelopment Area are in conformance with the "Strategic Land Use Plan", as amended, of the City of St. Louis.

**Estimated Date for Completion of the Redevelopment Projects and Retirement of Obligations to Finance Costs of Redevelopment Projects**

This Redevelopment Plan states in Section 7 that all TIF Obligations issued to finance costs of Redevelopment Projects are estimated to be retired no later than 23 years from the anticipated date of adoption of any ordinance approving a Redevelopment Project Area described herein.

This Redevelopment Plan states that construction is expected to begin on the approval of this Redevelopment Plan. The Developer anticipates construction to be substantially started by 2019.

**Relocation Assistance Plan**

Section 99.810.1(4) of the TIF Act requires that a relocation plan be developed for the assistance of residents and/or businesses which are displaced in conjunction with implementation of the Redevelopment Plan and any Redevelopment Project. This Redevelopment Plan affirmatively adopts Ordinance 62481, of the City of St. Louis, as its Relocation Plan to implement the provisions of Section 523.205 RSMo.
Cost-Benefit Analysis Showing Economic Impact on Each Taxing District

A cost-benefit analysis showing the economic impact of this Redevelopment Plan on each taxing district that is at least partially within the boundaries of the Redevelopment Area has been completed. The analysis shows the impact on the economy if the Redevelopment Projects are not built, and are built pursuant to the Redevelopment Plan. The cost-benefit analysis additionally includes a fiscal impact study on every affected political subdivision, and sufficient information for the TIF Commission to evaluate whether the Redevelopment Projects, as proposed, are financially feasible.

No Gambling Establishment

This Redevelopment Plan does not include the initial development or redevelopment of any "gambling establishment" (as that term is defined in section 99.805(6) of the TIF Act).
3. REDEVELOPMENT PLAN OBJECTIVES

The following objectives have been established for this Redevelopment Plan. These objectives are consistent with those contained in the City’s Strategic Land Use Plan, as well as those purposes outlined in the TIF Act:

- To reduce or eliminate those conditions, the existence of which qualify the Redevelopment Area as a “blighted area” and thereby to enhance the public health, safety, welfare, or morals;

- To eliminate facilities that create the image and reality of the Redevelopment Area as an obsolete, worn-out commercial/industrial area;

- To build on the resources and attributes associated with proximity to the Washington University Medical Center to the west, the Center for Emerging Technologies to the north, the Frost Campus and Health Sciences Center of Saint Louis University to the east, and the Missouri Botanical Garden on the south;

- To create a true live/work/shop area that incorporates office/research, retail, hotel and residential uses;

- To take maximum advantage of development opportunities afforded by land that is currently vacant or underutilized within the Redevelopment Area;

- To provide new job opportunities for the residents of adjoining or nearby neighborhoods, as well as the City as a whole;

- To provide new commercial services for the residents of adjoining or nearby neighborhoods;

- To serve as a catalyst for additional redevelopment of adjacent neighborhoods to the Redevelopment Area;

- To encourage construction by Metro of a new MetroLink light rail station between Sarah Street and Boyle Avenue in order to enhance connections between businesses and institutions in the Redevelopment Area and Washington University Medical Center, the Frost Campus and Health Sciences Center of Saint Louis University to the east and southeast, the Hilltop campus of Washington University and Clayton to the west, the University of Missouri St. Louis to the northwest, Downtown St. Louis to the east, and other regional attractions accessible by MetroLink;
• To provide enhanced connections between development and activities within the Redevelopment Area and the Central West End neighborhood to the north and the Forest Park South East neighborhood to the south.

• To capitalize on improved access to and from the west via I-64/US 40 -- planned to be created by the construction of new ramps as proposed by the Missouri Department of Transportation at Boyle Avenue and Tower Grove Avenue;

• To provide signature buildings and attractive streetscape features at key entry locations to the Redevelopment Area to create an image that reflects a successful and progressive business, research and development district;

• To improve the image and attractiveness of the Redevelopment Area through enhancement of lighting, street trees, signage and quality building and site design along major access routes serving the Area – Forest Park Avenue, Vandeventer Avenue, and I-64/US 40 in particular;

• To seek to complement and accommodate a possible greenway with pedestrian and bicycle paths connecting the proposed Chouteau’s Greenway and Lake District on the east to Forest Park on the west;

• To facilitate better connections to nearby commercial districts and residential neighborhoods adjacent to the Redevelopment Area;

• To provide a funding mechanism to pay for the costs of improvements needed to stimulate growth and development through private reinvestment; and

• As a result of these activities, to enhance the tax bases and the resulting tax revenues for the City and all other taxing districts that extend into the Redevelopment Area.
4. GENERAL DESCRIPTION OF THE ACTIVITIES TO ACCOMPLISH OBJECTIVES

General Activities

To accomplish the objectives of this Redevelopment Plan, a program has been initiated to make TIF available within the Redevelopment Area and to attract and encourage private investment in the Redevelopment Area. Steps undertaken to date include:

- Preparation of this Redevelopment Plan providing for the redevelopment of the Redevelopment Area in accordance with the City's recently adopted "Strategic Land Use Plan," as amended;

- Study of the Redevelopment Area to document the existence of conditions that render the Redevelopment Area a "blighted area" under the TIF Act. The study methodology and documentation are set forth in a separate appendix document to this Redevelopment Plan. Study results provide the basis for the findings in Section 2 of this Redevelopment Plan; and

- Solicitation and consideration of proposals from qualified private entities for redevelopment projects within the Redevelopment Area and selection of qualified redeveloper(s) to implement Redevelopment Projects which meet the goals and objectives of the Strategic Land Use Plan and this Redevelopment Plan.

As a result of these efforts, this Redevelopment Plan envisions an inviting mixed-use, area of the City of St. Louis. To facilitate this vision the Redevelopment Plan proposes:

- The construction or rehabilitation of approximately 3.8 million square feet of office/research space;

- The construction or rehabilitation of approximately 700,000 square feet of retail space;

- The construction of approximately 1,000 residential units;

- The construction of approximately 350 hotel rooms; and

- The construction of a new Shriners Hospital for Children healthcare facility.

Subsequent activities necessary to implement the Redevelopment Projects and to accomplish the objectives of this Redevelopment Plan include, without limitation:
- The negotiation, approval, and execution of a Redevelopment Agreement providing the terms upon which the Developer will undertake the Redevelopment Projects in accordance with this Redevelopment Plan;

- The negotiation, approval and execution of parcel development agreements, providing the terms upon which individual property owners may undertake certain Redevelopment Projects at the direction of the Developer;

- Environmental remediation and site preparation;

- Streetscape and infrastructure improvements;

- Funding of selected costs of Redevelopment Projects and issuance of temporary and permanent TIF obligations;

- Rehabilitation of the existing commercial space to be retained within the Redevelopment Area by means of private investment; and

- The construction of new commercial space and residential units within the Redevelopment Area by means of private investment.

The implementation of the above cited proposals and activities will depend upon market conditions and demand, the availability of financing and unforeseen events and circumstances. Accordingly, the actual results achieved may vary from the contemplated and envisioned proposals and activities.

Equal Opportunity, Non-Discrimination, M/WBE and Workforce Goals

The Developer (including the Developer, any transferees, lessees, designees, successors and assigns thereof, including without limitation any entity related to the Developer by one of the relationships described in Section 267(b) of the United States Internal Revenue Code of 1986, as amended), its contractors and subcontractors shall comply with all federal, state and local laws, ordinances or regulations governing equal opportunity and nondiscrimination (the "Equal Opportunity Laws") in connection with any Redevelopment Project. Moreover, the Developer shall contractually require its contractors and subcontractors to comply with the Equal Opportunity Laws.

With respect to any redevelopment agreements entered into pursuant to this Redevelopment Plan, the Developer and its contractors or subcontractors shall not contract with any party known to have been found in violation of the Equal Opportunity Laws.

The Developer and its contractors and subcontractors shall require covenants in any contracts or agreements relating to the sale, lease, rental, use or occupancy of any of the parcels within the Redevelopment Area or the construction of improvements on such
parcels to ensure that there shall be no discrimination on the part of the Developer or its contractors and subcontractors upon the basis of race, color, creed, national origin, sex, marital status, age, sexual orientation or physical handicap in the sale, lease, rental, use or occupancy of any of such parcels or the construction of any improvements on such parcels or any part thereof. Such covenants shall run with the land and shall be enforceable by SLDC, the City and the United States of America, as their interest may appear in the Redevelopment Project.

