Saint Louis Great Streets INITIATIVE

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North 14th Street

strategic planning report

September 2016

appendices

APPENDIX A

MAPS

Street Map

14th Street
St. Louis City, Missouri
0
500
Feet
EAST-WEST GATEWAY
Council of Governments
Creating Solutions Across Jurisdictional Boundaries

Study Area

14th Street
St. Louis City, Missouri
0
500
Feet
EAST-WEST GATEWAY
Council of Governments
Geotrip Solutions Across Jurisdictional Boundaries
HADLEY ST
HOWARD ST
N 14TH ST
E 14TH ST
CASS AVE
N 13TH ST
BIDDLE ST
CARR ST
N TUGGER BLVD
UNDERA ST
GAY ST
CONVENTION PLZ
DR MARTIN LUTHER KING DR
DELMAR BLVD
BLAIR AVE
N FLORISSANT AVE
CHAMBERS ST
N 15TH ST
N 16TH ST
N 17TH ST
N 18TH ST
MULLANPHY ST
COCHRAN PL
PRESERVATION PL
O'FALLON ST
N 15TH ST N
AGEE CT
INGE PL
SELBY PL
COLE ST

Broader Study Context

Jeff Vanderlou
St. Louis Place
Old North St. Louis
Near North Riverfront
Carr Square
Columbus Square
Downtown West
Downtown
Northside Regeneration Area
The Northside Regeneration Area is developer Paul McKee's $8.1 billion vision covering some 1,500 acres of the city, primarily north of downtown. The envisioned redevelopment project encompasses parts of Old North St. Louis, JeffVanderLou, and St. Louis Place Neighborhoods.
Future NGA Site
In late March, the National Geospatial-Intelligence Agency's director recommended the north St. Louis site for the new federal spy agency facility. The 99-acre site in north city is at the corner of north Jefferson and Cass Avenues. The new headquarters would bring 5,200 construction jobs to the area when construction begins in 2017. The new site is projected to cost $1.75 billion to build and should be completed by 2021.
North Riverfront Open Space & Redevelopment Plan
The North Riverfront Open Space & Redevelopment Plan was completed in September 2015 by a multi-disciplined team of consultants led by Forum Studios. The purpose of the plan was to develop a vision for the riverfront which would take advantage of the location and rich history of the site to develop a world-class destination where one can live, learn, work, and play. The North Riverfront Open Space & Redevelopment plan is the culmination of a design process than began in January 2015 with the initial meeting of Stakeholders and Technical Advisory Committee members and ended with a Town Hall Public Meeting on July 8, 2015. The plan was formally adopted as a Topical Plan by the St. Louis Planning Commission in December 2015.
Preservation Square
Preservation Square (formerly O'Fallon Place), is a 1,800-unit assisted housing project that is the focus of a $500,000 planning grant that was awarded to Urban Strategies from the U.S. Department of Housing and Urban Development. Urban Design Associates (Pittsburgh) was hired to produce the Transformation Plan as part of this planning process.
Former Pruitt Igoe Site
Under a plan submitted to the city's planning commission, the former site of the infamous public housing development would be rezoned from multiple-family dwelling to local commercial and office district. That zoning has a height limit of 3 stories; the NGA has requested that no tall buildings be built across from its new western headquarters. The plan calls for professional offices, retail, hospitality, restaurants, a hospital and extended-stay hotel on the site. The northern section, fronting Cass, would include two to four stories of commercial development. A southern section would be developed as health care, including developer Paul McKee's Northside Regeneration Urgent Care Hospital.
Choice Neighborhood Initiative
The Choice Neighborhood Initiative is recognition that a complete neighborhood transformation is required to improve the lives of residents in distressed neighborhoods with public housing. In order to achieve the Choice Neighborhoods' goal of complete neighborhood transformation, the Department of Housing & Urban Development (HUD) awards planning grants to help communities create a comprehensive plan to transform the target public housing (Preservation Square) and surrounding neighborhood. The Choice Transformation plan addresses the physical housing, supportive services, and neighborhood revitalization needs of all the neighborhood residents. The application for the Choice Neighborhood Implementation grant is the next step in achieving this vision and is due in June.
Near Northside Project Areas
North Riverfront Open Space & Redevelopment Plan
Future NGA Site
Preservation Square Apartments
Choice Neighborhood Plan Area
LRA Parcels (5/12/15)
Northside Regeneration Boundary
Northside Regeneration Parcels
SLHA Properties
Highways
Proposed Northside-Southside MetroLink Stops
Proposed Northside-Southside MetroLink Alignment
Neighborhood Boundary
Parks
Note: Parcels queried by Owner Name & 2nd Owner, Northside Regeneration LLC, Blair Mont & MLK 3000
CITY OF ST. LOUIS
PLANNING & URBAN DESIGN AGENCY
Neither the Planning and Urban Design Agency nor the City of St. Louis guarantee the accuracy or adequacy of the information contained herein.
Choice-Neighborhood-Application.mxd
Generated 15 July 2014 by WB
The funding of this map, was financed wholly through a grant from the Department of Housing and Urban Development and the Community Development Administration under the provision of Title I of the Housing and Community Development Act of 1974 (Pub L. 93-383 42 USC 5301 et seq.)
0 315 630 1,260 1,890 2,520 Feet

Transportation Map - Sheet 1

CITY OF SAINT LOUIS MISSOURI

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[Re] Think 14th Street - Great Streets

Transportation Map - Sheet 2

Saint Louis Great Streets INITIATIVE
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[Re] Think 14th Street - Great Streets

Proximity Map

Corridor Concept Sketch

APPENDIX B

DEMOGRAPHIC DATA

14th Street
Great Streets Project Location
March 2016

LEGEND

Great Streets Project Location

Selected Block Group Boundary

0 500 1,000
Feet

Source: US Census Bureau (2010);
East-West Gateway Council of Governments

EAST-WEST GATEWAY
Council of Governments

N. 14th Street Census Data

Table 1: Age					
Block Group	TOTAL	UNDER 18	OVER 65	UNDER 18 PERCENT	OVER 65 PERCENT
295101255003	783	9	29	1.1	3.7
295101256001	744	56	60	7.5	8.1
295101257001	2079	711	92	34.2	4.4
295101257003	385	195	51	50.6	13.2
295101266002	1481	401	16	27.1	1.1
295101266003	1120	572	43	51.1	3.8
295101275001	1257	525	195	41.8	15.5
Total	7849	2469	486	31.5	6.2

Source: 5 year ACS 2014 Table B01001

Table 2A: Race and Ethnicity						
Block Group	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Non-Hispanic Other	Hispanic
295101255003	783	633	99	0	0	51
295101256001	744	373	354	0	16	1
295101257001	2079	11	2056	0	12	0
295101257003	385	3	382	0	0	0
295101266002	1481	202	1271	0	0	8
295101266003	1120	61	987	0	0	72
295101275001	1257	0	1061	0	196	0
Total	7849	1283	6210	0	224	132

Source: 5 Year ACS 2014 Table B03002

Table 2B: Race and Ethnicity, Percents						
Block Group	Total	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Non-Hispanic Other	Hispanic
295101255003	100.0	80.8	12.6	0.0	0.0	6.5
295101256001	100.0	50.1	47.6	0.0	2.2	0.1
295101257001	100.0	0.5	98.9	0.0	0.6	0.0
295101257003	100.0	0.8	99.2	0.0	0.0	0.0
295101266002	100.0	13.6	85.8	0.0	0.0	0.5
295101266003	100.0	5.4	88.1	0.0	0.0	6.4
295101275001	100.0	0.0	84.4	0.0	15.6	0.0
Total	100.0	16.3	79.1	0.0	2.9	1.7

Source: 5 Year ACS 2014 Table B03002

N. 14th Street Census Data

Table 3: Household Characteristics					
Block Group	House-holds	Family House-holds	Percent Family House-holds	Zero Vehicle	Percent Zero Vehicle
295101255003	498	110	22.1	8	1.6
295101256001	459	111	24.2	88	19.2
295101257001	819	548	66.9	385	47.0
295101257003	148	93	62.8	79	53.4
295101266002	368	257	69.8	158	42.9
295101266003	366	273	74.6	107	29.2
295101275001	481	219	45.5	184	38.3
Total	3139	1611	51.3	1009	32.1

Source: 5 year ACS 2014 Tables B11001 and B25044

Table 4A: Household Size							
Block Group	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7+Person
295101255003	295	186	17	0	0	0	0
295101256001	215	230	0	14	0	0	0
295101257001	219	297	207	47	0	49	0
295101257003	55	26	41	0	26	0	0
295101266002	100	115	22	87	44	0	0
295101266003	93	71	129	42	14	17	0
295101275001	224	118	33	31	25	26	24
Total	1201	1043	449	221	109	92	24

Source: 5 year ACS 2014 Table B11016

Table 4B: Household Size, Percents

Block Group	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7+Person
295101255003	59.2	37.3	3.4	0.0	0.0	0.0	0.0
295101256001	46.8	50.1	0.0	3.1	0.0	0.0	0.0
295101257001	26.7	36.3	25.3	5.7	0.0	6.0	0.0
295101257003	37.2	17.6	27.7	0.0	17.6	0.0	0.0
295101266002	27.2	31.3	6.0	23.6	12.0	0.0	0.0
295101266003	25.4	19.4	35.2	11.5	3.8	4.6	0.0
295101275001	46.6	24.5	6.9	6.4	5.2	5.4	5.0
Total	38.3	33.2	14.3	7.0	3.5	2.9	0.8

Source: 5 year ACS 2014 Table B11016

N. 14th Street Census Data

Table 5A: Educational Attainment for Persons Over Age 25						
	Over 25	Less than High School Diploma	High School or GED	Some College/ Associate's Degree	Bachelor's Degree	Post-Graduate Degree
295101255003	711	41	18	213	294	145
295101256001	657	61	132	141	232	91
295101257001	971	216	276	455	4	20
295101257003	190	33	35	69	6	47
295101266002	859	251	205	328	47	28
295101266003	398	114	91	90	93	10
295101275001	563	184	139	240	0	0
Total	4349	900	896	1536	676	341

Source: 5 Year ACS 2014, Table B15003

Table 5B: Educational Attainment for Persons Over Age 25, Percents						
	Over 25	Less than High School Diploma	High School or GED	Some College/ Associate's Degree	Bachelor's Degree	Post-Graduate Degree
295101255003	100.0	5.8	2.5	30.0	41.4	20.4
295101256001	100.0	9.3	20.1	21.5	35.3	13.9
295101257001	100.0	22.2	28.4	46.9	0.4	2.1
295101257003	100.0	17.4	18.4	36.3	3.2	24.7
295101266002	100.0	29.2	23.9	38.2	5.5	3.3
295101266003	100.0	28.6	22.9	22.6	23.4	2.5
295101275001	100.0	32.7	24.7	42.6	0.0	0.0
Total	100.0	20.7	20.6	35.3	15.5	7.8

Source: 5 Year ACS 2014, Table B15003

Table 6: Limited English Speaking Households as Percent of All Households								
	Speak Spanish		Speak Other Indo-		Speak Asian Language		Speak Other	
Block Group	House-holds	Percent	House-holds	Percent	House-holds	Percent	House-holds	Percent
295101255003	0	0.0	0	0.0	0	0.0	0	0.0
295101256001	0	0.0	0	0.0	0	0.0	0	0.0
295101257001	7	0.9	0	0.0	0	0.0	0	0.0
295101257003	0	0.0	0	0.0	0	0.0	0	0.0
295101266002	0	0.0	0	0.0	0	0.0	0	0.0
295101266003	0	0.0	0	0.0	0	0.0	0	0.0
295101275001	0	0.0	0	0.0	0	0.0	30	6.2
Total	7	0.2	0	0.0	0	0.0	30	1.0

Source: 5 Year ACS 2014, Table B16002

N. 14th Street Census Data

Table 7: Persons who Speak English Less than Very Well as Percent of All Persons Over Age 5								
	Speak Spanish		Speak Other Indo-		Speak Asian Language		Speak Other	
	Persons	Percent	Persons	Percent	Persons	Percent	Persons	Percent
295101255003	0	0.0	0	0.0	0	0.0	0	0.0
295101256001	0	0.0	0	0.0	0	0.0	0	0.0
295101257001	7	0.4	0	0.0	0	0.0	0	0.0
295101257003	0	0.0	0	0.0	0	0.0	0	0.0
295101266002	18	1.3	0	0.0	0	0.0	0	0.0
295101266003	0	0.0	0	0.0	0	0.0	0	0.0
295101275001	0	0.0	0	0.0	0	0.0	49	4.1
Total	25	0.3	0	0.0	0	0.0	49	0.7

Source: 5 Year ACS 2014, Table B16004

Table 8A: Household Income					
Block Group	Under $25,000	$25,000 - $50,000	$50,000 - $75,000	$75,000 - $100,000	Over $100,000
295101255003	72	79	107	77	163
295101256001	114	116	101	31	97
295101257001	591	156	61	0	11
295101257003	61	87	0	0	0
295101266002	215	77	39	5	32
295101266003	302	64	0	0	0
295101275001	354	66	23	38	0
Total	1709	645	331	151	303

Source: 5 Year ACS 2014, Table B19001

Table 8B: Household Income, Percents					
Block Group	Under $25,000	$25,000 - $50,000	$50,000 - $75,000	$75,000 - $100,000	Over $100,000
295101255003	14.5	15.9	21.5	15.5	32.7
295101256001	24.8	25.3	22.0	6.8	21.1
295101257001	72.2	19.0	7.4	0.0	1.3
295101257003	41.2	58.8	0.0	0.0	0.0
295101266002	58.4	20.9	10.6	1.4	8.7
295101266003	82.5	17.5	0.0	0.0	0.0
295101275001	73.6	13.7	4.8	7.9	0.0
Total	54.4	20.5	10.5	4.8	9.7

Source: 5 Year ACS 2014, Table B19001

N. 14th Street Census Data

Table 9: Labor Force Status								
Block Group	Total Over Age 16	In Labor Force	Civilian Labor Force	Employed	Unemp-loyed	Armed Forces	Not In Labor Force	Percent Unemp-loyed
295101255003	774	633	633	616	17	0	141	2.7
295101256001	716	562	544	460	84	18	154	14.9
295101257001	1446	972	972	690	282	0	474	29.0
295101257003	215	109	109	83	26	0	106	23.9
295101266002	1080	491	491	396	95	0	589	19.3
295101266003	638	356	356	279	77	0	282	21.6
295101275001	784	308	308	233	75	0	476	24.4
Total	5653	3431	3413	2757	656	18	2222	19.1

Source: 5 Year ACS 2014, Table B23025

Table 10: Housing Units						
	Total Units	Occupied	Owner-Occupied	Renter Occupied	Percent Occupied	Owner Occupied (Percent of All Occupied)
295101255003	607	498	158	340	82.0	31.7
295101256001	586	459	74	385	78.3	16.1
295101257001	936	819	36	783	87.5	4.4
295101257003	171	148	26	122	86.5	17.6
295101266002	431	368	109	259	85.4	29.6
295101266003	447	366	61	305	81.9	16.7
295101275001	593	481	3	478	81.1	0.6
Total	3771	3139	467	2672	83.2	14.9

Source: 5 Year ACS 2014, Tables B25002 and B25003

Table 11: Poverty				
	Individ-uals in Poverty	Individual Poverty Rate	Families in Poverty	Family Poverty Rate
295101255003	104	14.3	0	0.0
295101256001	135	18.2	14	12.6
295101257001	1238	59.5	379	69.2
295101257003	160	41.6	26	28.0
295101266002	493	45.7	125	48.6
295101266003	776	71.9	217	79.5
295101275001	635	50.5	115	52.5
Total	3541	48.2	876	54.4

Source: 5 Year ACS 2014, Tables B17010 and B17021

N. 14th Street Census Data

Table 11: Disability			
	Popula-tion basis	Has a Disability	Disability Percent
29510125500	2681	126	4.7
29510125600	3312	203	6.1
29510125700	3618	693	19.2
29510126600	3000	409	13.6
29510127500	2426	252	10.4
Total	15037	1683	11.2

Source: 5 Year ACS 2014, Table B18101

Table 12: Employment (Place of Work)

	Employ-ment	Percent of Total
295101255003	923	10.8
295101256001	2937	34.3
295101257001	334	3.9
295101257003	393	4.6
295101266002	2528	29.5
295101266003	301	3.5
295101275001	1149	13.4
Total	8565	100.0

Source: Dun and Bradstreet

APPENDIX C

PRESENTATIONS

NIGHT 1
PRESENTATION

North 14th Street

EAST-WEST GATEWAY
Council of Governments

Urban Planning
CHRISTNER

Environmental
SWT DESIGN

Transportation
CBB
TRANSPORTATION ENGINEERS+PLANNERS

Market Planning
DEVELOPMENT STRATEGIES

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"To design a street according to its intended use is a reasonable but uncommon practice."

Harland Bartholomew

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EAST-WEST GATEWAY
Council of Governments

Creating Solutions Across Jurisdictional Boundaries

Great Streets

- Are **Great places**
  - local identity & walkability
- **Integrate land use & transportation** planning
  - design to a vision
- Accommodate **all users and modes**
  - trip type - "to, through, & within"
  - accessible for everyone
- Are **economically vibrant**
  - complementary uses
- Are **environmentally responsible**
  - practical
  - more than just storm water
- Rely on **current thinking**
  - adapting what works best
- Are **measurable**
  - performance measures guide the process
  - relate to RTP & funding
- **Develop collaboratively**
  - multi disciplinary team
  - iterative community input

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Great Streets Emphasize

The Product

- The Plan
- Prepared Local Leadership
- Tools for Implementation

The Process

- Multi-disciplinary consultant team
- Iterative local input
- Envision land use – all else supports that
- Best Practices

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Combining local knowledge

(residents, owners, proprietors, leadership, etc.)

with technical expertise (multi disciplinary team)

Iterative feedback loops

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Benefits

- **The infrastructure and systems are designed to achieve the community's vision for their place**
- **A better balanced transportation network**
- **Enhanced community identity**
- **Economic vitality**
- **Reduced load on utilities**
- **Neighborhoods that work better for all ages and capabilities**

The program holds to a core belief that our streets are public space.

They need to be functional, lasting, & delightful places.

There's a lot going on

North 14th Street - Study Area

Our Scope of Work

- **The technical team** (market, urban, environmental, and transportation planners) reviews existing conditions and **works with people who know the community** to <u>define a vision forward and a means to achieve it</u>.
- The end product is a technical planning report with specific recommended steps to implement the end goals

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Schedule

1 **Preparation (March - May)**

2

Monday	Tuesday	Wednesday	Thursday
7:00 am to 8:30 am Team Sets Up Studio	8:30 am to 9:00 am Design Team Discussion	8:30 am to 9:00 am Design Team Discussion	8:30 am to 9:00 am Design Team Discussion
8:30 am to 11:30 am Project Site Walking Tour	9:00 am to 10:30 am Environmental/Sustainability Focus Group Session	9:00 am to Noon Design Team Working Session	9:00 am to Noon Final Design Team Working Session
11:30 am to Noon Debrief (closed door)	10:30 am to Noon City Departments Focus Group Session		
1:00 pm to 2:30 pm Neighborhood Institutions Focus Group Session	1:00 pm to 3:00 pm Transportation Focus Group Session	1:00 pm to 5:00 pm Design Team Working Session	1:00 pm to 3:30 pm Preparation & Formatting for Final Presentation (closed door)
2:30 pm to 4:00 pm Community Development & Housing Focus Group Session	3:00 pm to 5:00 pm Design Team Discussion (closed door)		
4:00 pm to 5:00 pm Design Team Discussion (closed door)			3:30 pm to 5:00 pm Studio Clean Up
6:00 pm to 9:00 pm Public Kick-Off Meeting	6:00 pm to 9:00 pm Public Feedback Session		6:00 pm to 9:00 pm Public Wrap Up & Next Steps Session

3 **End Report finished this Summer**

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Strategic Planning Report

- **The end document will record the "vision" for the corridor**
- **It will state the major issues and goals**
- **It will clarify what decisions were made during this process.**
- **It will detail recommended next steps**
  - **Scope**
  - **Additional Investigation**
  - **Responsibility**
  - **Likely Budget**
  - **Sequence**

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FIRST DIRECTIONS
Market and Economic Review
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

DEVELOPMENT STRATEGIES®

May 23, 2016

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14th Street Context

Zip Code 63106
Population 11,470

14th Street Corridor
Population 1,830

Wash. Ave. Loft District
Population 4,320

City of St. Louis
Population 316,700

Source: Development Strategies.

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Regional Population Change in the 2000's

Source: East-West Gateway Council of Govt's.

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Age Distribution of the Population, 2015

Source: Esri.

Lack of Demographic Diversity: Population

TAPESTRY Population Groups (Esri)

- 67 in U.S. (no one has all)
- 28 in City of St. Louis (diversity!)
- 4 in 63106
- 2 in Corridor
- Only 1 on Washington Ave!

Source: Esri.

Lack of Demographic Diversity: Population

Source: Esri.

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Miscellaneous Demographics 2015

Source: Esri.

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Household Income Density 2014

Income per Square Mile at the Census Block Group Level

Source: Development Strategies and Esri.

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Retail Purchasing Power and Sales, 2015

63106

Major "Leakage"

Minor "Leakage"

Source: Esri.

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Employment Worker Flow - 63106

- 5,800 people work in 63106.
  - About 5,650 commute in each day: possible housing market?
- But 3,800 leave 63106 each day for work elsewhere.
  - Opportunity to keep them local?

- Very few live and work in 63106.
  - Net "Employment Community"
  - Lots of nearby jobs!
  - More coming with NGA.

Source: U.S. Census Bureau

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Employment Density

Source: East-West Gateway Council of Gov'ts.

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First Directions Parcel Development Potential

Source: Development Strategies

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Socio-Economic SWOTs

STRENGTHS	WEAKNESSES
Good retail capture rates	Weak incomes and buying power
Lots of jobs	Above average younger age cohorts
Adjacent to downtown and Loft District	Dominance of 2-3 population groups
Substantial redevelopment locations	Below average educational attainment
Visible market response to opportunities	

OPPORTUNITIES	THREATS
Attracting higher income and more diverse households	Inadequate capabilities for sustainable employment
Facilities for youth	Inadequate infrastructure funding
Attracting more employers	
Attracting more retail diversity	

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Urban Design Review
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

CHRISTNER

Saint Louis Great Streets INITIATIVE
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Corridor Scale

Old North

STUDY AREA 3/4 mile

Downtown - Washington Avenue

MULTIMODAL CENTER 1-1/4 mile

HIGHWAY 1-1/3 mile

Saint Louis Great Streets INITIATIVE
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- Commercial zoning on Cass is a small area
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- Narrow band of industrial uses and zoning disconnects neighborhoods
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Saint Louis Great Streets INITIATIVE
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- Industrial on both sides of 14th continues to divide downtown from the neighborhood commercial

Saint Louis Great Streets INITIATIVE
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Corridor Character

Undefined sidewalks and uses

Oppressive walls

Incompatible uses

Vacant buildings

City and Arch views

Parks and amenities

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Disconnected Street Grid

Completing the street – Choice Neighborhood Plan

- Incompatible land uses in public rights way are a barrier to neighborhood focus
- Disconnection of neighborhoods east and west
- Inconvenient for walking trips and bus route access
- Cole is contiguous from Jefferson to the North Riverfront
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Saint Louis Great Streets INITIATIVE
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Wayfinding on 14th Street

Neighborhood Character

New home construction

Resident amenities

Community & health centers

Mature street trees

Brick homes

Bus stop amenities

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Pedestrian & Accessibility Barriers

Narrow corridor

Gravel in sidewalk area

No sidewalk

Tripping hazards

Lack of curb ramps/not up to standards

Parking over walk routes

Saint Louis Great Streets INITIATIVE
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- Wide road dominates the generous right-of-way
- Pedestrian scale varies - streetscape tightly or loosely defined
- Tight squeeze for pedestrians on the north and south ends
- Urban character void
- Future development parcel widths vary
- Park trees reinforce pedestrian scale and create an edge
- Bend areas are wide open

Saint Louis Great Streets INITIATIVE
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- Bends in street set up natural view corridors
- High point in the area allows for downtown and arch views
- High visibility parcels can close or open views
- Long and open views enhances pedestrian safety
- Opportunity for development patterns to reinforce safety through environmental design

Saint Louis Great Streets INITIATIVE
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Transportation
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

Saint Louis Great Streets INITIATIVE
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Transportation

- Cross Section (65 wide)
  - 4-lanes with On-Street Parking
- Speeds:
  - 14th Street: 35 MPH Posted/35 MPH Average
  - Tucker: 35 MPH Posted/30 MPH Average
- Volumes
  - 14th Street Weekday ADT: 6,500
  - Tucker: Weekday ADT: 15,000
  - Heavy Directional Traffic
    - AM/Southbound and PM/Northbound
- Transit:
  - Existing Routes
    - 32 MLK (Carr to Cass)
    - 74 West Florissant
  - Possible Future Transit Corridor
    - Northside/Southside Light Rail
    - Street Car
    - Bus Rapid Transit (Tucker)
- Bicycle/Pedestrian
  - Existing: Sidewalks/Share the Road
  - Future: Great Rivers Greenway Shared Use Path
- Minor Crash Issues

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Saint Louis Great Streets INITIATIVE
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Regional Transportation Connections

Local Roadway Connections

Environmental Infrastructure
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

Existing Conditions Analysis:

- Hydrology / Topography & Drainage
- Green / Open Space
- Utilities / Infrastructure

Hydrology:

Topography and Drainage

- Bissell Point Watershed
- Priority Area /Green Infrastructure Focus Area for MSD
- Topography

Surface Permeability

- 25% Permeability
- Benefits Include:
  - Water Quality
  - Reduced Flooding
  - Environmental and Economic Benefit

Green Space

- Loretta Hall Park (4.25 acres)
- 6% Tree Canopy Coverage
- Benefits include:
  - Property Values
  - Access / Amenities
  - Air Quality
  - Aesthetics

Utilities/Infrastructure

- Electric / Lighting
- Benefits include:
  - Safety / Security
  - Level of Service
  - Aesthetics

Sewer System

- Combined Sanitary / Stormwater Infrastructure
- Opportunities include:
  - Segregate systems
  - Integrate into other streetscape components

Environmental Infrastructure

Existing Conditions Opportunities:

- Increase permeability and water quality
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- Investigate alternative energy sources
- Integrate environmental performance with overall neighborhood identity

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?