The Developer shall make good faith efforts to observe Executive Order #28 dated July 24, 1997, as amended, relating to minority and women-owned business participation in City contracts.

The Developer acknowledges that workforce goals, to be mutually agreed on by the Developer and the City, will be incorporated into any redevelopment agreements entered into pursuant to the TIF Plan.

**Accessibility Standards**

The Developer will cause the Redevelopment Projects and their elements to be built in conformance with the American with Disabilities Act and the Fair Housing Act accessibility standards as they exist at the time of the commencement of construction of a particular Redevelopment Project.

**Use of Eminent Domain Within Redevelopment Area**

The Developer is not seeking to utilize eminent domain pursuant to the TIF Act. However, nothing in this Redevelopment Plan is to be construed to limit the use of eminent domain by the City for a public use, as such term is used in Article XXI of the City’s Charter, or by any urban redevelopment corporation which has entered into a redevelopment agreement with the City prior to December 31, 2006.
5. EXISTING LAND USE

The Redevelopment Area contains a total of approximately 128 acres, excluding rights-of-way (approximately 168 acres including rights-of-way). Thirty-eight percent (38.3%) of the area contains vacant land or is land occupied by a vacant building (see Existing Land Use map). This is a significant increase over the City's 2005 blight findings under Chapter 353, RSMo, which indicated that vacant land and buildings comprised nearly 15% of the Redevelopment Area. In addition, 10.3% of the land area is utilized for surface parking. Thus, almost half (48.6%) of the Redevelopment Area is either vacant or occupied by low intensity surface parking.

The primary active uses in the area include industrial activities, medical center, office/warehouse/distribution uses, and research/office which collectively occupy 33% of the Area. The balance of the area is comprised of a significant variety of uses as summarized in the following table and map.

### EXISTING LAND USE
IN ST. LOUIS INNOVATION DISTRICT
REDEVELOPMENT AREA

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<tr>
<th>Land Use</th>
<th>Acres</th>
<th>% of Total</th>
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<td>.7</td>
</tr>
<tr>
<td>Dining/Entertainment</td>
<td>.4</td>
<td>.3</td>
</tr>
</tbody>
</table>

| TOTAL                       | 128.5 | 100%       |

1) Excludes rights-of-way

Source: Development Strategies, field inspection, August 2012
6. PROPOSED DEVELOPMENT PLAN

General Land Use and Redevelopment Project Areas

When completed, the Redevelopment Area will provide a mix of land uses that will include new and rehabbed office and research space, retail space, restaurants, hotels, a medical facility and residential units. Within the Redevelopment Area, eleven (11) distinct Redevelopment Project Areas (RPAs) are proposed. The following Redevelopment Project Areas map illustrates the anticipated distribution of uses within the Redevelopment Area and the proposed RPAs. Below is a general description of the projected development to occur in each of the RPAs.

Redevelopment Project Area 1A (I) -- This RPA contains approximately 31 acres, which are centrally located in the heart of the Redevelopment Area. The RPA is generally focused along Boyle Avenue between Forest Park Avenue and Clayton Avenue. The intent in this RPA is to create a public open space that would be flanked and activated by office/research space with ground floor retail. The CORTEX One building along Forest Park and the Solae building along Boyle Avenue will serve as existing anchors for the RPA. Within the RPA the following new projects are proposed:

- The construction of a major public open space along the east side of Boyle Avenue between Duncan Avenue and Clayton Avenue.
- The rehabilitation and expansion of the former Brauer building, located on the southeast corner of Forest Park Avenue and Boyle Avenue, for office/research space.
- The construction of new office/research space along the north side of Clayton Avenue between Boyle Avenue and Sarah Street that would include a new office building for BJC at the northeast corner of Boyle Avenue and Clayton Avenue.
- The rehabilitation of existing buildings along the north side of Duncan Avenue to the east of Boyle Avenue for retail space.
- The construction of a garage with ground level retail and optional residential above along the north side of Duncan Avenue to the west of Boyle.
- The construction of a new MetroLink station along the existing MetroLink right-of-way between Boyle Avenue and Sarah Street.

Redevelopment Project Area 1A (II) -- This RPA contains approximately 4 acres, which are generally located in the southeast quadrant of the Boyle Avenue and Duncan Avenue intersection. Within the RPA the following new projects are proposed:

- The rehabilitation of the Heritage building, located on the southeast corner of Boyle Avenue and Duncan Avenue, for office/research space.

Redevelopment Project Area 1B -- This RPA contains approximately 13 acres, which are generally located along the north and south sides of Clayton Avenue between
Newstead Avenue and Taylor Avenue. The primary intent within this RPA will be to:

- Accommodate the construction of a new Shriners medical facility on the southwest corner of Newstead Avenue and Clayton Avenue.
- Rehabilitate the former Monsanto labs on the northwest corner of Newstead Avenue and Clayton Avenue.

**Redevelopment Project Area 2A** – This RPA contains approximately 5 acres located along the south side of Clayton Avenue between Tower Grove Avenue/Boyle Avenue. The intent is that this RPA would accommodate a new signature development at this important future entry to the Redevelopment Area that could accommodate a mix of uses, which would potentially include office space, retail space, a hotel and garage parking.

**Redevelopment Project Area 2B** – This RPA contains approximately 15 acres generally located along Clayton Avenue between Tower Grove Avenue and Newstead Avenue. New office/research development is proposed for the land in this RPA.

**Redevelopment Project Area 3** – This RPA contains approximately 15 acres located along the east side of Newstead Avenue between the MetroLink right-of-way and Forest Park Avenue. The primary intent within this RPA will be to:

- Construct a new office/research building on the southeast corner of Forest Park and Newstead Avenue.
- Rehabilitate or construct office/research space along the south side of Duncan Avenue.
- Construct a new a garage with ground level retail and optional residential above along the north side of Duncan Avenue.

**Redevelopment Project Area 4** – This RPA contains approximately 8 acres, located along the south side of Forest Park Avenue to the west of the existing West End Lofts. The intent would be to integrate new residential units and a hotel with some of the existing uses in the RPA.

**Redevelopment Project Area 5** – This RPA contains approximately 8 acres located on the southwest corner of Duncan Avenue and Sarah Street. The intent is to redevelop this area for new office/research space.

**Redevelopment Project Area 6** – This RPA contains approximately 20 acres located along the north side of I-64 between Boyle Avenue and Vandeventer Avenue. The intent in this RPA is to accommodate office/research space with support parking that could take advantage of the views from I-64.

**Redevelopment Project Area 7** – This large RPA contains approximately 41 acres primarily located between Forest Park Avenue, Vandeventer Avenue, the MetroLink right-of-way, and Sarah Street. The intent in this RPA is to:
• Accommodate new retail development to the south of Duncan Avenue.
• Accommodate a mix of uses to the north of Duncan that could include retail and
dining space, office space, residential units, and support parking.

Redevelopment Project Area 8 – This RPA contains approximately 8 acres located to
the west of Vandeventer Avenue between Forest Park Avenue and Laclede Avenue.
The intent in the RPA would be to integrate new residential and retail development with
the existing development in the area.

In addition, tax increment financing within each RPA may be used to finance public
infrastructure portions of the Redevelopment Projects for the other RPAs so long as the
contributing RPA is substantially benefitted by the public infrastructure.

Phasing of Development

Construction in the Redevelopment Area is projected to occur over the next decade. The
following table provides the estimated start date and completion date by RPA.