Saint Louis Great Streets INITIATIVE
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Proximity:

NIGHT 2
PRESENTATION

North 14th Street

EAST-WEST GATEWAY
Council of Governments

Urban Planning
CHRISTNER

Environmental
SWT DESIGN

Transportation
CBB
TRANSPORTATION ENGINEERS+PLANNERS

Market Planning
DEVELOPMENT STRATEGIES

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"To design a street according to its intended use is a reasonable but uncommon practice."

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EAST-WEST GATEWAY
Council of Governments

Creating Solutions Across Jurisdictional Boundaries

Great Streets

- Are **Great places**
  - local identity & walkability
- **Integrate land use & transportation** planning
  - design to a vision
- Accommodate **all users and modes**
  - trip type - "to, through, & within"
  - accessible for everyone
- Are **economically vibrant**
  - complementary uses
- Are **environmentally responsible**
  - practical
  - more than just storm water
- Rely on **current thinking**
  - adapting what works best
- Are **measurable**
  - performance measures guide the process
  - relate to RTP & funding
- **Develop collaboratively**
  - multi disciplinary team
  - iterative community input

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Benefits

- **The infrastructure and systems are designed to achieve the community's vision for their place**
- **A better balanced transportation network**
- **Enhanced community identity**
- **Economic vitality**
- **Reduced load on utilities**
- **Neighborhoods that work better for all ages and capabilities**

The program holds to a core belief that our streets are public space.

They need to be functional, lasting, & delightful places.

There's a lot going on

North 14th Street - Study Area

Our Scope of Work

- **The technical team** (market, urban, environmental, and transportation planners) reviews existing conditions and **works with people who know the community** to <u>define a vision forward and a means to achieve it</u>.
- The end product is a technical planning report with specific recommended steps to implement the end goals

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Schedule

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Saint Louis Great Streets INITIATIVE
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  - **Additional Investigation**
  - **Responsibility**
  - **Likely Budget**
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Saint Louis Great Streets INITIATIVE
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REAL ESTATE DEVELOPMENT POTENTIAL
Market and Economic Review
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

DEVELOPMENT STRATEGIES®

May 24, 2016

Saint Louis Great Streets INITIATIVE
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Regional Population Change in the 2000's

1 Dot = 25 People
Population Gain
Population Loss

Source: East-West Gateway Council of Govt's.

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Household Income Density 2014

Income per Square Mile at the Census Block Group Level

Source: Development Strategies and Esri.

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Retail Purchasing Power and Sales, 2015

63106

Major "Leakage"

Minor "Leakage"

Source: Esri.

Saint Louis Great Streets INITIATIVE

Employment Worker Flow - 63106

- 5,800 people work in 63106.
  - About 5,650 commute in each day: possible housing market?
- But 3,800 leave 63106 each day for work elsewhere.
  - Opportunity to keep them local?

- Very few live and work in 63106.
  - Net "Employment Community"
  - Lots of nearby jobs!
  - More coming with NGA.

Source: U.S. Census Bureau

Saint Louis Great Streets INITIATIVE

Strengths and Opportunities

Good retail capture rates
Lots of jobs
Adjacent to downtown and Loft District
Substantial redevelopment locations
Visible market response to opportunities
Regional attraction potential:
NSA employees
General Illinois market
Local attraction potential:
Downtown
Old North

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Urban Design Review
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

CHRISTNER

Saint Louis Great Streets INITIATIVE
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Corridor Scale

Old North

STUDY AREA 3/4 mile

Downtown - Washington Avenue

MULTIMODAL CENTER 1-1/4 mile

HIGHWAY 1-1/3 mile

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Transportation
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

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Regional Transportation Connections

Environmental Infrastructure
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

Existing Conditions Analysis:

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- Investigate alternative energy sources
- Integrate environmental performance with overall neighborhood identity

So….

How can this process Re-Think the 14th Street Area?

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Initial Goals & Strategies

Coordinate Current Plans

- Old North
- MetroLink
- Great Rivers Greenway bike/ped facility
- Choice Neighborhoods
- NGA
- More desirable future land uses

Design Guidelines for Future Improvements

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Initial Goals & Strategies

Support Local Neighborhoods

- Improve Walking Connections
- Connect to Old North
- Bring Back the Grid
- Tame 14th Street
- Take Advantage of Downtown
- Encourage Neighborhood Services

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Community Places

Source: Development Strategies

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Residential Mixed Use

Source: Development Strategies

Urban Townhouses

Source: Development Strategies

General Merchandise Clothing

Source: Development Strategies

Design Guidelines

Street Sections

- Greenway – bike and pedestrian
- Metro bus, streetcar, bus rapid transit or light rail

Street Character and Streetscape

Major streets – 14th Street, Cass and MLK
Minor Streets – Cole, Biddle, O'Fallon, etc.
Neighborhood Streets

Green Infrastructure Strategies and Integration

Storm water/bioretention
Pavements
Utilities
Energy

Development Character

Residential
Mixed use
Institutional – community center

Transit Station and Amenities

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Proximity:

Segments:

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14th Street (Existing)

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14th Street (LRT Interim)

104'

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14th Street (LRT)

104'

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NIGHT 3
PRESENTATION

North 14th Street

EAST-WEST GATEWAY
Council of Governments

Urban Planning
CHRISTNER

Environmental
SWT DESIGN

Transportation
CBB
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Creating Solutions Across Jurisdictional Boundaries

Great Streets

- Are **Great places**
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Great Streets Emphasize

The Product

- The Plan
- Prepared Local Leadership
- Tools for Implementation

The Process

- Multi-disciplinary consultant team
- Iterative local input
- Envision land use – all else supports that
- Best Practices

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Combining local knowledge

(residents, owners, proprietors, leadership, etc.)

with technical expertise (multi disciplinary team)

Iterative feedback loops

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Benefits

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  - Scope
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  - Responsibility
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Existing Conditions -

- Demographics and the Current Market
- Character and Land Use
- Transportation
- Environmental Infrastructure

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REAL ESTATE DEVELOPMENT POTENTIAL
Market and Economic Review
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

DEVELOPMENT STRATEGIES®

May 26, 2016

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Regional Population Change in the 2000's

1 Dot = 25 People
Population Gain
Population Loss

Source: East-West Gateway Council of Govt's.

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Lots of Kids and Parents

More 3-Bedroom Homes?

Source: U.S. Census Bureau

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Employment Downtown (Next Door!) - 2014

14th Street Study Area

Downtown West: 29,100 jobs

Downtown East: 37,400 jobs

Downtown Population: 8,800

Source: U.S. Census Bureau

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Downtown Jobs & Residents (Next Door!) - 2014

Source: U.S. Census Bureau

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2014 Employment Worker Flow – Zip Code 63106

More Family Housing?
More Live-Work Housing?
More Incubator/Start-Up Spaces?

Source: U.S. Census Bureau

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Household Income Density 2014

Income per Square Mile at the Census Block Group Level

Source: Development Strategies and Esri.

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Retail Purchasing Power and Sales, 2015

63106

Major "Leakage"

Source: Esri.

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General Merchandise Stores by Sales: Near North and Near South Sides

Source: Esri

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Grocery Stores by Sales: Near North and Near South Sides

Source: Esri

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5-10-15 Minutes Walking Time

NEAR SOUTH
Truman and Lafayette

Source: Esri

Saint Louis Great Streets INITIATIVE
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5-10-15 Minutes Walking Time

NEAR NORTH
14th & Biddle

Source: Esri

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Near North & South Population by Walking Time

NEAR NORTH SIDE:

- Lower population within 5 minutes
- Even population within 10 minutes
- Higher population within 15 minutes

Source: Esri

Near North & South Population at 15 Minutes

NEAR NORTH SIDE:

- Faster growth at 15 minutes walking time

Source: Esri

Near North & South Buying Power per Capita

NEAR NORTH SIDE:

- Lower buying power per person at all three distances

Source: Esri

Near North & South Buying Power per Capita

NEAR NORTH SIDE:

- Lower aggregate buying power at 5 and 10 minutes
- Slightly higher aggregate buying power at 15 minutes
  - ➢ Benefit of much larger population despite low per capita buying power

Source: Esri

Urban Design Review
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

CHRISTNER

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STUDY AREA 3/4 mile

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- Commercial zoning on Cass is a small area
- Existing health and community centers on industrial zoning area
- New homes being built on Biddle
- Narrow band of industrial uses and zoning disconnects neighborhoods
- Loretta Hall Park is zoned multi-family
- Industrial disconnects downtown from Old North business district

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- Neighborhood commercial defined for Cass and parts of 14th
- Opportunity at the Cass/Tucker intersection
- Recreation and open space is defined for area east of North 14th
- Institutional uses acknowledged
- Industrial on both sides of 14th continues to divide downtown from the neighborhood commercial

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Corridor Character

Undefined sidewalks and uses

Oppressive walls

Incompatible uses

Vacant buildings

City and Arch views

Parks and amenities

Disconnected Street Grid

Completing the street – Choice Neighborhood Plan

- Incompatible land uses in public rights way are a barrier to neighborhood focus
- Disconnection of neighborhoods east and west
- Inconvenient for walking trips and bus route access
- Cole is contiguous from Jefferson to the North Riverfront
- Cass is a focus for the NGA

Wayfinding on 14th Street

Neighborhood Character

New home construction

Resident amenities

Community & health centers

Mature street trees

Brick homes

Bus stop amenities

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Pedestrian & Accessibility Barriers

Narrow corridor

Gravel in sidewalk area

No sidewalk

Tripping hazards

Lack of curb ramps/not up to standards

Parking over walk routes

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- Wide road dominates the generous right-of-way
- Pedestrian scale varies - streetscape tightly or loosely defined
- Tight squeeze for pedestrians on the north and south ends
- Urban character void
- Future development parcel widths vary
- Park trees reinforce pedestrian scale and create an edge
- Bend areas are wide open

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- Bends in street set up natural view corridors
- High point in the area allows for downtown and arch views
- High visibility parcels can close or open views
- Long and open views enhances pedestrian safety
- Opportunity for development patterns to reinforce safety through environmental design

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Transportation
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

CBB TRANSPORTATION ENGINEERS+PLANNERS

THE COMMON SEAL OF THE CITY OF ST. LOUIS

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Transportation

- Cross Section (65 wide)
  - 4-lanes with On-Street Parking
- Speeds:
  - 14th Street: 35 MPH Posted/35 MPH Average
  - Tucker: 35 MPH Posted/30 MPH Average
- Volumes
  - 14th Street Weekday ADT: 6,500
  - Tucker: Weekday ADT: 15,000
  - Heavy Directional Traffic
    - AM/Southbound and PM/Northbound
- Transit:
  - Existing Routes
    - 32 MLK (Carr to Cass)
    - 74 West Florissant
  - Possible Future Transit Corridor
    - Northside/Southside Light Rail
    - Street Car
    - Bus Rapid Transit (Tucker)
- Bicycle/Pedestrian
  - Existing: Sidewalks/Share the Road
  - Future: Great Rivers Greenway Shared Use Path
- Minor Crash Issues

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Transportation

- Speeds:
  - 35 MPH Posted/35 MPH Average
- Volumes
  - Weekday ADT: 7,500
  - Heavy Directional Traffic
- Transit:
  - Existing Routes
    - 99 Downtown Trolley (Delmar to Washington)
    - 32 MLK (Carr to Cass)
    - 74 West Florissant
  - Possible Future Transit Corridor
    - Northside/Southside Light Rail
    - Street Car
    - Bus Rapid Transit (Tucker)
- Bicycle/Pedestrian
  - Existing: Sidewalks/Share the Road
  - Future: Great Rivers Greenway Shared Use Path
- Crash Issues:
  - Cole Street
    - Side Street Stop
    - 20 Total Crashes/10 Injury and 1 Pedestrian
  - Delmar
    - Traffic Signal
    - 23 Total Crashes/11 Injury

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Regional Transportation Connections

Local Roadway Connections

Environmental Infrastructure
14TH STREET, ST. LOUIS
DELMAR BOULEVARD TO MULLANPHY STREET

MAY 23, 2016

SWTDESIGN

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Hydrology:

Topography and Drainage

- Bissell Point Watershed
- Priority Area /Green Infrastructure Focus Area for MSD
- Topography

Surface Permeability

- 25% Permeability
- Benefits Include:
  - Water Quality
  - Reduced Flooding
  - Environmental and Economic Benefit

Green Space

- Loretta Hall Park (4.25 acres)
- 6% Tree Canopy Coverage
- Benefits include:
  - Property Values
  - Access / Amenities
  - Air Quality
  - Aesthetics

Utilities/Infrastructure

- Electric / Lighting
- Benefits include:
  - Safety / Security
  - Level of Service
  - Aesthetics

Sewer System

- Combined Sanitary / Stormwater Infrastructure
- Opportunities include:
  - Segregate systems
  - Integrate into other streetscape components

What We've Learned

- 14th Street is an important transportation corridor
- The area lacks basic necessities – grocery, retail, etc.
- The "Delmar Divide" is a real issue
- There are a LOT of potential future investments – Choice Neighborhoods, enhanced transit, NGA, GRG trail, Northside Regeneration, New Community Center/YMCA

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What We've Learned

- Lighting is important for safety and security
- Neighborhoods west of 14th are not connected well to the North, South and East
- The area needs more and better public spaces
- The vehicle impound lot located in the super block (bordered by N. 14th & 13th and Biddle & Cass) is not neighborhood friendly
- Keep the heavier vehicle traffic on Tucker and utilize N. 14th Street as a multimodal corridor

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What We've Learned

- Transition from industrial to residential up 14th Street is not done well
- Early coordination with utilities is key when making future improvements
- Future YMCA and commercial development could draw people from downtown
- This area could benefit from an established "identity" and better wayfinding

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Some ideas for making 14th Street a Great Street

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Initial Goals & Strategies

Coordinate Current Plans

- Old North
- Enhanced Transit (MetroLink, BRT, Streetcar)
- Great Rivers Greenway Iron Horse Trestle Connection
- Choice Neighborhoods
- NGA
- Project Connect

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Initial Goals & Strategies

Support Local Neighborhoods

- Improve Walking Connections & Conditions
- Bring Back the Grid - Connect to Old North, Downtown & Riverfront
- Tame 14th Street
- Take Advantage of Downtown
- Encourage Neighborhood Services
- Attract more desirable future land uses
- Design Guidelines for Future Improvements

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Initial Goals & Strategies

Take advantage of Regional Investments

- Enhanced Transit
- GRG Iron Horse Trestle
- NGA
- Choice Neighborhoods
- New Community Center/YMCA

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Regional Connectivity

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Closer Than You Think

Urban Design Strategies

- Achieve regional connectivity with initiatives
- Reinforce existing anchors – Washington Ave and Old North
- Create a critical mass of activity at Biddle
- Plan for transit in the corridor – station at Biddle
- Integrate the greenway on the east side
- Create mixed use/residential gateway at north end (14th, Cass and North Florissant)
- Draw people north from Washington with visual cues (new building, City Museum gateway, Food Roof, Riverfront node, Community Center architecture)
- Support existing neighborhood by establishing a neighborhood street grid and adding other housing options
- Activate the south end at Washington/Lucas/Delmar

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Design Guidelines

- **Street Sections**
  - Greenway – bike and pedestrian
  - Metro bus, streetcar, bus rapid transit or light rail
- **Street Character and Streetscape**
  - Major streets – 14th Street, Cass and MLK
  - Minor Streets – Cole, Biddle, O'Fallon, etc.
  - Neighborhood Streets
- **Green Infrastructure Strategies and Integration**
  - Storm water/bioretention
  - Pavements
  - Utilities
  - Energy
- **Development Character**
  - Residential
  - Mixed use
  - Institutional – community
  - Center
- **Transit Station and Amenities**

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Environmental Infrastructure

Existing Conditions Opportunities:

- Increase permeability and water quality
- Improve air quality / Reduce heat-island
- Increase biodiversity/habitat
- Improve access to open space
- Improve safety/security
- Investigate alternative energy sources
- Integrate environmental performance with overall neighborhood identity

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Going Green

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From "Pipeline" to "Community Core"

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Existing –

- Disconnected Neighborhoods
- Incompatible Land Uses

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14th Street (Existing)

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Short-term -

- GRG Bike/Ped Facility
- Preservation Square Renovation
- New Community Center/YMCA

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14th Street (Existing) 80' ROW

14th Street (Short Term GRG) 80' ROW

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Short-term Options

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More space at Washington

Mid-term

- Old North Connection
- Extend the Grid to Tucker & Mullanphy
- Development Opportunity

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Mullanphy/North Florissant Intersection

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Long-term

- Extend the Grid – Carr Street
- Enhanced Transit
- Upgraded GRG Bike/Ped Facility
- Extend Pedestrian Linkages to NGA and North Riverfront

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14th Street (Existing) 80' ROW

14th Street (BRT) 104' ROW

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Bus Rapid Transit (BRT)

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14th Street (Existing) 80' ROW

14th Street (LRT Center Running) 104' ROW

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Light Rail

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14th Street (Existing) 80' ROW

14th Street (LRT Center Running) 135' ROW

135'

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14th Street LRT Station (Center Running Track)

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14th Street (Existing) 80' ROW

14th Street (LRT Side Running) 135' ROW @ Station

135'

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14th Street LRT Station (Side Running Track)

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First Directions Parcel Development Potential

Source: Development Strategies

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Community Places

Source: Development Strategies

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Residential Mixed Use and "Live-Work"

Source: Development Strategies

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Urban Townhouses

Source: Development Strategies

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General Merchandise and Drug Store

Source: Development Strategies

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Neighborhood Retail

Source: Development Strategies

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Strengths and Opportunities

Good retail capture rates
Lots of jobs
Adjacent to downtown and Loft District
Substantial redevelopment locations
Visible market response to opportunities
Regional attraction potential:
NSA employees
General Illinois market
Local attraction potential:
Downtown
Old North

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Draw Users North

Cass/14th/N Florissant mixed use/residential gateway

New community center and Biddle Station

Riverfront greenway/ Loretta Hall Park node at Cole

Food Roof expression on the street

City Museum gateway and opportunity site at Lucas

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APPENDIX D

WHITE PAPERS

LAND USE & URBAN DESIGN

CHRISTNER

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Great Streets Initiative - 14th Street

Urban Design White Paper
June 10, 2016

1 PROJECT DESCRIPTION

The Great Streets charrette for 14th Street corridor was undertaken over four days at the Carr Community Center, just west of the 14th Street study corridor. The charrette team was composed of East-West Gateway Great Street and City of St. Louis representatives and urban planning, transportation, economic and environmental infrastructure consultants. Christner represented the Urban Planning discipline. The information below is a summary of the existing conditions and analysis, charrette outcomes, recommendations and action agenda.

1.1 Project Study Area

The project is located along 14th Street, between Delmar and Mullanphy/North Florissant. The study area is ¾ of a mile long. Over the years, the corridor has been designated by the City of St. Louis and others to play a significant role in transit, greenway and other Near North planning initiatives. Currently, transformative projects like the NGA, Northside Regeneration, North Riverfront and Arch Grounds are active and 14th Street is positioned in the middle of the action. The planners understood that it was critical to look beyond the corridor to the St. Louis regional context and to understand the relationships of the corridor to Old North and Washington Avenue. It became clear during the charrette process that the 14th Street corridor is positioned to be a major north-south connector between downtown St. Louis, the Near North and beyond.

Considering Regional Connectivity

2 EXISTING CONDITIONS AND ANALYSIS

2.1 Urban Planning Context and Current Initiatives

The 14th Street corridor section was selected for study in the Great Streets format due to the fact that the corridor has been contained within the study areas of a multitude of City of St. Louis and agency planning initiatives. By way of context, the study area is contained within the Northside Regeneration planning and Tax Increment Financing (TIF) boundary, creating an incentive for redevelopment of the area and a potential funding source for the corridor.

Current planning initiatives that impact the study area

Near North Side STL
Choice Neighborhood Planning Initiative

The project is also contained within the Choice Neighborhoods planning boundary. An application to fund the redevelopment of Preservation Square, a subsidized housing development, was submitted to the United States Department of Housing and Urban Development in June 2016. If awarded, this grant will provide $90 million dollars in funding for housing, neighborhood and investments in people. From an urban planning perspective, the new design for Preservation Square has the potential to transform the north end of the corridor with its new mixed-use buildings along 14th street to accommodate a live-work concept. In addition, internal streets of the campus will be extended to 14th Street and provide vehicular and pedestrian connectivity that is lacking today.

At the same time, Great River's Greenway District (GRG) identified the corridor for a multi-use cycletrack and pedestrian path development similar to Indianapolis' Cultural Trail. It is planned to connect downtown to the future North Riverfront development, Riverfront Trail, Trestle Park and the Iron Horse Trestle improvements. Property acquisition for additional right-of-way is currently underway along the west side of the corridor.

In addition, transit studies undertaken by the City in the last five years identify the 14th Street corridor for streetcar (St. Louis Street Car Feasibility Study), light rail (North-Southside Alignment Study and transit oriented development (Biddle Station Plan).

Planning has also considered the impacts of the proposed homeless shelter in the former Biddle Market building at Tucker and Biddle and the proposed grocery and gas station/convenience store at Tucker and North Florissant. The proximity of the corridor to the National Geospatial Agency's (NGA) new location; redevelopment of the Pruitt Igoe site to include a hospital, urgent care and community center; and North Riverfront Master Plan will impact and support the transformation of the corridor.

Other active planning initiatives that impact the corridor study area include the Project Connect, EcoDistrict, Promise Zone, Global Greening and Housing Investment Trust (HIT).

2.2 History and Historic Districts

The street names of the study area pay homage to the original land owners and influencers that settled the near north: John J O'Fallon, William C Carr, John Mullanphy, Ann Biddle, etc. Over the centuries, the Near North area was settled by waves of immigrant groups - Germans, Poles, Orthodox Jews, Italian and Irish. Kram's Fish Company on Biddle, just east of 14th Street is all that is left of a former Jewish community. After the Great Depression and World War II, an influx of African Americans came to St. Louis and many settled in areas of the Near North that had become slums. As a result of the concentration of low income in the area, public housing projects replaced the slums starting in 1942 with the Carr Square Village and later with the Pruitt Igoe

Apartments in 1960. Today, well-maintained public housing developments occupy the west side of the corridor including the original Carr Square Village and Preservation Square. Townhouses were recently built on Biddle but no market-rate housing has been built over the area's history.

The corridor is not contained within a historic district but is proximate to a couple historic buildings and sites including the Carr School, Mullanphy Emigrant Home and Shrine of St. Joseph. Both Carr School and the Emigrant Home are in very poor condition. The former public school, Carr School, was built in 1855 and is located just off 14th Street and faces Carr Street. It is on the list of 10 most endangered buildings in St. Louis.

2.3 Zoning and Land Use

The City of St. Louis' Zoning Map and current land use inventory for the surrounding study area is in direct contrast with the aspirational land use of the Strategic Land Use Map. Today, the corridor is fronted by an eclectic mix of industrial, multifamily, commercial, parking lots, churches, vacant buildings and park uses.

The west side of 14th Street is dominated by vacant lots but is anchored by two people-centered uses - Preservation Square housing development on the north and Loretta Hall park on the south. Just behind the vacant properties is dense public and multifamily housing. This neighborhood is also supported by a health clinic, community center and a park. In contrast, the east side of the corridor is dominated by industrial uses including Hogan Trucking and S&H Parking Systems, an impound lot and junk yard. Analysis of the current Zoning Map reveals that there is a narrow band

of industrial zoning between 14th Street and Tucker that separates the multifamily neighborhoods on the east (Carr Square and Preservation Square) from neighborhoods on the west (Columbus Square.) In a similar way, the industrial zoning between Cole Street and Delmar Boulevard separates the neighborhoods from downtown.

The strategic land use map defines a different future for the corridor. Neighborhood commercial land use take the place of a majority of the industrial uses on the east side of the corridor from Mullanphy south to Biddle. Land occupied by the current landowner, Hogan Trucking, on both sides of 14th Street is maintained as industrial on the map. This industrial use, which includes truck parking lots and other in active uses continues to separate the neighborhoods of the 14th Street corridor from downtown and surrounds Loretta Hall Park on three sides. Incompatible land uses are a barrier to creating a people and neighborhood-focused corridor.

2.4 Experiential Conditions

Spatial Character

The corridor of 14th Street is not contained within the typical straight north-south right-of-way. There are two bends in the street: 1) between Lucas and Delmar and 2) between Biddle and O'Fallon. This condition, along with a broken building edge, appears to create a compression and release of the corridor scale. Mostly, this 6-lane street and its vehicular traffic visually and physically dominates the right-of-way. The building edges that are intact are dwarfed by comparison. The pedestrian experience along the corridor is loosely defined except where the 10' tall screen wall around the impound lot creates a feeling of a tight squeeze in the pedestrian realm.

- Wide road dominates the generous right-of-way
- Pedestrian scale varies - streetscape tightly or loosely defined
- Tight squeeze for pedestrians on the north and south ends
- Urban character void
- Future development parcel widths vary
- Park trees reinforce pedestrian scale and create an edge
- Bend areas are wide open

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View Analysis

There are vacant or underutilized parcels at each of the bends in the street. This creates unique view corridors that have the potential to block the long view of the corridor ahead and/or frame views of architecture and features along the corridor. Principals of Crime Prevention Through Environmental Design (CPTED) should be integrated into the design of the corridor during redevelopment. Planning for improvements should frame views of active uses to encourage patrons from the north and the south ends of the corridor to seek amenities, good and services in the community. There are opportunities to place new architecture along the corridor in key view sheds to maximize the ability of the architecture to draw people up and down the corridor. The View Analysis Map also illustrates the view sheds to downtown, the Arch and the Stan Musial Bridge from the high point of the site.