<table>
<thead>
<tr>
<th>RPA</th>
<th>Estimated Start</th>
<th>Estimated Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A (I &amp; II)</td>
<td>2013</td>
<td>2016</td>
</tr>
<tr>
<td>1B</td>
<td>2013</td>
<td>2014</td>
</tr>
<tr>
<td>2A</td>
<td>2014</td>
<td>2015</td>
</tr>
<tr>
<td>2B</td>
<td>2014</td>
<td>2020</td>
</tr>
<tr>
<td>3</td>
<td>2014</td>
<td>2019</td>
</tr>
<tr>
<td>4</td>
<td>2015</td>
<td>2019</td>
</tr>
<tr>
<td>5</td>
<td>2017</td>
<td>2022</td>
</tr>
<tr>
<td>6</td>
<td>2015</td>
<td>2024</td>
</tr>
<tr>
<td>7</td>
<td>2013</td>
<td>2019</td>
</tr>
<tr>
<td>8</td>
<td>2019</td>
<td>2022</td>
</tr>
</tbody>
</table>

Open Space and Streetscape Plan

It is proposed that open space and streetscape improvements be made with the intent of
providing a distinctive image that would brand and unite the Redevelopment Area.
Proposed improvements include:

• A major new open space area along the west side of Boyle Avenue between
Duncan Avenue and Clayton Avenue that could include retail, dining and special
landscape amenities.
• Open space enhancements to the area surrounding the existing grain elevator
located at the southeast corner of Sarah Street and Duncan Avenue.
- New lighting, sidewalks, and landscaping along Duncan Avenue, Clayton Avenue, Newstead Avenue, Tower Grove Avenue, Boyle Avenue, Sarah Avenue, and Vandeventer Avenue.
7. ESTIMATED REDEVELOPMENT PROJECT COSTS

Section 99.805(15) of the TIF Act authorizes the City to include as "redevelopment project costs", "...the sum total of all reasonable or necessary costs incurred or estimated to be incurred, and any such costs incidental to a redevelopment plan or redevelopment project, as applicable."

The TIF Act states that eligible redevelopment project costs include but are not limited to:

a) Costs of studies, surveys, plans, and specifications;

b) Professional service costs including, but not limited to, architectural, engineering, legal, marketing, financial, planning, or special services, subject to the limitations of Section 99.805(15)(b) RSMo;

c) Property assembly costs including, but not limited to, acquisition of land and other property, real or personal, or rights or interests therein, demolition of buildings, and the clearing and grading of land;

d) Costs of rehabilitation, reconstruction, or repair or remodeling of existing buildings and fixtures;

e) Costs of construction of public works or improvements;

f) Financing costs including, but not limited to, all necessary and incidental expenses related to the issuance of obligations, and which may include payment of interest on any obligations issued pursuant to sections 99.800 to 99.865 of the TIF Act accruing during the estimated period of construction of any redevelopment project for which such obligations are issued and for not more than eighteen months thereafter, and including reasonable reserves thereto;

g) All or a portion of a taxing district's capital costs resulting from the redevelopment project necessarily incurred or to be incurred in furtherance of the objectives of the redevelopment plan and project, to the extent the municipality by written agreement accepts and approves such costs;

h) Relocation costs to the extent that a municipality determines that relocation costs shall be paid or are required to be paid by federal or state law; and

i) Payments in lieu of taxes.
Estimated costs for all Redevelopment Project Areas are anticipated to total approximately $2.13 billion. The following table illustrates a potential allocation of total costs by Redevelopment Project Area.

<table>
<thead>
<tr>
<th>RPA</th>
<th>Studies &amp; Professional Services</th>
<th>Property Acquisition &amp; Relocation</th>
<th>Demolition &amp; Site Prep Costs</th>
<th>Building Rehabilitation Costs</th>
<th>Public Infrastructure Costs</th>
<th>New Building Costs</th>
<th>Financing Costs</th>
<th>Contingency</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A (I)</td>
<td>$24.9</td>
<td>$8.0</td>
<td>$4.0</td>
<td>$73.9</td>
<td>$23.5</td>
<td>$188.7</td>
<td>$16.2</td>
<td>$19.0</td>
<td>$358.2</td>
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<tr>
<td>1A (II)</td>
<td>$0.3</td>
<td>$2.0</td>
<td>$5.5</td>
<td>$40.0</td>
<td>$0.3</td>
<td>$0.0</td>
<td>$2.0</td>
<td>$0.2</td>
<td>$45.3</td>
</tr>
<tr>
<td>1B</td>
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<td>$15.0</td>
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<td>$28.8</td>
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</tr>
<tr>
<td>2A</td>
<td>$10.1</td>
<td>$0.0</td>
<td>$8.0</td>
<td>$0.0</td>
<td>$10.3</td>
<td>$112.1</td>
<td>$6.2</td>
<td>$7.0</td>
<td>$146.5</td>
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<tr>
<td>2B</td>
<td>$23.5</td>
<td>$0.0</td>
<td>$19.0</td>
<td>$0.0</td>
<td>$24.0</td>
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<td>$14.4</td>
<td>$16.3</td>
<td>$341.5</td>
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<tr>
<td>3</td>
<td>$18.0</td>
<td>$0.0</td>
<td>$4.3</td>
<td>$20.0</td>
<td>$5.6</td>
<td>$175.4</td>
<td>$10.3</td>
<td>$11.7</td>
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<tr>
<td>4</td>
<td>$5.5</td>
<td>$10.5</td>
<td>$3.0</td>
<td>$0.0</td>
<td>$2.3</td>
<td>$60.5</td>
<td>$3.7</td>
<td>$4.1</td>
<td>$89.6</td>
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<tr>
<td>5</td>
<td>$11.0</td>
<td>$5.0</td>
<td>$2.1</td>
<td>$0.0</td>
<td>$2.5</td>
<td>$122.4</td>
<td>$6.6</td>
<td>$7.5</td>
<td>$157.1</td>
</tr>
<tr>
<td>6</td>
<td>$20.0</td>
<td>$10.0</td>
<td>$2.5</td>
<td>$0.0</td>
<td>$6.3</td>
<td>$226.5</td>
<td>$12.3</td>
<td>$13.9</td>
<td>$291.8</td>
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<td>$204.0</td>
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<td>$55.8</td>
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<td>TOTAL</td>
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<td>$70.5</td>
<td>$26.1</td>
<td>$149.4</td>
<td>$110.1</td>
<td>$1,436.9</td>
<td>$90.7</td>
<td>$101.1</td>
<td>$2,127.6</td>
</tr>
</tbody>
</table>

1. The estimation of Redevelopment Projects Costs is based upon certain assumptions that may not materialize and, as an estimate or projection, is subject to uncertainty and risks that could cause actual results to differ, possibly materially, from those contemplated in this estimation.

2. Because of the uncertainty of the above estimation and because the amount of costs for certain categories may vary as a result of unforeseen events and circumstances, the above costs may be shifted between the categories of costs within a RPA.
The following table illustrates the anticipated costs that will be funded by TIF, assuming funding of $167.7 million (NPV of TIF revenue stream over the life of the RPA TIFs with 1.25 debt coverage ratio) in Redevelopment Projects Costs.

<table>
<thead>
<tr>
<th>RPA</th>
<th>Studies &amp; Professional Services</th>
<th>Property Acquisition &amp; Relocation</th>
<th>Demolition &amp; Site Prep Costs</th>
<th>Building Rehabilitation Costs</th>
<th>Public Infrastructure Costs</th>
<th>Financing Costs</th>
<th>RPA Total Eligible Costs</th>
<th>Maximum TIF Funding (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A (I)</td>
<td>$8.0</td>
<td>$8.0</td>
<td>$4.0</td>
<td>$73.9</td>
<td>$8.0</td>
<td>$4.0</td>
<td>$105.9</td>
<td>$11.4</td>
</tr>
<tr>
<td>1A (II)</td>
<td>$0.3</td>
<td>$2.0</td>
<td>$5.0</td>
<td>$40.0</td>
<td>$0.3</td>
<td>$2.0</td>
<td>$45.1</td>
<td>$22.0</td>
</tr>
<tr>
<td>1B</td>
<td>$1.3</td>
<td>$0.0</td>
<td>$2.0</td>
<td>$15.0</td>
<td>$4.5</td>
<td>$8.0</td>
<td>$23.6</td>
<td>$2.7</td>
</tr>
<tr>
<td>2A</td>
<td>$3.3</td>
<td>$0.0</td>
<td>$8.0</td>
<td>$0.0</td>
<td>$4.4</td>
<td>$2.8</td>
<td>$11.4</td>
<td>$10.3</td>
</tr>
<tr>
<td>2B</td>
<td>$7.8</td>
<td>$0.0</td>
<td>$1.9</td>
<td>$0.0</td>
<td>$1.9</td>
<td>$4.8</td>
<td>$16.4</td>
<td>$18.5</td>
</tr>
<tr>
<td>3</td>
<td>$6.0</td>
<td>$0.0</td>
<td>$4.3</td>
<td>$20.0</td>
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<td>$3.4</td>
<td>$39.3</td>
<td>$18.4</td>
</tr>
<tr>
<td>4</td>
<td>$1.8</td>
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<td>$3.0</td>
<td>$0.0</td>
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<tr>
<td>5</td>
<td>$3.6</td>
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<td>$2.1</td>
<td>$0.0</td>
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</tr>
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<td>$10.1</td>
<td>$5.5</td>
</tr>
</tbody>
</table>