Community Anchors

Despite the predominance of inactive land uses such as vacant land, vacant buildings, parking lots and blank screen walls, there are community anchors that can be leveraged to build a critical mass of neighborhood-oriented uses and regional connectivity. Community anchors on the north end of the corridor also have the potential to draw residents north as they seek good and services beyond downtown. Community anchors include:

- On the north end of the corridor, the historic **Old North Business District** is only a few short blocks away from the north end of the corridor.
- The **Preservation Square** development with its community center and pool fronts 14th Street and is an existing anchor for the neighborhood. The future redevelopment plans incorporate mixed use/live-work buildings along the 14th Street frontage to be a strong anchor at the north end of the corridor.
- At O'Fallon Street, a neighborhood health clinic, **Affinia Health**, is located a few blocks west of the corridor. This facility is a health, education and employment anchor for the immediate neighborhood and the St. Louis community.
- Near the south end of the corridor is **Carr Square and Loretta Hall Park**. The housing development is well maintained and fronts on the park. The park is underutilized but an outdoor concrete skating ring is currently under construction in the park.
- Beyond the neighborhood areas to the south, the **Food Roof Farm** is located at the top of the U-Haul Building at 14th Street and Delmar/Convention Plaza. It is operated by Urban Harvest STL and provides fresh food to the St. Louis community, connects urban dwellers

to an organic-based food system and is an outdoor community hub for gathering, education and events.

- The corridor study area stops short of the **Washington Avenue Business District**. However, it is the center of commerce and business along 14th Street and a significant community anchor. Physical barriers within the sidewalk area and a progression of inactive parking lots lining the corridor discourages pedestrian connectivity. Washington Avenue is a logical community anchor but may not currently serve the needs of the residents along the 14th Street study area.

2.5 Physical Conditions

Disconnected Street Grid

The existing corridor is a four-lane street with parking on both sides and within an 80' right-of-way. An analysis of the street pattern reveals that industrial uses on the east side of 14th Street interrupt the street grid on O'Fallon and Carr. Biddle is blocked at Tucker and Martin Luther King and Delmar are blocked at the Convention Center. The disconnected street grid creates "super blocks" that cannot be traversed by car or pedestrian. Pedestrian connectivity to services, bus routes and neighbors are lost. The benefits of traffic dispersion cannot be realized with this development pattern. In addition, North Florissant Avenue, a curving suburban-style arterial, is superimposed over the street grid at the north end. Large awkward vehicular intersections were created as the curving road comes in contact with the remnants of the city street grid. These awkward intersections and the scale of the road contribute to the lack of pedestrian accommodation along the corridor.

Cass and Cole are two east-west streets that cross 14th Street and can play a role in creating regional connectivity. Cass Avenue is at the landing point of the Stan Musial Bridge at Tucker. It will be one of the vehicular access/exit routes to and from the NGA for those from Illinois and St. Charles County. Likewise, Cole Street crosses 14th Street just below Loretta Hall Park, crosses Tucker at a signalized intersection and empties into an oversized right of way east of Tucker. Cole Street continues all the way to the Arch Grounds, Laclede's Landing, Lumiere Place Casino and the future North Riverfront development. Signalized intersection at Cole/Carr Streets or at Biddle provide places to cross under Interstate 70 safely. Combined with the GRG multi-use path on 14th Street, The Cole corridor has the potential to be leveraged for bike/pedestrian connectivity and tourism to important St. Louis destinations.

Wayfinding

The disconnected street grid also contributes to wayfinding challenges along and through the corridor study area. But the most challenging aspect of wayfinding to existing corridor anchors (downtown and Old North) is the presence of two 14th Streets within the study area. The corridor that is the subject of this study is N. 14th Street. At the north end of the corridor, it aligns with Blair Avenue in Old North. This 14th Street is present in downtown, crosses Interstate 64 and continues into south city where it terminates. Just to the east of the study corridor is E. 14th Street. This is the street that used to extend into Old North and is where the historic Old North Business District is located. Today, E. 14th Street is buried in the middle of the industrial uses and it not an important street. The question is…should downtown's 14th Street be united with Old North's 14th Street to provide a logical connection and encourage visitor's to the Old North business district?

Access and Accessibility

The pavement of the street is in serviceable condition. Curb conditions vary but are intact for a majority of the straight sections of the corridor. Curb conditions are poor at many intersections that are being crushed by trucks. With respect to accessibility, there are large sections of sidewalk on the east and west sides of the corridor that are missing and have "cow paths" through the grass or gravel in their place. Most sidewalks and intersections do not meet current standards for barrier-free accessibility according to the American's with Disability Act and the Public Rights of Way Accessibility Guidelines (PROWAG). At most intersections, curb ramps are old, damaged or missing. The intersection at 14th Street and Delmar has been updated to current standards. All told, the current conditions of the corridor are a barrier to accessibility.

3 PLANNING CHARRETTE AND OUTREACH PROCESS

3.1 Goals for Stakeholder and Community Engagement

Due to the multitude of planning initiatives that have addressed the 14th Street corridor, the residents within and around the Preservation Square development have been invited to many engagement forums particularly focused on the Choice Neighborhoods effort. Engagement fatigue in the community was a likely outcome for our process. In fact, the planned public meetings on Monday, Tuesday and Thursday evenings were not attended by any community members. Our planning approach would have also benefited from the community's perspective and the perspective of Ward 5 Alderman Tammika Hubbard. Our presentations were given to SLDC representatives.

However, stakeholder engagement with city agencies and land owners resulted in rich discussions about the greenway, transit and development opportunities of the corridor. Because each previous planning study that referenced 14th Street had been prepared for specific goals related to greenway, transit, etc., it was the planning team's role to overlay the plans to understand how they would work together on the corridor. Vetting these initiatives as a team became the primary goal of the charrette.

3.2 Engagement Findings

During the stakeholder meetings, the team inquired about the status, motivation, challenges and opportunities of planning initiatives, business perspective and utility coordination. Below is a summary of key findings:

- Choice Neighborhood planning at Preservation Square includes mixed-use development and new streets. If implemented, has the potential to transform the north end of the corridor. The plan will displace approximately 100 units. Infill housing and senior housing is also part of the mix.
- The historic Carr School site is one of two sites being considered for a new combined YMCA/community center facility to replace the downtown facility. The Carr School structure is being considered for restoration and integration into the new facility.
- Industrial land uses (Hogan and S&H Parking) are firm uses for the short term but long term investment in the corridor such as the greenway, transit and mixed-used development is likely to create motivation for redevelopment.
- Conversion of the Biddle Market building into a homeless shelter is underway. Unfortunately, this is not the highest and best use for this attractive brick structure on Tucker. This would be a good place for a small grocery. It is understood that residents of the area do not like this location for the homeless shelter.
- Greenway and transit initiatives planned for 14th Street will be impacted by the NGA planning. Cass is an important cross street. New land uses such as mixed-use and multi-family at Cass and 14th Street can leverage the NGA vehicular traffic and desired pedestrian connectivity.
- Great Rivers Greenway District is planning a major shared-use path on the east side of 14th Street along the existing industrial land uses to create a six-mile loop with Trestle Park and the Riverfront Trail. Property acquisition on the west side of the corridor has begun between Lucas and Biddle. Implementation of this shared-use path in the near future will be transformative for the corridor.
- Metro has studied light rail (LRT) and bus rapid transit (BRT) for the corridor in the Northside-Southside Study. Another independent study looked at streetcar. A station was designated at Biddle and 14th Street in both studies. The City is committed to implementation of a transit strategy through the near north and up into North County. The impacts of the NGA on the location of this facility is being studied now before the 14th Street corridor is designated. BRT could be an be an initial approach before light rail or streetcar. Local bus service is still critical along the corridor.
- Traffic volumes on North Florissant have been significantly reduced with recent transportation improvements on other streets. This street is a candidate for a road diet that still accommodates transit and greenway.
- Access to transit and safety is critical for patients and visitors of the Affinia Heath Clinic and for the residents surrounding the corridor.
- Senior housing will be built west of Carr Square. Single family homes (rent to own, etc.) are desired for the area.
- Hogan trucking has been located along the corridor for 30 years. They operate a 24/7 commercial leasing and repair center on site. This location is being impacted by increased congestion on the roads and subpar access to the highways. Their corporate employees have been moved their Bridgeton facility. Changes on the corridor may influence their long term plans for this facility.
- Loretta Hall Park is not well used by children. Adults occupy the park in the evenings with undesirable outcomes. A concrete roller staking rink is currently under construction in the park. The majority of the property is owned by Carr Square Tenant Association.

4 VISION

4.1 14th Street as a Community Space

Over the course of the 4-day charrette, the notion of 14th Street as a community space came into view. Of the transportation, greenway and development initiatives planned for the corridor, all are highly people-focused. Despite the industrial uses on the east side of the corridor, a community exists on the west side. It is supported by well-maintained brick multi-family structures, mature trees, a neighborhood park, community center and two bus routes. With the potential of the greenway to transform the industrial east side into a people space; the potential for a transit station at Biddle and a new YMCA/community center, one can envision how the corridor can provide the live, work and play requirements of current and future residents.

4.2 Community Destinations and Walkability

In order to build on the notion of 14th as a community space, destination for people must be created. There are two opportunities for the neighborhood when it comes to leveraging the power of a destination: 1) attracting people to the community with greenway, transit station and YMCA/ community center projects and 2) connecting the current residents to community and cultural destinations in the greater city. There is a potential for a real critical mass of people-oriented services and amenities at Biddle. However, there are multiple blocks of inactive street frontages such as parking lots, vacant buildings and Loretta Hall Park between Biddle and Washington. Activating this corridor and encouraging people to go beyond Washington Avenue is a goal. The new YMCA and community Center will be relying on this. We think incremental activities and features can help bridge the inactivity gap.

Walkability of the area is an important component of a community/pedestrian-centered district. A study of the walking distances from the corridor to community and tourism destinations in St. Louis reveals that the corridor is well positioned. For example, the Riverfront Trail is about a ¼ mile or 18-minute walk from 14th Street. However, the corridor is not well positioned for access to good and services particularly grocery, pharmacy, etc. currently.

Old North Neighborhood
3,200' / 12.1 min. walk
Mullanphy St
Future NGA Site
3,500' / 13.26 min. walk
Cass Ave
Crown Mart & Gas Station
480' / 1.8 min. walk
Trestle Park / Riverfront Trail
985' / 3.7 min. walk
N Tucker Blvd / Stan Musial Veterans Memorial Bridge / I-70 Eastbound Exit
1,300' / 4.9 min. walk
Former Pruitt Igoe Site
3,000' / 11.4 min. walk
Fiance Early Learning Center
2,150' / 8.1 min. walk
O'Fallon St
Heath Center
1,400' / 5.3 min. walk
Community Center
1,000' / 3.8 min. walk
Biddle St
Proposed Homeless Shelter
590' / 2.2 min. walk
Shrine of St. Joseph
1,280' / 4.9 min. walk
Patrick Henry Elementary School
1,600' / 6.1 min. walk
Senior Living at Cambridge Heights
2,200' / 8.3 min. walk
Gateway Middle School
5,000' / 18.9 min. walk
Carr St
Dome at the America Center
3,075' / 11.7 min. walk
Laclede's Landing
4,000' / 15.2 min. walk
Riverfront Trail
4,700' / 17.8 min. walk
Cole
N 14th Street
Dr Martin Luther King Dr
study area
Delmar Blvd
City Museum
600' / 2.3 min. walk
Lucas Ave
Grand Center
9,500' / 36 min. walk
Washington Ave
600' / 2.3 min. walk
America Center
2,400' / 9 min. walk
Gateway Mall
2,000' / 7.6 min. walk
Peabody Operahouse
2,300' / 8.7 min. walk
Scottrade Center
3,000' / 11.4 min. walk

5 ALTERNATIVES CONSIDERED

The location of the greenway and the requirements of light rail were major drivers in the exploration of alternatives for the corridor. With respect to urban design, the planning team asked these key questions:

1) How can the corridor be designed to maintain flexibility for the greenway, transit (bus, light rail, BRT) and pedestrian accommodation?
2) Should the greenway be located on the west (neighborhood side) or east side (industrial side) of the corridor?
3) Where should a transit station be located?
4) How should the street grid be extended and how is N. Florissant integrated?
5) How can the corridor contribute to connectivity to current and future destinations for the region?

5.1 Street Section Study

In order to begin the answer these questions, the team studied multiple street sections. The existing corridor has an 80' right-of way-with 4 traffic lanes, two parking lanes and sidewalks of various conditions.

Property acquisition that is being undertaken by GRG currently. They are seeking an additional 24' of right of way on the west side of the street between Lucas and Biddle in this first phase. Right- of-way acquisition north of Biddle does not have a time-frame. There is potential to put a mechanism in place to require the right-of-way to be dedicated when the properties are redeveloped. GRG is planning for the greenway facility to be located on the east side of the street. They are planning for a final right of way of 104'. The team used this larger right-of-way to test fit the shared-use path greenway model, light rail/streetcar/BRT, two vehicular lanes and sidewalk in various configurations.

Five street sections where developed to illustrate the opportunities of the corridor. These include:

Greenway and BRT – 24' greenway section, two drive lanes, center turn lane, two dedicated BRT and bus lanes and on-street parking on both sides. Transit shelters share the on-street parking lane.