Redevelopment Area-wide Project Costs Common to All RPA's (3)

TOTAL: $47.2 $70.5 $26.1 $149.4 $110.1 $30.8 $434.1 $157.7

1. The estimation of TIF funded Redevelopment Projects Costs is based upon certain assumptions that may not materialize and, as an estimate or projection, is subject to uncertainty and risks that could cause actual results to differ, possibly materially, from those contemplated in this estimation. Accordingly, the actual Redevelopment Project Costs may vary from the contemplated costs. These Redevelopment Project Costs may be updated and revised as Redevelopment Project Areas are activated following a TIF Commission public hearing.

2. The maximum TIF Funding, except as qualified herein, represents the total amount of principal in TIF Obligations to be issued in connection with each RPA. The maximum aggregate total authorized TIF obligations for the Redevelopment Area shall not exceed $167.7 million.

3. Redevelopment Area-wide costs are limited to funding of the Metro Station ($10 million), common-area open space ($11.4 million) and structured parking ($45.6 million). These elements benefit all RPAs and all or a portion of these costs may be distributed among the RPAs and recovered as TIF eligible costs up to the maximum TIF Funding provided for each RPA to a total maximum TIF Funding of $167.7 million.
The distribution of costs among categories of costs for Redevelopment Projects is approximate. As the Redevelopment Project Areas are implemented, specific categorical items and actual associated costs may vary from those provided above. The above estimated costs are exclusive of costs of issuance of TIF Obligations (as hereinafter defined), required reserve accounts, accrued interest on TIF Obligations and capitalized interest, if any.
8. ANTIPOCATED FUNDS TO PAY COSTS AND OBLIGATIONS TO BE ISSUED

Anticipated Sources of Funds to Pay the Costs

It is anticipated that the sources of funds to pay the costs of the Redevelopment Projects could include:

- Funds available to the Developer through the Developer's own operating revenues and cash reserves or through private financing obtained by the Developer;
- Proceeds of TIF notes or TIF bonds (collectively, "TIF Obligations") issued by the City and secured by anticipated PILOTs and EATs collected pursuant to the TIF Act upon adoption of tax increment allocation financing for the Redevelopment Area by the City and deposited from time to time in the "special allocation fund" (as that term is defined in section 99.805(16) of the TIF Act) established for the Redevelopment Projects;
- Funds available from the establishment of a Transportation Development District (TDD) / Community Improvement District (CID) for the Redevelopment Area;
- Funds available from MDFB tax credits;
- Funds available from Historic Tax credits;
- Funds available from Brownfield Tax credits; and
- Funds from Federal, State and local grants.

Evidence of Commitments to Finance the Project Costs

Appendix B contains a commitment letter provided by Stifel Nicolaus to provide financing for RPA 1A and RPA 1B. Stifel Nicolaus' financing is directed at public infrastructure improvements necessary to support private investment in the Redevelopment Area. Additionally, in coordination with the Developer, BJC Healthcare has financing in place to proceed with the construction of ±200,000 SF office building costing approximately $45 million within RPA 1A and Wexford Science and Technology, LLC, subject to the approval of the TIF and final terms of the sales contract with CORTEX, is committed to investing $73 million in the renovation of the Heritage property within RPA 1A into a ±184,000 SF lab/office facility. It should be noted that Shriners Hospitals for Children has financing in place and is in construction plan review with the City for a ±100,000 SF surgery center hospital/clinic/research facility located in RPA 1B expected to begin construction in Spring of 2013.

The remaining RPAs will be activated in the future as provided in the TIF ACT but only after projected redevelopment activities set forth in the Redevelopment Plan are formalized and approved as Redevelopment Projects by the City following recommendations and approvals by the TIF Commission.

Anticipated Type and Term of Sources of Funds to Pay Costs

As noted above, Project funds anticipate a combination of Developer equity, conventional financing, tax credits, grant funds, TIF Obligations, and TDD/CID revenues.
Conventional financing provided by the Developer will include both private construction financing and permanent financing. Terms of construction and permanent financing will be determined through negotiations between the Developer and the Developer’s equity partners and private lending institutions.

As detailed below, TIF Obligations will consist of an initial issuance of temporary notes to be subsequently refunded by permanent bonds, each secured by revenues deposited in the special allocation fund (the “Special Allocation Fund”) for the Redevelopment Projects established pursuant to the TIF Act. As provided in the TIF Act, the maximum term of TIF financing will not exceed 23 years from the adoption by the City of the ordinance approving each Redevelopment Project Area.

**Anticipated Type and Term of Obligations to be Issued**

It is anticipated that costs of Redevelopment Projects will initially be financed through issuance by the City of Tax Increment Financing notes (“TIF Notes”) purchased by the Developer or related parties associated with the development. The TIF Notes would be secured by, and payable from, revenues available in the Special Allocation Fund. TIF Notes would be issued in a net aggregate principal amount reflecting the Redevelopment Project Costs incurred pursuant to this Plan and approved pursuant to a redevelopment agreement between the City and the Developer.

In no instance, however, shall the term of any TIF Obligation issued for a Redevelopment Project exceed 23 years from the adoption by the City of the ordinance approving the Redevelopment Project. The anticipated date of this approval for the RPA 1A and RPA 1B Redevelopment Projects are December 2012. Accordingly, the maximum estimated date for retirement of all TIF Obligations issued for the RPA 1A and RPA 1B Redevelopment Projects is December 2035.
9. **EQUALIZED ASSESSED VALUATIONS**

**Most Recent Equalized Assessed Valuation of Property within the Redevelopment Area**

The most recent equalized assessed valuation ("EAV") of property within the Redevelopment Area is provided by the records of the Office of the St. Louis City Assessor. Most recent EAVs reflect assessments for the tax year 2012. The total taxable 2012 EAV for the Redevelopment Area is $12,181,660.

**Estimated Equalized Assessed Valuation after Redevelopment**

The estimated EAV after redevelopment is predicated upon increases in property values resulting from the completion of the Redevelopment Projects. The table below provides an estimate of the resulting EAV after full redevelopment.

<table>
<thead>
<tr>
<th>Redevelopment Project Area</th>
<th>2012 EAV</th>
<th>Estimated EAV After Redevelopment</th>
<th>Estimated Incremental EAV After Redevelopment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A (I)</td>
<td>$1,207,200</td>
<td>$21,924,150</td>
<td>$20,716,950</td>
</tr>
<tr>
<td>1A (II)</td>
<td>$1,549,900</td>
<td>$10,506,250</td>
<td>$8,956,350</td>
</tr>
<tr>
<td>1B</td>
<td>$1,580,300</td>
<td>$3,500,000</td>
<td>$1,919,700</td>
</tr>
<tr>
<td>2A</td>
<td>$90,900</td>
<td>$10,400,000</td>
<td>$10,309,100</td>
</tr>
<tr>
<td>2B</td>
<td>$15,000</td>
<td>$14,888,000</td>
<td>$14,873,000</td>
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<tr>
<td>3</td>
<td>$204,630</td>
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<td>4</td>
<td>$990,500</td>
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<tr>
<td>5</td>
<td>$862,600</td>
<td>$17,000,000</td>
<td>$16,137,400</td>
</tr>
<tr>
<td>6</td>
<td>$2,412,900</td>
<td>$31,500,000</td>
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<td>7</td>
<td>$2,893,300</td>
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<td>8</td>
<td>$374,430</td>
<td>$7,565,000</td>
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<td>TOTAL</td>
<td>$12,181,660</td>
<td>$171,809,400</td>
<td>$159,627,740</td>
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</table>
10. REPORTING REQUIREMENTS

The TIF Commission by the last day of February each year shall report to the State Director of Economic Development the name, address, phone number, and primary line of business of any business which relocates to the Redevelopment Area pursuant to requirements of section 99.810.2 of the TIF Act, as may be from time to time required.
APPENDIX A

Legal Description of the St Louis Innovation District
Tax Increment Financing Redevelopment Area and RPAs
PROPERTY DESCRIPTION
REDEVELOPMENT AREA

A tract of land being part of City Blocks 3904, 3917, 3918W, 3919W, 3953, 3959, 3960, 3961, 3962, 3963, 3966, 3967N, 3968N, 3970, 3971, 4586 and 4589 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the intersection of the centerline of Laclede Avenue, 80 feet wide with the centerline of Vandeventer Avenue, 80 feet wide; thence southerly along said centerline to the direct northerly prolongation of the north right-of-way line of Forest Park Avenue, 150 feet wide; thence along said prolongation line southeasterly to the southwest corner of City Block 3191E; thence crossing said Forest Park Avenue to the northwest corner of City Block 3918E, said point also being located on the southern right-of-way line of said Forest Park Avenue; thence southeasterly along said southern right-of-way and its southeasterly prolongation to the eastern right-of-way line of Spring Avenue, 50 feet wide; thence southerly along said east right-of-way line to the northern right-of-way line of Market Street, 100 feet wide; thence southeasterly along said right-of-way line to the northern line of a tract of land as conveyed to the State of Missouri by instrument recorded in Book 451, Page 1573 of the St. Louis City records; thence northwesterly and southeasterly along the northern line of said State of Missouri tract to the eastern right-of-way line of the Norfolk and Southern Railway; thence southeasterly along said right-of-way line to the northern right-of-way line of above said Market Street; thence along said right-of-way line to the western right-of-way line of said Norfolk and Southern Railway; thence northerly along said right-of-way line to the northern line of a tract of land as conveyed to the State of Missouri by instrument recorded as Document No. 38, on 06/29/1956; thence southeasterly along said northern line to the eastern right-of-way line of above said Vandeventer Avenue; thence southerly, along the east right-of-way line of said Vandeventer Avenue to the northern right-of-way line of above said Market Street; thence along the direct southeasterly prolongation of said northern right-of-way line to the centerline of above said Vandeventer Avenue, thence south along said centerline to its intersection with the direct southeasterly prolongation of the northern line of a tract of land as conveyed to Central Real Estate Holdings, LLC by instrument recorded in Document No. 30, on 04/19/2004 of above said records; thence northwesterly along said prolongation line, last said north line and it direct northwesterly prolongation to the centerline of Interstate Highway 64; thence southeasterly to a point being on the centerline of above said Clayton Avenue, said point being located 30 feet perpendicular distance south of the southeastern corner of a tract of land as conveyed to Norfolk and Western Railway, said point also being located on the northwestern right-of-way line of above said Interstate Highway 64; thence southeasterly and southerly along said northwestern right-of-way line to its intersection with the centerline of Sarah Street, 60 feet wide; thence southeasterly along said centerline to direct southeasterly line of Sarpy Avenue, 55 feet wide; thence northwesterly along said prolongation line to the northeastern line of a tract of land as conveyed to MVG Properties by instrument recorded in Document No. 465 on 12/27/2007 of above said records; thence southeasterly along said northeastern line to the southern line of said MVG Properties tract; thence northwesterly along said southern line and the south line of a tract of land as conveyed to Drury Displays Incorporated by instrument recorded as Document No. 161, on 09/14/1993 of above said records to the southeastern line of a tract of land as conveyed to Rose Coffee Company by instrument recorded as Document No. 537 on 7/31/2012; thence southeasterly and northwesterly along the southeastern and southern lines of said Rose Coffee Company tract to the east right-of-way line of Boyle Avenue, 60 feet wide; thence northwesterly along the direct northwesterly prolongation of the southern line of said Rose
Coffee Company tract to its intersection of the centerline of said Boyle Avenue; thence southeasterly along said centerline to its intersection with the direct southeasterly prolongation of the southern line of Lot A of Washington University Medical Center Subdivision of City Block 3966-N, a subdivision according to the plat thereof as recorded in Plat Book 05252004, Page 475 of above said records; thence northwesterly along said prolongation line to the southeast corner of said Lot A; thence northwesterly and southwesterly along the southern lines of said Lot A to the east right-of-way line of Tower Grove, 60 feet wide; thence crossing said Tower Grove at right angles, to the west right-of-way line of said Tower Grove; thence northeasterly along said west right-of-way line to northeast corner of Lot C of School House Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 66, Pages 16 and 17 of above said records; thence northwesterly and southwesterly along the northern lines of said Lot C to the eastern right-of-way line of Newstead Avenue, 60 feet wide; thence southwesterly along said eastern right-of-way line to the southwest corner of above said Lot C; thence departing last said right-of-way line northwesterly to the southeastern corner of a tract of land as conveyed to Drury Displays by instrument recorded in Book 730, page 80 of above said records; thence northwesterly along the south line of said Drury Displays tract to the eastern line of Shriners Hospital subdivision of City Block 3971-N a subdivision according to the plat thereof as recorded in Plat Book 5282008, Pages 158 and 159 of above said records; thence southwesterly and northwesterly along the eastern and southern line and the direct northwestern prolongation thereof to its intersection of with the centerline of Taylor Avenue 60 feet wide; thence northeasterly along said centerline to its intersection with the centerline of above said Clayton Avenue; thence northeasterly along said centerline to its intersection with the direct southwesterly prolongation of the eastern line of Lot 1 of Busch/Ondr Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 12092004, Page 240 of above said records; thence northeasterly along said prolongation line and the eastern lines of said Lot 1 and lot 2 of said Busch/Ondr Subdivision, to the southern line of said Lot 2; thence northeasterly and southeasterly along said southern lines to the western right-of-way line of above said Newstead Avenue; thence northeasterly along said western right-of-way line to its intersection with the centerline of Duncan Avenue, 60 feet wide; thence northwesterly along said centerline to the direct southwesterly prolongation of the western line of above said Newstead Avenue; thence northeasterly along said western right-of-way line and its direct northeasterly prolongation to the centerline of above said Forest Park Avenue; thence southeasterly along said centerline to the direct northeasterly prolongation line of the western line of Lot 1 of West End Lofts, a subdivision according to the plat thereof as recorded in Plat Book 6082008, Page 248 of above said records; thence southwesterly, northwesterly and southwesterly along said prolongation line, the western lines and direct southwesterly prolongation of said West End Lofts Subdivision to the centerline of above said Duncan Avenue; thence southeasterly and northeasterly along said centerline to its intersection with the centerline of above said Sarah Street; thence northeasterly along said centerline to its intersection with the direct northwesterly prolongation of the northern right-of-way liner of above said Forest Park Avenue; thence southeasterly along said prolongation line and last said right-of-way line to the western line of a tract of land as conveyed to The Salvation Army by instrument recorded in Book 804, Page 808 of above said records; thence northeasterly along said western line to the southern right-of-way line of a 15’ wide alley; thence northwesterly along said southern right-of-way line to its intersection with the direct southwesterly prolongation of the western line of a tract of land as conveyed to the Center For Emerging Technologies by instrument recorded as Document No. 407 on May 8, 2007 of above said records; thence along said prolongation line and said western line and it direct northwesterly prolongation to the centerline of above said Laclede Avenue; thence southeasterly along said centerline to the POINT OF
BEGINNING and containing 168.471 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012, revised October 8, 2012.
PROPERTY DESCRIPTION
RPA-1A (I)