Greenway and Center-Running Light Rail and Station – 24' greenway section, 28' center running track and station space, one drive lane on either side of tracks, on-street parking and a standard sidewalk on the west side. The right of way at the station will need to increase from 104' to 135'. Additional City-owned property at Biddle is available to accommodate the station.

d

14th Street (Existing) 80' ROW
14th Street (LRT Center Running) 135' ROW
135'

STATION
FALLON
BIDDLE
14th Street LRT Station (Center Running Track)
Saint Louis
Great Streets INITIATIVE
LEARN · SHARE · PLAN · BUILD

Greenway and Side-Running Light Rail Station – 24' greenway section with adjacent side-running tracks and station in 42'. The remaining 135' right of way contains two drive lanes and on-street parking on the west side only. The disadvantage of this section is that is removes all the on-street parking from the east side of the corridor and combined with the greenway creates a wide barrier between the street activity and the east side of the corridor.

Temporary Greenway in existing 80' right of way – with the removal of one drive lane, the greenway can be established in a temporary fashion within the existing pavement. Striping, signage and planters can define the cycle track. The adjacent sidewalk area can be updated for use as the pedestrian path. This section maintains two drive lanes, on-street parking on both sides and a center turn lane.

6 RECOMMENDATIONS

Overlay of all the planning initiatives revealed many opportunities, options and phasing strategies. However, some key recommendations surfaced that provide multiple benefits or are options that need to be protected for the future. Below these recommendations and a brief description of their benefit:

1) Locate the greenway on the east side of the corridor to reduce street crossings and leverage the greenway's ability to transform the industrial edge into a people space.
2) Plan for transit in the corridor. Locate the transit station at 14th and Biddle. Additional city property is available for the station area at the bend in the street. The center-running platform configuration has less conflict with the greenway shared-use path on the east side of the corridor.
3) Plan for transit-oriented development on the east and west sides of 14th and Biddle. Configure the buildings to provide room for hardscape plazas that can integrate bikes and pedestrians on the greenway, outdoor dining and transit users.
4) Locate the YMCA/Community Center on the Carr School Site instead of the Elkay Building site to preserve room for Biddle Station. Design the building to have entrances near the 14th Street frontage a direct access to the station. Take advantage of the view sheds created by the bend in the street with architecture that can act as a beacon to this important community destination. Integrate the surface parking lot into landscaped pedestrian amenity spaces that also manage storm water.
5) Support the existing neighborhood by extending the east-west street grid through the industrial barrier and across Tucker to reconnect neighborhoods and set up small blocks for residential infill.
6) Reconfigure North Florissant to flow into 14th Street in anticipation of light rail, BRT or streetcar to the Near North and North County.

7) Narrow North Florissant east of 14th Street to two lanes and locate the full greenway/shared use path section on the south side in the former public right-of-way for a connection to Trestle Park.
8) Plan for a mixed-use/multifamily gateway at the north end at Cass and North Florissant.
9) Integrate storm water facilities (bioretention) in Loretta Hall Park.
10) Widen the sidewalk areas at Washington and 14th Street, remove parked cars and other barriers to pedestrian accessibility.
11) Establish visual cues and active uses on the south end of the corridor to draw people north. A City museum Gateway at Lucas, Food Roof greenwall, Riverfront greenway spur at Carr, YMCA/Community Center, new Biddle Station are examples.
12) Bring all the sidewalks and street intersections up to PROWAG standards.

7 IMPLEMENTATION AND PHASING RECOMMENDATIONS

7.1 Action Agenda

The following is the recommended actions in order of short, mid and long term action. These tasks are roughly in order of phase. Development of this corridor will take detailed coordination. Establishment of a 14th Street Steering Committee is a recommended short-term task. It is envisioned that this committee be made up of City, Metro and stakeholder representatives responsible for the coordinated development of the corridor to meet greenway, transit and development goals.

Short-Term Actions

Task	Responsibility
Present 14th Street Great Street presentation to stakeholder group, city departments and agencies	SLDC/EWG
Survey the entire corridor including utilities and spot grades to inform future planning	STL Streets
Pot-hole to determine actual utility locations	STL Streets
Establish a Transit Taskforce to study and to determine the location and type of transit for the Northside-Southside Alignment that will be implemented in the City	SLDC/Metro
Establish a 14th Street Steering Committee of city staff and stakeholders to review proposed changes along the corridor in order to protect the opportunities of the long-term vision	SLDC/STL Streets
Prepare design and development guidelines or ordinance for the corridor and establish the GRG right-of-way, Biddle station right-of-way and utility corridors	SLDC/14th Street Steering Committee
Meet with utilities to make them aware of the project potential and to coordinate with their utility replacement programs	14th Street Steering Committee
Coordinate with the Choice Neighborhoods implementation	14th Street Steering Committee
Coordinate the development of a new YMCA/Community Center.	14th Street Steering Committee
Widen the sidewalk areas at 14th and Washington and clear pedestrian paths between Washington Avenue and Delmar	BPS
Implement a temporary version of the greenway within existing right-of-way by removing one lane to establish the route and build ridership.	14th Street Steering Committee/GRG

Mid-Term Actions

Task	Responsibility
Apply for Federal funds to implement the North Florissant road diet and 14th Street intersection reconfiguration	BPS
Implement a greenway on North Florissant to Old North Business District as a key greenway destination	GRG
Implement the Cole Street connection from the temporary 14th Street greenway to the Riverfront Trail and Arch grounds	14th Street Steering Committee/GRG
Package development opportunities at the intersection of 14th and Carr to leverage NGA exposure	SLDC

Mullanphy/North Florissant
Intersection
MULLANPHY St.

TO OLD NORTH
MULLANPHY
TO TRESTLE
TO HGA
TO NORTH RIVERFRONT

Long-Term Actions

Task	Responsibility
Extend the street grid from Preservation Square to Tucker and Carr to Mullanphy to create mix-use and multi-family development opportunities	14th Street Steering Committee/ private developers
Establish enhanced transit, Biddle Station, road, utility and streetscape improvements	14th Street Steering Committee/Metro
Implement incentives for TOD at Biddle Station	SLDC/14th Street Steering Committee
Implement full shared-use path greenway	14th Street Steering Committee/GRG
Implement greenway linkages to Trestle Park and NGA	GRG

7.2 Order of Magnitude Costs

At this stage in the project, the location and type of enhanced transit has not been selected. This decision is the biggest driver in the design of the corridor and level of potential that the area can achieve. Beyond the transit costs and road reconstruction, construction budgets from other projects can be referenced to provide a range of costs for greenway and streetscape costs. Below are a few representative projects and how the application of their cost per mile would equate for the ¾ mile project area.

Cost Case Studies	estimated project cost	approx. corridor cost
Indianapolis Cultural Trail *Shared use trail, cycletrack, with elaborate landscaping, decorative paving, lighting and signage.*	$8,000,000 per mile	$6,000,000
GRG Standard Greenway *Off street bike/ped trail with standard landscaping, lighting, signage, etc.*	$1,000,000 per mile	$750,000
Fifth Street – St. Charles *Street reconstruction/widening, gateway features, decorative pavements, bike/ped facilities, lighting, signals, removal of overhead lines and landscaping*	$6,500,000 per mile	$4,800,000
Washington Avenue – 7th to Memorial *Decorative pavements, lighting, street trees, planters and sculptural features*	$6,250,000 per mile	$4,600,000

7.3 Potential Funding Sources

As identified in the beginning of the report, the 14th Street project area is within the boundary of key planning initiatives that have funding potential. These funding options and others include:

- Choice Neighborhoods – $90 million grant submitted to HUD to fund housing, neighborhood and people investments
- Northside Regeneration TIF – reimbursement of eligible infrastructure costs
- Transportation Alternatives Program (TAP) – Federal funding of multi-modal transit and pedestrian facilities
- Transportation Improvement Program (TIP) – Federal funding road and infrastructure projects
- Tiger Grant – Federal funding of capital investments in surface transportation infrastructure
- Great Rivers Greenway – funding of greenway projects through sales taxes established with Proposition C (2000) and Proposition P (2013)
- Community Development Block Grants –funding of local community development activities such as affordable housing, anti-poverty programs, and infrastructure development
- Project Clear - funding for planning, design and construction of green infrastructure for storm, system improvements, and program of maintenance and repair
- Ward Funds – one half cent sales tax to fund capital improvements. Funding is distributed among all the wards
- Private investment – construction of coordinated street and sidewalk improvement associated with incremental development projects

TRANSPORTATION

14th Street Transportation Planning White Paper; Draft June 19, 2016

CBB conducted an evaluation of the existing conditions along the corridor. These items are discussed in the following sections and include:

- Traffic volumes and speeds
- Transit routes and schedules
- Crash history
- Functional classification
- Physical characteristics such as lane configuration, lane width, and access management (driveways and curb cuts)
- Traffic control such as traffic signals and stop signs
- Pedestrian facilities including sidewalks, crosswalks, and Americans with Disabilities Act (ADA) accommodations
- Trails and greenways, and existing bicycle facilities.

Traffic Counts

Multi-day midblock traffic volume and speed data was collected at two locations along 14th Street (between Delmar Boulevard and Biddle Street and between Biddle Street and Mullanphy Street). A similar traffic count was also collected along Tucker Boulevard near Biddle Street. The counts were collected on both of these routes to provide information about traffic flow patterns on 14th Street and also between the New Mississippi River Bridge and Downtown St. Louis.

Multi-day Traffic and Speed Data

CBB conducted traffic machine counts on 14th Street and on Tucker Boulevard from Thursday, March 24th to Thursday, March 31st, 2016. The midblock machine counts measure traffic volumes and speeds along the corridor. Summary data is provided in the table and figures below as well as in the attached exhibits. The data shows the average daily volumes between 6,500 vehicles per day (vpd) and 7,500 vpd on 14th Street and 15,000 vpd on Tucker Boulevard. Traffic speeds are lower on Tucker Boulevard as compared to 14th Street because of the narrower pavement widths and higher traffic volumes on Tucker Boulevard. Both 14th Street and Tucker Boulevard are posted at 35 miles per hour (mph). Average speeds are close to 35 mph on 14th Street and 30 mph on Tucker Boulevard. 85% speeds are roughly 40 mph for both roadways. Peak commuter traffic volumes are heavily directional for both 14th Street and Tucker Boulevard with heavier southbound traffic occurring during the morning commuter period and heavier northbound traffic volumes occurring during the evening commuter period.

	14th – Delmar to Biddle	14th – Biddle to Mullanphy	Tucker near Biddle
Weekday ADT (vpd)	7,500	6,500	15,000
Posted Speed (mph)	35	35	35
Average Speed (mph)	35	35	30
85% Speed (mph)	40	40	40

The following Average Daily Traffic (ADT) ranges are typical volumes for various facility types and show that 14th Street could function as either a two or three lane roadway. Tucker Boulevard fits in the range for either a three or four lane roadway.

- 2 – Lane Road: Under 15,000 vpd
- 3 – Lane Road: 10,000 to 20,000 vpd
- 4 – Lane Road: 15,000 to 30,000 vpd
- 5 – Lane Road: 20,000 to 45,000 vpd

14th Street Traffic Counts Between Delmar & Biddle
(March 24, 2016 to March 31, 2016)
Total Traffic Volumes
Northbound
Southbound
Hourly Traffic Volume (vph)
1200
1000
800
600
400
200
0
09:15 AM
02:00 PM
06:45 PM
11:30 PM
04:15 AM
09:00 AM
01:45 PM
06:30 PM
11:15 PM
04:00 AM
08:45 AM
01:30 PM
06:15 PM
11:00 PM
03:45 AM
08:30 AM
01:15 PM
06:00 PM
10:45 PM
03:30 AM
08:15 AM
01:00 PM
05:45 PM
10:30 PM
03:15 AM
08:00 AM
12:45 PM
05:30 PM
10:15 PM
03:00 AM
07:45 AM
12:30 PM
05:15 PM
10:00 PM
02:45 AM
07:30 AM
Thurs
Fri
Sat
Sun
Mon
Tue
Wed
Thurs

14th Street Traffic Counts Between Biddle &
Mullanphy (March 24, 2016 to March 31, 2016)
Total Traffic Volumes
Northbound
Southbound
Hourly Traffic Volume (vph)
800
700
600
500
400
300
200
100
0
10:00 AM
02:45 PM
07:30 PM
12:15 AM
05:00 AM
09:45 AM
02:30 PM
07:15 PM
12:00 AM
04:45 AM
09:30 AM
02:15 PM
07:00 PM
11:45 PM
04:30 AM
09:15 AM
02:00 PM
06:45 PM
11:30 PM
04:15 AM
09:00 AM
01:45 PM
06:30 PM
11:15 PM
04:00 AM
08:45 AM
01:30 PM
06:15 PM
11:00 PM
03:45 AM
08:30 AM
01:15 PM
06:00 PM
10:45 PM
03:30 AM
08:15 AM
Thurs
Fri
Sat
Sun
Mon
Tue
Wed
Thurs

Tucker Blvd Traffic Counts near Biddle
(March 24, 2016 to March 31, 2016)
Total Traffic Volumes
Northbound
Southbound
Hourly Traffic Volume (vph)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10:45 AM
03:30 PM
08:15 PM
01:00 AM
05:45 AM
10:30 AM
03:15 PM
08:00 PM
12:45 AM
05:30 AM
10:15 AM
03:00 PM
07:45 PM
12:30 AM
05:15 AM
10:00 AM
02:45 PM
07:30 PM
12:15 AM
05:00 AM
09:45 AM
02:30 PM
07:15 PM
12:00 AM
04:45 AM
09:30 AM
02:15 PM
07:00 PM
11:45 PM
04:30 AM
09:15 AM
02:00 PM
06:45 PM
11:30 PM
04:15 AM
09:00 PM
Thurs
Fri
Sat
Sun
Mon
Tue
Wed
Thurs

Traffic Speeds - Northbound 14th Street
(Delmar to Biddle)
% of Drivers at each Travel Speed
16%
14%
12%
10%
8%
6%
4%
2%
0%
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
Traffic Speed (mph)

Traffic Speeds - Southbound 14th Street
(Delmar to Biddle)
% of Drivers at each Travel Speed
14%
12%
10%
8%
6%
4%
2%
0%
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
Traffic Speed (mph)

Traffic Speeds - Northbound 14th Street
(Biddle to Mullanphy)
% of Drivers at each Travel Speed
3%
2%
2%
1%
1%
0%
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
Traffic Speed (mph)

Traffic Speeds - Southbound 14th Street
(Biddle to Mullanphy)
% of Drivers at each Travel Speed
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
Traffic Speed (mph)

Traffic Speeds - Northbound Tucker Blvd (near Biddle)
% of Drivers at each Travel Speed
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%
12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
Traffic Speed (mph)

Traffic Speeds - Southbound Tucker Blvd (near Biddle)
% of Drivers at each Travel Speed
14%
12%
10%
8%
6%
4%
2%
0%
12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
Traffic Speed (mph)

Transit – Existing

Currently, 14th Street is serviced by three Metrobus Routes: 32 ML King – Chouteau, 74 Florissant, and the 99 Downtown Trolley. The general context of these routes as they relate to the study area is shown in the figure below. Descriptions of each route are provided in the following section. In addition to the current routes servicing this area, the corridor has been studied as a potential route for future Metrolink expansion (Northside-Southside), Bus Rapid Transit (BRT), or a new St. Louis Streetcar. Bus stops are located at short (less than quarter mile) intervals in the study area. These stops and all have benches and/or trash cans and provide for transfers between overlapping routes.