A tract of land being part of City Blocks 3904, 3917, 3961, 4586, and 4589 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the northwesterly corner of a Boundary Adjustment Plat as recorded in Plat Book 3192004, Page 84 of the St. Louis City Records; said point also being located on the southern right-of-way line of Forest Park Avenue, 150 feet wide; thence on the direct northeasterly prolongation of the west line of said Boundary Adjustment Plat to the centerline of said Forest Park Avenue; thence southeasterly along said centerline to its intersection with the direct northeasterly prolongation of the eastern line of a tract of land as conveyed to Washington University by instrument recorded as Document No. 229 on 01/30/2009 of above said records; thence southwesterly along said prolongation and last said eastern line to the centerline of a 15' Wide Alley, now vacated; thence southeasterly along said centerline to the west line of a tract of land as conveyed to the Center of Research Technology and Entrepreneurial Exchange, by instrument recorded as Document No. 196 on 01/04/2011 of above said records; thence southwesterly along said west line to the northern right-of-way line of Duncan Avenue, 60 feet wide; thence southeasterly along said right-of-way line to its intersection with the direct northeasterly prolongation of the west line of a tract of land as conveyed to Custom Steel Processing, Inc. by instrument recorded as Document No. 38 on 08/03/2012 of above said records; thence southwesterly along said prolongation line and last said west line and its direct southeasterly prolongation to its intersection with a line being 25.74 feet south of and parallel to the southern line of said Custom Steel Processing, Inc. tract; thence along said parallel line and its direct southeastern prolongation to the centerline of Sarah Street, 60 feet wide; thence southerly along said centerline to its intersection with the centerline of Clayton Avenue, 60 feet wide; thence northwesterly along said centerline to its intersection with the direct southwesterly prolongation of the western right-of-way line of Boyle Avenue, 60 feet wide; thence northeasterly along said prolongation and last said right-of-way line to the northeast corner of a tract of land as conveyed to Barnes-Jewish Hospital, by instrument recorded as Document No. 205 on 07/08/1986 of above said records thence northwesterly along the northern line of said Barnes-Jewish Hospital tract to its intersection with the southwesterly prolongation of the western line of Adjusted Lot A of the Boundary Adjustment Plat as recorded in Plat Book 06142007, Page 115 of above said records; thence northeasterly along said prolongation line to the southwest corner of said Adjusted Lot A; thence northeasterly, southeasterly and northeasterly along the common lines between Adjusted Lots A and B of said Boundary Adjustment Plat to the southern right-of-way line of above said Duncan Avenue; thence northeasterly along the direct northeasterly prolongation of last said west line to the centerline of said Duncan Avenue; thence northwesterly along said centerline to its intersection direct prolongation of the eastern line of Lot 1 of the Boundary adjustment Plat of Part of Lot 41 of P. Lindell’s Second Addition as recorded in Plat Book 2302009, Page 293 of above said records; thence along said prolongation line and last said eastern line to the southern right-of-way line of a 15 feet wide Alley; thence southeasterly along said southern line to the southwestern corner of that part of a 15 feet wide Alley as vacated by City Ordinance No. 67040; thence northeasterly along the western line of said vacated Alley to the southwest corner of a Boundary Adjustment Plat as recorded in Plat Book 3192004, Page 84 of above said records; thence northeasterly along the west line of above said Boundary Adjustment Plat to the southern right-of-way line of above said Forest Park Avenue; thence continuing along the direct northeasterly prolongation of said west line the POINT
OF BEGINNING and containing 35.162 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012.

Except for Lot 1 of the subdivision plat of "A tract of land being Lots A and B of S.B.C. Subdivision, per Plat Book 12162004, page 382 of the City of St. Louis records, Lots 7 through 12, Lots 31 through 36 and part of the 15 feet wide alley between said lots as vacated by City Ordinance No. 43836 located in Block 1 of Boyce's South Lindell Addition in US Survey 1332 Cul De Sac Common Fields, the north 45 feet of Lots 7 through 12 in Block 2 of said Boyce's South Lindell Addition and that part of Boyce Avenue, 60 feet wide, (private), between said lots, as closed and vacated by instrument recorded in Book 3609, page 510 of above said records located in City Block 4586 the City of St. Louis, Missouri" as recorded in Book 10232012, page 0176 of the Office of the Recorder of Deeds in the City of St. Louis, Missouri.
PROPERTY DESCRIPTION
RPA-1A (II)

A tract of land being part of City Block 4586 located in the City of St. Louis, Missouri being more particularly described as follows:

Lot 1 of the subdivision plat of "A tract of land being Lots A and B of S.B.C. Subdivision, per Plat Book 12162004, page 382 of the City of St. Louis records, Lots 7 through 12, Lots 31 through 36 and part of the 15 feet wide alley between said lots as vacated by City Ordinance No. 43836 located in Block 1 of Boyce's South Lindell Addition in US Survey 1332 Cul De Sac Common Fields, the north 45 feet of Lots 7 through 12 in Block 2 of said Boyce's South Lindell Addition and that part of Boyce Avenue, 60 feet wide, (private), between said lots, as closed and vacated by instrument recorded in Book 3609, page 510 of above said records located in City Block 4586 the City of St. Louis, Missouri" as recorded in Book 10232012, page 0176 of the Office of the Recorder of Deeds in the City of St. Louis, Missouri.
PROPERTY DESCRIPTION
RPA-1B

A tract of land being part of City Blocks 3970, and 3971 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the southwestern corner of Lot C of School House Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 66, Pages 16 and 17 of the St. Louis City Records, said point also being located on the eastern right-of-way line of Newstead Avenue, 60 feet wide; thence departing last said right-of-way line northwesterly to the southeastern corner of a tract of land as conveyed to Drury Displays by instrument recorded in Book 730, page 80 of above said records; thence northwesterly along the south line of said Drury Displays tract to the eastern line of Shriners Hospital subdivision of City Block 3971-N; a subdivision according to the plat thereof as recorded in Plat Book 5282008, Pages 158 and 159 of above said records; thence southwesterly and northwesterly along the eastern and southern line and the direct northwestern prolongation thereof to its intersection of with the centerline of Taylor Avenue 60 feet wide; thence northeasterly along said centerline to its intersection with the centerline of above said Clayton Avenue; thence northeasterly along said centerline to its intersection with the direct southwesterly prolongation of the eastern line of Lot 1 of Busch/Ondr Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 12092004, Page 240 of above said records; thence northeasterly along said prolongation line and the eastern lines of said Lot 1 and lot 2 of said Busch/Ondr Subdivision, to the southern line of said Lot 2; thence northeasterly and southeasterly along said southern lines to the western right-of-way line of above said Newstead Avenue; thence southeasterly along the direct southeasterly prolongation of last said southern line to the eastern right-of-way line of said Newstead Avenue; thence southwesterly along said eastern right-of-way line to the POINT OF BEGINNING and containing 12.835 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012.
PROPERTY DESCRIPTION
RPA-2A

A tract of land being part of City Blocks 3966 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the southeastern corner of Lot D of Scholl House Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 66, pages 16 and 17 of the City of St. Louis Records, said point also being located on the western right-of-way line of Tower Grove Avenue, 60 feet wide, said point also being located on the northern right-of-way line of Highway 64, variable width; thence northerly along said right-of-way line and its direct northeasterly prolongation to the centerline of Clayton Avenue, 60 feet wide; thence along said centerline to its intersection with the centerline of Boyle Avenue, 60 feet wide; thence along southerly along said centerline to a point being 30 feet perpendicular distance from the southeast corner of Lot A of Washington University Medical Center Subdivision in CB 3966N, a subdivision according to the plat thereof as recorded in Plat Book 5252004, page 475 of above said records thence southwesterly at right angles to last said centerline to said southeast corner; thence southwesterly along the southern lines of said Lot A to the eastern right-of-way line of above said Tower Grove Avenue, thence southwesterly along said eastern right-of-way line to the northern line of above said Highway 64; thence southwesterly along said northern right-of-way line to the POINT OF BEGINNING and containing 5.228 acres more or less according to calculation performed by Stock and Associates Consulting Engineers, Inc. on October 8, 2012.
PROPERTY DESCRIPTION
RPA-4

A tract of land being part of City Blocks 3917 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the northeast corner of a tract of land as conveyed to Washington University by instrument recorded as Document No. 229 on 1/30/2009 of the St. Louis City Records; thence along the direct northeasterly prolongation of the eastern line of said Washington University tract to the centerline of Forest Park Avenue, 150 feet wide; thence southeasterly along said centerline to its intersection with the direct northeasterly prolongation line of the western line of Lot 1 of West End Lofts, a subdivision according to the plat thereof as recorded in Plat Book 6082008, Page 248 of above said records; thence southwesterly, northwesterly and southwesterly along said prolongation line and the western lines of said West End Lofts Subdivision to the northern right-of-way line of Duncan Avenue, 60 feet wide; thence northwesterly along said northern right-of-way line to the west line of a tract of land as conveyed to the Center of Research Technology and Entrepreneurial Exchange, by instrument recorded as Document No. 196 on 01/04/2011 of above said records; thence northeasterly along said west line to the centerline of a 15' wide alley, now vacated, thence southwesterly along said centerline to the eastern line of above said Washington University tract; thence northeasterly along said eastern line to the POINT OF BEGINNING and containing 8.431 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012.
PROPERTY DESCRIPTION
RPA-5

A tract of land being part of City Blocks 4586 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the intersection of the centerline of Sarah Street, 60 feet wide, with the centerline of Duncan Avenue, 60 feet wide; thence southwesterly along the centerline of Sarah Street to its intersection with the direct prolongation of a line being 25.74 feet south of and parallel to the southern line of a tract of as conveyed to Custom Steel Processing, Inc. by instrument recorded as Document No. 38 on 08/03/2012 of the St. Louis City Records; thence northwesterly along said prolongation line and last said parallel line to its intersection with the direct southeasterly prolongation line of the west line of said Custom Steel Processing, Inc. tract; thence northwesterly along said prolongation line, last said west line and its direct northeasterly prolongation to the northern right-of-way line of above said Duncan Avenue; thence southeasterly along said northern right-of-way line to the western line of Lot 2 of West End Lofts, a subdivision according to the plat thereof as recorded in Plat Book 6082008, Page 248 of above said records; thence southwesterly along the direct southwesterly prolongation of said west line to the centerline of above said Duncan Avenue; thence southeasterly along said centerline to the POINT OF BEGINNING and containing 8.158 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012.
PROPERTY DESCRIPTION
RPA-2B

A tract of land being part of City Blocks 3967, 3968 and 3970 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the northeastern corner of a tract of land as conveyed to Barnes-Jewish Hospital by instrument recorded as Document No. 205, on 07/08/1986, of the City of St. Louis records, said point also being located on the western right-of-way of Boyle Avenue, 60 feet wide; thence southwesterly along said right-of-way line and its direct southwesterly prolongation to the centerline of Clayton Avenue, 60 feet wide; thence southeasterly along said centerline to its intersection with the centerline of said Boyle Avenue; thence southeasterly along said centerline to its intersection with the direct northeasterly prolongation of the western right-of-way line of Tower Grove Avenue, 60 feet wide, thence southwesterly along last said prolongation line and said western right-of-way to the to the southern right-of-way line of a 20 feet wide Alley; thence along said southern right-of-way line, the southern line of that part of Edmund Avenue vacated by Ordinance No. 57375, affidavit recorded in Docume4nt 103, on January 26, 1978 and the southern right-of-way line of a 20 feet wide Alley as vacated by Ordinance No. 63356, affidavit recorded in Document No. 166, on March 21, 1995 to the eastern line of Lot A of Washington University Medical Center Subdivision of City Block 3966-N, a subdivision according to the plat thereof as recorded in Plat Book 05252004, Page 475 of above said records; thence southeasterly and southwesterly along the eastern and southern lines of said Lot A to the eastern right-of-way of Newstead Avenue, 60 feet wide; thence along said eastern right-of-way line of Newstead Avenue, 60 feet wide; thence northeasterly along said eastern right-of-way line to its intersection with the direct southeasterly prolongation of the southern line of Lot 2 of Busch/Ondr Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 12092004, Page 240 of above said records; thence northwesterly along said prolongation line to the northeast corner of above said Lot 2, said point also being located on the western right-of-way line of said Newstead Avenue; thence northeasterly along said right-of-way line to its intersection with the direct southwestern prolongation of the northern line above said Barnes-Jewish Hospital tract; thence northeasterly and southeasterly along said prolongation line and northern lines of said Barnes-Jewish Hospital tract to the POINT OF BEGINNING and containing 14.816 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012. Revised October 8, 2012.
PROPERTY DESCRIPTION
RPA-3

A tract of land being part of City Blocks 3904 and 4589 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the northeastern corner of above said City Block 3903, said point also being the northeastern corner of Lot B of the Resubdivision of Lot 1 of 4444 Forest Park Boulevard Subdivision, a subdivision according to the plat thereof as recorded in Plat Book 74, Page 43 of above said records thence northerly along the direct northerly prolongation of the east line of said City Block to the centerline of above Forest Park Avenue, 150 feet wide; thence southeasterly along said centerline to its intersection with the direct northeasterly prolongation line of the western line of a Boundary Adjustment Plat as recorded in Plat Book 3192004, Page 84 of the St. Louis City Records; thence southwesterly along said prolongation line and last said west line to the southwestern corner of that part of a 15 feet wide Alley as vacated by Ordinance No. 67040; thence northwesterly along a 15 feet wide Alley to the eastern line of Lot 1 of the Boundary adjustment Plat of Part of Lot 41 of P. Lindell's Second Addition as recorded in Plat Book 2302009, Page 293 of above said records; thence southwesterly along said eastern line and its direct southwesterly prolongation line to the centerline of Duncan Avenue, 60 feet wide; thence southeasterly along said centerline to its intersection with the northeasterly prolongation of the western line of Adjusted Lot A of the Boundary Adjustment Plat as recorded in Plat Book 06142007, Page 115 of above said records; thence southwesterly, northwesterly and southwesterly along the said prolongation line and along the common lines between Adjusted Lots A and B of said Boundary Adjustment Plat to the southern line of said Boundary Adjustment Plat; thence continuing southwesterly along the direct southwesterly prolongation of the western line of above said Lot A to the northern line of a tract of land as conveyed to Barnes-Jewish Hospital, by instrument recorded as Document No. 205 on 7/08/1986 of above said records; thence northwesterly along said northern line and its direct northwesterly prolongation to the western right-of-way line of Newstead Avenue, 60 feet wide; thence northeasterly along said right-of-way line to its intersection with the centerline of Duncan Avenue; thence northwesterly along said centerline to its intersection with the direct southwesterly prolongation of the western line of above said Newstead Avenue; thence northeasterly along said prolongation line and last said western line to the POINT OF BEGINNING and containing 14.767 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012., revised October 5, 2012.
PROPERTY DESCRIPTION
RPA-6

A tract of land being part of City Blocks 3953, 3959, 3960, 3962, and 3963 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the intersection of the centerline of Clayton Avenue, 60 feet wide, with the centerline of Boyle Avenue, 60 feet wide; thence easterly along the of said Clayton Avenue centerline to its intersection with the centerline of Sarah Street, 60 feet wide; thence northeasterly along last said centerline to a point being 30 feet perpendicular distance from the northwest corner of a tract of land as conveyed to Bi-State Development Agency by instrument recorded as Document No. 220 on 12/22/2000; thence easterly at right angles to last said centerline to last said northwest corner; thence southeasterly along the northern line of said Bi-State tract and its direct southwesterly prolongation to its intersection with the centerline of Highway 64, variable width; thence southwesterly along said centerline to its intersection with the direct northwesterly prolongation of the north line of a tract of line of land as conveyed to Central Real Estate Holding Company, by instrument recorded in Document 30 on 4/19/2004; thence southwesterly to a point being on the centerline of above said Clayton Avenue, said point being located 30 feet perpendicular distance south of the southeastern corner of a tract of land as conveyed to Norfolk and Western Railway, said point also being located on the northwestern right-of-way line of above said Interstate Highway 64; thence southwesterly and southerly along said northwestern right-of-way line to its intersection with the centerline of Sarah Street, 60 feet wide; thence southwesterly along said centerline to direct southeasterly line of Sarpy Avenue, 55 feet wide; thence northwesterly along said prolongation line to the northeastern line of a tract of land as conveyed to MVG Properties by instrument recorded in Document No. 465 on 12/27/2007 of above said records; thence southeasterly along said northeastern line to the southern line of said MVG Properties tract; thence northwesterly along said southern line and the south line of a tract of land as conveyed to Drury Displays Incorporated by instrument recorded as Document No. 161, on 09/14/1993 of above said records to the southeastern line of a tract of land as conveyed to Rose Coffee Company by instrument recorded as Document No. 537 on 7/31/2012; thence southwesterly and northwesterly along the southeastern and southern lines of said Rose Coffee Company tract to the east right-of-way line of above said Boyle Avenue; thence northwesterly along the direct northwesterly prolongation of the southern line of said Rose Coffee Company tract to its intersection of the centerline of said Boyle Avenue; thence northeasterly along said centerline to the POINT OF BEGINNING and containing 19.673 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012, revised on October 8, 2012.
PROPERTY DESCRIPTION
RPA-7