Metrobus 32 – ML King – Chouteau

Metrobus 32 starts at the Rock Road Metrolink Station and runs east on Dr. Martin Luther King Drive, turns south on 14th Street, further south on 18th Street, stopping at the Union Station Metrolink Station, West on Chouteau Avenue and turning around for route culmination at Brentwood, with a stop at the Maplewood Metrolink Station. This Metrobus route services the corridor between Cass Avenue and Carr Street. Metrobus 32 serves local travel demand on 14th Street, as well as Dr. Martin Luther King Drive, Chouteau Avenue and Manchester Avenue, providing a critical link for residents of St. Louis City with jobs, services and shopping in both North and South St. Louis City. The link from the Rock Road Metrolink Station to the Maplewood Metrolink station ensures riders connections from the core of St. Louis to inner ring suburbs. In 2015 MetroBus 32 carried approximately 800,000 passengers. The route starts at 4:00 am and runs throughout the day to 1:15 am with approximately 40 minute headways. For more information about the route visit:

http://www.metrostlouis.org/PlanYourTrip/RouteDescriptions.aspx#3032
http://www.metrostlouis.org/Libraries/Metrobus_Maps/Map32041816.pdf
http://www.metrostlouis.org/Libraries/Metrobus_Schedules/32041816.pdf

Metrobus 74 – Florissant

Metrobus 74 serves local travel demand along West Florissant Avenue through North Saint Louis County and North Saint Louis City in communities such as Florissant, Dellwood, Moline Acres, and Ferguson. This is the only Metrobus route that services the entire 14th Street Great Streets Corridor. Additionally, the route provides a fast, direct connection to downtown Saint Louis for riders from other MetroBus routes serving North County Transit Center. This line has been identified by Metro as a potential future BRT line. The line starts at the North County Transit Center and runs south down West Florissant Avenue, North Florissant Avenue, 14th Street, turns west on Olive Street to 18th Street, moves past the Union Station Metrolink Center, and loops back around. The route serves the St. Louis Gateway Transportation Center, including the Amtrak Train as well as many other regional destinations and various necessities including a Schnucks Supermarket. This is one of the most heavily travelled Metrobus lines, providing critical transportation to many in the St. Louis region. In 2015 MetroBus 32 carried more than 1,000,000 passengers. The route starts at approximately 4:15am and operates until 1:15am with approximately 30 – 35 minute headways. For more information about route visit the links below.

http://www.metrostlouis.org/PlanYourTrip/RouteDescriptions.aspx#3074
http://www.metrostlouis.org/Libraries/Metrobus_Maps/Map74041816.pdf
http://www.metrostlouis.org/Libraries/Metrobus_Schedules/74041816.pdf

Metrobus 99 – Downtown Trolley

Metrobus 99 provides convenient all-day service to destinations throughout Downtown St. Louis such as the City Museum, Washington Avenue, Broadway/4th Street, Union Station, Convention Center, Busch Stadium, and the Civic Center. The route starts near Compton Avenue and Spruce Street (employment centers and Harris Stowe University), runs north on 4th Street, turns west on Washington Avenue, loops north on 16th street to Delmar Boulevard, and loops back down toward Washington Avenue at 14th Street. The route serves many popular destinations in the downtown area and connects to major employment centers. The bus has a unique look that incorporates the 'Downtown Trolley' name – which may be more appealing to visitors to the area. In 2015 Route 99 carried approximately 150,000 passengers. The route starts at 5:00 am and runs until 6:30pm to the far west of the route (Compton Avenue and Spruce Street – to catch employment centers) and until 12:09 am on the remainder of the route with 30 minute headways. Route service is limited on Sundays (eliminates far west), with reduced service times. For more information about the route visit:

http://www.metrostlouis.org/PlanYourTrip/RouteDescriptions.aspx#3099
http://www.metrostlouis.org/Libraries/Metrobus_Schedules/99041816.pdf
http://www.metrostlouis.org/Libraries/Metrobus_Maps/Map99041816.pdf

Transit – Planned

Northside – Southside Metrolink

In 2000, the East West Gateway Council of Governments, and its partners: Metro and the Missouri Department of Transportation (MoDOT), completed Major Transportation Investment Analyses (MTIAs) that identified transportation problems and recommended solutions[1]. Two of the three corridors studied were Northside and Southside. The Northside and Southside MTIAs recommended the expansion of Metrolink in these corridors. The Northside alternative included 14th Street, Natural Bridge Avenue, and West Florissant Avenue into North St. Louis County. The Southside also included parts of 14th street, as it connects to the Civic Center transit station.

The 2007 "Northside - Southside Transit Improvements Study" was a continuation of the 2000 MTIA and examined several potential light rail extension alternatives within these corridors[2]. The locally preferred alternative (LPA) from this study included: "from I-70 north near the Goodfellow Avenue exit south to Natural Bridge; east to North Florissant, south on 14th Street into Downtown; east on Convention Plaza, south to 10th Street, west on Clark, south to 14th Street; and west on Chouteau Avenue, exit south onto Jefferson, to Broadway exit to I-55 right-of-way and terminating at Bayless/I-55". This study recommended a center running alignment on 14th Street with a stop at Biddle Street.

The 14th Street study corridor is an important part of a future Northside - Southside enhanced transit connection. The City of St. Louis is committed to further examining this route, and is working to begin additional planning efforts in 2016[3].

[1] http://www.ewgateway.org/trans/CorridorStudies/CorridorStudiesDoc/corridorstudiesdoc.htm#MTIAStudies

[2] http://www.ewgateway.org/ProgProj/NSSideStudy/nssidestudy.htm

[3] http://www.stltoday.com/news/local/columns/tony-messenger/messenger-with-a-tweet-mayor-slay-signals-plan-to-expand/article_739a084b-fdd8-534a-88b3-d3f12eb1ea90.html

Downtown Streetcar

"*Downtown Next 2020 Vision*" established goals for Downtown St. Louis from 2010 to 2020; one of those goals being to 'make downtown accessible and easy to get around.' Furthering this vision, in 2012, the Downtown Partnership completed the "St. Louis Streetcar Feasibility Study"[4] to determine the feasibility of implementing a modern streetcar linking downtown, the near Northside, Midtown, and the Central West End. This study stated it purpose as to: "improve Downtown's accessibility; create a catalyst for continued economic development; provide additional opportunities for alternative transportation; support the region and City's sustainability initiatives; and promote an environment that will retain and attract new jobs and residents to the City". The proposed alignment has an east/west route of running on Olive Street and switching to Lindell Boulevard, from Broadway to Euclid Avenue, and a North/South route on 14th Street from Clark Avenue to Mullanphy Street, running then on North Florissant Avenue to St. Louis Avenue. There is currently no funding to continue the planning process for this alignment. However, the planning study does reinforces the transit potential in the study corridor.

[4] http://www.downtownstl.org/about-downtown-stl-inc/streetcar/

Bus Rapid Transit

In 2013, Metro, East West Gateway, the City of St. Louis, St. Louis County, and MoDOT conducted the "St. Louis Rapid Transit Connector Study". The study's purpose was to identify corridors for Bus Rapid Transit (BRT) service[5] in Metro St. Louis.

The West Florissant-Natural Bridge corridor was selected as one of the study alignments. This proposed route is 15 miles long and generally follows the existing West Florissant MetroBus route (Metrobus 74). This route would connect North St. Louis County to Downtown St. Louis. This service would operate out of the new North County Transit Center, running to Downtown via West Florissant Avenue, Lucas and Hunt Road, and Natural Bridge Avenue. As currently proposed, its service frequencies would be comparable to MetroLink service. Stations with a high level of customer amenities would be spaced a minimum of one mile apart; and transit prioritization would be implemented to maximize operating speeds.

Although this alignment follows Tucker through this study area, 14th Street is an attractive alternative due to lower levels of congestion.

[5] http://www.movingtransitforward.org/stlrapidtransit/

Crash History

CBB obtained crash data from the St. Louis Police Department and also from the Missouri State Highway Patrol Website: https://www.mshp.dps.missouri.gov/TR15Map/index.jsp. A total of 69 crashes occurred in the corridor between 2011 and 2015; 31 involving injuries. No roadway fatalities occurred during this period. Injury crashes include collisions between motorists and one pedestrian. A summary is provided in the table below and additional information is available in the attached exhibits.

Traffic Crashes 14th Street between Mullanphy Street and Delmar Boulevard/Convention Plaza (inclusive) 2011-2015

		# Disabling Injuries	Minor Injuries	PDO Crashes	Total Crashes	Ped Crashes	Traffic Control
14th Street	Cass Ave.		1	3	4		Traffic Signal
14th Street	Between Cass and O'Fallon		2	1	3		Midblock
14th Street	O'Fallon St.		2		2		Side-Street Stop
14th Street	Carr St.		1	3	4		Side-Street Stop
14th Street	Cole St.	2	8	10	20	1	Side-Street Stop
14th Street	Dr. Martin Luther King Dr.		4	9	13		Traffic Signal
14th Street	Delmar Blvd./ Convention Plaza		11	12	23		Traffic Signal
TOTAL		**2**	**29**	**38**	**69**	**1**	

Specific areas of concern:

- The signalized intersection at 14th Street and Delmar Boulevard/Convention Plaza had a total of 23 crashes; 11 involving injuries. While this is a higher crash location in the study corridor, the intersection's crash rate is not untypical for St. Louis Metro area traffic signals. The traffic signal equipment at this intersection is outdated and this study recommends updating the traffic signal equipment at this location.
- The unsignalized intersection at 14th Street and Cole Street had 20 total crashes, 10 involving injuries (2 disabling injuries and 8 minor injuries) with one pedestrian injured. The intersection's crash rate is higher than typical for St. Louis Metro area arterial roadways. The intersection has poor sight distance due to small building set-backs, which could be contributing to the poor safety performance. The 2014 "Strategic Highway Safety Plan for the City of St. Louis, Missouri" listed this intersection as a priority (Stop-Controlled Intersection Less than 45 mph) for countermeasure treatments including:
    - STOP AHEAD pavement markings
    - Reflective sign post sleeves
    - LED-outlined STOP signs at select sites

Intersection of Cole Street and 14th Street (Looking North)

Regional Connectivity

As indicated on the map to the right, the 14th Street corridor is well connected to the City and greater St. Louis Metro area; including regional attractions and jobs; both planned and currently in place.

14th Street connects directly to Downtown St. Louis and will connect to the future National Geospatial Agency Headquarters[6] (opening in 2020) via Cass Avenue. Old North St. Louis, known for "Crown Candy[7]", is located just to the north of the study corridor.

14th Street has strong connections to the New I-70 Mississippi River Bridge and also to the regional freeway system through connections in downtown St. Louis. As previously discussed, 14th Street is also a strong candidate for a future enhanced transit route. South of the study corridor, 14th Street provides access to the Civic Center Transit Center (currently in renovation and expansion), which is one of Metro's busiest transit hubs[8]. The Civic Center Transit Center connects MetroLink and several MetroBus routes as well as Amtrak and Greyhound via the Gateway Multimodal Transportation Center.

14th Street is also the preferred route to connect downtown to the future rail–to–trail Great Rivers Greenway Iron Horse Trestle Park, which will be located northeast of the corridor[9]. The proposed trail connection on 14th Street is envisioned to be of similar quality to the Indianapolis Cultural Trail (http://indyculturaltrail.org/ and illustrated to the right). These connections important to consider when developing the plan for the future of 14th Street.