A tract of land being part of City Blocks 3918, 3919 and 3953 located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the intersection of the centerline of Sarah Street; 60 feet wide, with the centerline of Duncan Avenue, 60 feet wide; thence southeasterly and northeasterly along the centerline of said Sarah Street to its intersection with the direct northeasterly prolongation line of the northern right-of-way line of Forest Park Avenue, 150 feet wide; thence along said prolongation line and last said northern right-of-way line to the western line of a tract of land as conveyed to SLLC Real Estate, LLC, by instrument recorded as Document 175 on 7/01/2010 of the St. Louis County Records; thence northeasterly and southeasterly, along the western, northern and direct northeastern prolongation thereof to the centerline of Vandeventer Avenue, 80 feet wide; thence southwesterly along said centerline to its intersection with the direct northwesterly prolongation of the north right-of-way line of Forest Park Avenue, 150 feet wide; thence southeasterly along said prolongation line to the southwest corner of City Block 3919E; thence crossing said Forest Park Avenue to the northwest corner of City Block 3918E; said point being located on the eastern right-of-way line of above said Vandeventer Avenue; thence continuing southwesterly along said eastern right-of-way line to the northern right-of-way line of Market Street, 100 feet wide; thence along the direct southwesterly prolongation of said northern right-of-way line to the centerline of above said Vandeventer Avenue, thence south along said centerline to its intersection with the direct easterly prolongation of the northern line of a tract of land as conveyed to Central Real Estate Holdings, LLC by instrument recorded in Document No. 30 on 4/19/2004 thence westerly along said prolongation line and last said south line and its direct easterly prolongation to the centerline of Interstate Highway 64, variable width; thence northeasterly along said centerline to its direct northeasterly prolongation of the north line of a tract of land as conveyed to Bi-State Development Agency by instrument recorded as Document No. 220 on 12/22/2000; thence northwesterly along said prolongation line and last said north line to the eastern right-of-way line of above said Sarah Avenue; thence on a line at right angles to last said right-of-way line to the centerline of said Sarah Avenue; thence northerly along said centerline to the POINT OF BEGINNING and containing 41.371 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012, revised October 8, 2012.
PROPERTY DESCRIPTION
RPA-8

A tract of land being part of City Blocks 3919W located in the City of St. Louis, Missouri being more particularly described as follows:

Beginning at the centerline of Laclede Avenue, 80 feet wide with the centerline of Vandeventer Avenue, 80 feet wide; thence along said centerline to its intersection with the southeasterly prolongation of the northern line of a tract of land as conveyed to SLLC Real Estate, LLC, by instrument recorded as Document 175 on 7/01/2010 of the St. Louis County Records; thence along said prolongation and last said northern line to the western line of said SLLC Real Estate, LLC tract; thence southwesterly along said western line to the northern right-of-way line of Forest Park Avenue, 150 feet wide; thence northwesterly along said right-of-way line to the western line of a tract of land as conveyed to The Salvation Army by instrument recorded in Book 804, Page 808 of above said records, said point also being the southwest corner of Lot 20 of Forest Park Boulevard Addition; thence northeasterly along said western line to the southern right-of-way line of a 15' wide alley; thence northwesterly along said southern right-of-way line to its intersection with the direct southwesterly prolongation of the western line of a tract of land as conveyed to the Center For Emerging Technologies by instrument recorded as Document No. 407 on May 8, 2007 of above said records; thence along said prolongation line and said western line and it direct northwesterly prolongation to the centerline of above said Laclede Avenue; thence northeasterly along said centerline to the POINT OF BEGINNING and containing 8.052 acres more or less according to calculations performed by Stock and Associates Consulting Engineers, Inc. on August 23, 2012. Revised October 5, 2012.
October 15, 2012

Mr. Pat Bannister  
Manager of Business Development  
The Industrial Development Authority of the City of St. Louis  
1015 Locust St., #1200  
St. Louis, Missouri 63101

Re: St. Louis Innovation District Tax Increment Financing Redevelopment Plan and Projects  
("Redevelopment Plan")

Dear Pat:

We have reviewed preliminary plans for the processing of the referenced tax increment financing project in connection with the redevelopment of the proposed St. Louis Innovation District. We have had conversations with representatives of the Developer and have reviewed various documents in connection with their strategy for financing eligible redevelopment costs with the issuance of tax increment financing obligations. Initially, we expect that financing of public infrastructure costs and strategic land acquisition will be accomplished by the issuance of tax increment financing ("TIF") obligations backed by the tax increment revenue generated by anticipated private development in Redevelopment Project Areas 1A and 1B to be activated in connection with approval of the Redevelopment Plan. Additionally, special business district revenues (in the form of a Community Improvement District and/or Transportation Development District) will be pledged to the repayment of TIF obligations as outlined in the Redevelopment Plan. Projections of revenue are provided in certain reports by Development Strategies.

Based on the foregoing and terms outlined in the Redevelopment Plan and subject to a definitive Redevelopment Agreement in acceptable form, final documentation, funding/leasing and construction commitments to be provided by project participants and market conditions for the sale and placement of such debt instruments, Stifel Nicolaus is prepared to make a commitment to finance TIF obligations, in an amount to be determined, to fund a portion of eligible redevelopment project costs in Redevelopment Project Areas 1A and 1B. The TIF obligations will not be rated. The TIF obligations will be placed (or contain items to release conditional proceeds) on dates consistent with a draw schedule to be provided by closing during the construction period.

We look forward to working with you on this financing. Please contact me at 314-342-2165 if you have any questions or concerns.

Sincerely,

[Signature]

Peter J. Czajkowski  
Senior Vice President

PJC/ksw
APPENDIX C

Developer's Affidavit
STATE OF MISSOURI)       ) SS
CITY OF ST. LOUIS        )

AFFIDAVIT OF DEVELOPER

The undersigned swears, affirms and certifies the following to be true to induce the approval of tax increment financing for the St. Louis Innovation District Redevelopment Area in the City of St. Louis, Missouri.

1. I am authorized to attest to the following matters of behalf of St. Louis Innovation District, LLC.

2. The provisions of Section 99.810.1(1) of the Real Property Tax Increment Allocation Redevelopment Act (the “TIF Act”), RSMo §§99.800, et seq., have been satisfied under the terms and provisions of the St. Louis Innovation district Tax Increment Financing Redevelopment Plan.

3. The St. Louis Innovation District Redevelopment Area is a “blighted area” as defined in Section 99.805 of the TIF Act.

4. The St. Louis Innovation District Redevelopment Area has not been subject to growth and development through investment by private enterprise and would not reasonably be anticipated to be developed without the adoption of tax increment financing.

5. St. Louis Innovation District, LLC would not construct the redevelopment projects that it has proposed for the St. Louis Innovation District Redevelopment Area without tax increment financing as provided in the St. Louis Innovation District Regeneration Tax Increment Financing Redevelopment for the St. Louis Innovation District Redevelopment Area.

Dennis E. Lower, Manager of
St. Louis Innovation District, LLC

Subscribed and sworn to before me this 12 day of October, 2012.

Amy E. Kimball
Notary Public

My Commission Expires: 8/20/16
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<td>2A: Duncan Retail (40,000 sf retail)</td>
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<td>3A: South of Cortez (13,000 sf retail, 260 apartment units) [5.6 MILLION PILOTS &amp; EATS]</td>
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<td>1B: HIC (200,000 sf office, 12,000 sf retail) [4.8 M PILOTS &amp; EATS]</td>
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<td>2B: Clayo (270,000 sf office) [3.8 M PILOTS &amp; EATS]</td>
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<td>5B: U.S. Metals (200,000 sf office) [6.8 M PILOTS &amp; EATS]</td>
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<td>8B: West Area (170 apartments, 20,000 sf retail) [3.8 M PILOTS &amp; EATS]</td>
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