[6] http://nextngawest.com/site/
[7] http://crowncandykitchen.net/
[8] http://www.metrostlouis.org/NewsProjects/Projects/CivicCenterExpansion.aspx
[9] http://greatriversgreenway.org/mississippi-greenway-master-plan/

Roadway Inventory

Data was summarized for roadway width and functional classification, pedestrian facilities, trails and greenways and bicycle facilities.

Description of Study Roadways

The study roadways are described in the following section. The discussion is broken down by functional classification, which is useful for defining how a roadway fits into both the roadway network and community. The study area includes three Principal Arterials (North Florissant Avenue, Dr. Martin Luther King Drive, and Cole Street); 2 Minor arterials (14th Street south of Cole Street and Cass Avenue); as well as several Local Roads. It is important to note that 14th Street is classified as a Minor Arterial south of Cole Street and a local road north of Cole Street.

Principal Arterials: North Florissant Avenue, Dr. Martin Luther King Drive, and Cole Street are the three principal arterials located in the study corridor.

North Florissant Avenue serves as an important connection through the City of St. Louis (from Tucker Boulevard) and St. Louis County (north of I-270). North of the study area, North Florissant Avenue becomes West Florissant Avenue and connects the communities of Ferguson, Dellwood, and Jennings. North Florissant Avenue is wide where it connects to 14th Street (about 100'). East of this intersection, North Florissant Avenue is six lanes wide. West of the intersection with 14th Street, North Florissant Avenue has been reduced to four driving lanes with bike lanes.

Dr. Martin Luther King Drive serves as an important connection through the City of St. Louis and St. Louis County. In St. Louis County, Dr. Martin Luther King Drive continues across I-170, I-70, I-270, and MO 141 as St. Charles Rock Road. Dr. Martin Luther King Drive is approximately 50' where it crosses 14th Street. At this intersection there are two westbound through lanes, one eastbound through lane, eastbound and westbound left turn lanes, and a westbound right-turn lane. West of the intersection the road is configured with 4-lanes and one-street parking.

Dr. Martin Luther King Drive west of 14th Street

Cole Street provides a major connection to the St. Louis riverfront, as well as to the regional freeway system (westbound I-70 via 3rd Street, eastbound I-70 via Tucker and the New Mississippi River Bridge, and westbound I-64, southbound I-44/I-55 via Broadway). The section of Cole Street that intersects 14th Street is 35' with one thru lane in each direction. The intersection with 14th Street is unsignalized with a two-way side street stop. As discussed previously, this intersection has been identified for safety improvements.

Cole Street east of 14th Street

Minor Arterials: 14th Street (south of Cole Street) and Cass Avenue and are classified as minor arterials. Minor Arterials serve shorter trips and as compared to principal arterials and offer connections to the larger roads within the system. These help provide connections to and within the community.

14th Street (south of Cole Street) serves as a connection to downtown, with access to I-64 west of the interchange. 14th Street is 65' wide with two travel lanes in each direction and on street parking. Traffic volumes are on the order of 7,500 vpd. 14th Street in this section could be reconfigured as either with either two or three lanes. The wide road and low traffic volumes result in higher than desired speeds. While the posted speed limit is 35 mph the 85% speed is closer to 40 mph.

Cass Avenue serves as a connection to Dr. Martin Luther King Drive west of the Study area as well as to the future Next NGA West site. The section where Cass Avenue intersects 14th street is 50' with two thru lanes in each direction, a dedicated left turn lane in the westbound direction, and on-street parking. Cass Avenue is a direct connection to the New Mississippi River Bridge at Tucker Boulevard and to Broadway east of I-44.

- Local Roads: All other roads in the study area are classified as local roads, including 14th Street (north of Cole Street).

<u>14th Street (north of Cole Street)</u> is 65' wide, with two travel lanes in each direction, as well as on street parking. Traffic volumes are on the order of 6,500 vpd, and 14th Street in this section could be reconfigured as either with either two or three lanes.

There are several regional transportation plans that would reconfigure this section of roadway (e.g., 2007 "Northside-Southside Transit Improvements Study", 2012 "St. Louis Streetcar Feasibility Study", and proposed Great Rivers Greenway Iron Horse Trestle Park Trail). As such, careful coordination is needed for any improvements made to this section of roadway

The section of 14th Street north of Cole Street is similar in terms of geometry, traffic control, and traffic volumes as compared to the section south of Cole Street. As such, is it unclear why the section of 14th Street south of Cole Street is classified as a Minor Arterial, while the section of 14th Street north of Cole Street is classified as a Local Road.

As with the section of 14th Street north of Cole Street, the wide road and low traffic volumes result in higher than desired speeds. While the posted speed limit is 35 mph the 85% speed is closer to 40 mph.

Since the recent reconstruction of Tucker Boulevard and the completion of the New Mississippi River Bridge, Tucker Boulevard has become the primary vehicular access to downtown from I-70 and Illinois. Resultantly, there are lower traffic volumes on 14th Street, presenting an opportunity to enhance pedestrian, bicycle and transit facilities on 14th Street.

14th Street north of Cass Avenue looking south

14th Street south of North Florissant Avenue looking south

Pedestrian Facilities

14th Street is an important corridor for high-quality pedestrian facilities. Many of the area residents rely on public transit and need to have high quality pedestrian facilities to safety access stops. Additionally, 14th street is the preferred alignment for the planned Iron Horse Trestle Park Trail.

Mullanphy Street to Carr Street: Pedestrian facilities in this segment are not sufficient to safely move pedestrians throughout the corridor. There is a need to enhance the sidewalk and other facilities.

- The intersections of 14th Street with Mullanphy Street and Cass Avenue are signalized, but without pedestrian signals, crosswalks, or ADA compliant ramps. These traffic signals need to be updated and replaced.
- There are gaps in the sidewalks in the following locations:
  - The west side of 14th Street between Mullanphy Street and Cass Avenue
  - The west side of 14th Street between O'Fallon Street and Carr Street
  - The east side of 14th Street between O'Fallon Street and Biddle Street (although there is a gravel sidewalk for a portion of this segment)
- There are no crosswalks for crossing 14th Street in this segment

Missing sidewalk section, 14th Street between Mullanphy Street and Cass Avenue

Missing sidewalk section, 14th Street between O'Fallon Street and Carr Street

Carr Street to Washington Avenue: There are sidewalks on both sides of 14th Street between Carr Street to Washington Avenue. Additionally the intersections of 14th Street with both Washington Avenue and Dr. Martin Luther King Drive are signalized, and have been updated with pedestrian signals, ADA curb ramps, and painted crosswalks. However, there are pedestrian facility upgrade needs in this section of the corridor, specifically:

- The Delmar Boulevard intersection is signalized but has no crosswalks or pedestrian signals. The curb ramps are not ADA compliant.
- Other than at Washington Avenue and Dr. Martin Luther King Drive, there are no crosswalks for crossing 14th Street.
- While the sidewalks are continuous to Washington Avenue, the placement of a large electrical cabinet near Washington Avenue make it difficult for pedestrians to access 14th Street to the north of downtown.
- Tripping hazards are present in portions of the sidewalk.

Electrical Cabinet and Parked Cars blocking the Sidewalk on 14th Street north of Washington Avenue

Trails and Greenways

Currently, the Mississippi River Greenway is the closest greenway to the study area. However, the planned Iron Horse Trestle Park is a priority project for Great Rivers Greenway. A multi-use trail connecting downtown St. Louis to the Park will proceed on 14th street to Mullanphy Street and then north to align with the railroad tracks, cross I-70 at the Iron Horse Trestle, and then meet up with the Mississippi Riverfront Trail. Great Rivers Greenway is currently in the process of acquiring right-of-way on the west side of 14th Street between Lucas Avenue and Biddle Street for this project. The purchase of right-of-way between Biddle Street and Mullanphy Street is not currently funded. In addition to connection north to the Riverfront Trail, the plan is to connect south thru downtown, eventually meeting with the Civic Center Transit station at 14th Street and Clark Avenue.

Note: The green lines on this map show completed projects and the blue lines show planned projects

Bicycle Facilities

The Gateway Bike Plan for the study corridor is shown in the figure below. This plan identifies 14th Street as a shared route. Currently, the route is marked with shared lane markings as illustrated in the photograph to the right. As discussed above, Great Rivers Greenway is planning to construct a dual use path along 14th Street to connect to the Iron Horse Trestle Park. Just north of the study area, North Florissant Avenue is striped with bicycle lanes as illustrated in the figure below.

Moving Forward

The opportunity to reinvest in this community through enhanced transportation systems, many of which are in the planning or study phases, presents a significant opportunity for the City of St. Louis. The future relocation of the Next NGA West Headquarters, just west of the study area, and the Choice Neighborhoods plan, will catalyze future investment in the community. Recommendations for improvements start with enhancing the road for all users. With good regional connectivity by auto, bicycle, foot, and transit, it is important the corridor serve all users safely and efficiently. Improvement recommendations are intended to enhance safety, improve user experience, and promote a better connected corridor. The recommendations provided in this report include a phased approach; suggesting some projects for immediate implementation while giving larger efforts an opportunity to take place over time.

Maintain/Upgrade Existing Infrastructure

Existing Traffic Signal at Cass Avenue

Upgrade Signal Equipment: The traffic signal at Dr. Martin Luther King Drive is owned by the MoDOT. The traffic signals at North Florissant Avenue, Cass Avenue, Delmar Boulevard, and Washington Avenue are owned by the City of St. Louis. The traffic signals at Dr. Martin Luther King Drive and Washington Avenue have modern equipment. Some maintenance is required to make sure that the equipment at these intersections (e.g., traffic detection and pedestrian push buttons) is operating correctly. Moreover, high pedestrian volumes warrant consideration of the use of leading pedestrian intervals at Washington Avenue. The traffic signal equipment at North Florissant Avenue, Cass Avenue, and Delmar Boulevard is outdated and should be replaced. Upgrades should include the installation of pedestrian push-buttons, countdown pedestrian heads, high-visibly crosswalks, and ADA curb ramps. Traffic signal replacements can cost on the order of $250,000 per intersection.

Connect Signals to City Network: The City of St. Louis has a strong fiber optic network that connects many of the City's traffic signals for improved timing and travel efficiency. The fiber optic network ties into the City's Transportation Management Center, located at the Real Time Crime Center. The signals located on 14th Street in the study area are currently not tied into this system. It is recommended to run fiber optic cable along 14th Street and connect the signals along 14th Street to the City's network. Connecting these traffic signals to the City's Transportation Management Center will allow for connection to (and coordination with) the City's downtown system. The costs to install fiber optic cable can vary greatly depending upon utility conflicts and other factors. It is likely that running fiber optic cable along this section of 14th Street could cost between $150,000 and $200,000.

Enhance Pedestrian Facilities: This report's "Pedestrian Facilities" section discusses many gaps in pedestrian infrastructure. Many updates are needed. Most important is to fill gaps in the sidewalk system in order to create continuous paved sidewalks between North Florissant Avenue and Washington Avenue on both sides of 14th Street. Filling these gaps in the sidewalk system could cost on the order of $50,000 to $100,000. It is also important that existing sidewalks are maintained to eliminate tripping hazards. Finally, midblock crossings should be provided at a minimum of quarter-mile intervals along the study corridor. While upgraded traffic signals will provide adequate crossings north of Cass Avenue and south of Dr. Martin Luther King Drive, there is approximately a half-mile spacing between these intersections. This is too far a distance without a pedestrian crossing across 14th Street. Biddle Street would be an appropriate location for a mid-block pedestrian crossing in this section of the study corridor. Installation would include ADA compliant curb ramps, a high-visibility crosswalk, signage, and possible Rectangular Flashing Beacon (RRFB) or HAWK traffic signal. Installation of a mid-block pedestrian crossing could cost $50,000 to $150,000, depending on the treatments used.

Enhance the Sidewalk Connection on the east side of 14th Street north of Washington Avenue

The sidewalk on the east side of 14th Street just north of Washington Avenue poses challenges for pedestrians trying to access 14th street from downtown as well as residents accessing downtown from 14th Street. As discussed in the "Pedestrian Facilities" section, the placement of a large electrical cabinet and parked cars in the sidewalk block pedestrian paths north of Washington Avenue, making it difficult for pedestrians to use the sidewalk. Moreover, these obstructions obstruct sight lines, creating a visual (and psychological) barrier. The curb in the northeast quadrant could be extended into the street allowing for a wider sidewalk. The image to the right shows the vehicle turning path for a 50' wheel-base (WB-50) vehicle. The curb could be extended out to this wheel-path. Extending the curb in this location could cost on the order of $50,000 to $75,000.

Proposed curb extension at 14th Street and Washington Avenue

Improve the Safety at the 14th Street and Cole Street Intersection

The 2014 "Strategic Highway Safety Plan for the City of St. Louis, Missouri" identified the intersection at 14th Street and Cole Street as a priority for side-street stop controlled countermeasures. As previously discussed in this report, this intersection experienced 20 total crashes, 10 involving injuries (2 disabling injuries and 8 minor injuries) with one pedestrian injured (2011 to 2015). This crash rate is higher than typical for St. Louis Metro area arterial roadways. The intersection has poor sight distance due to small building set-backs, which could be contributing to the poor safety performance. Possible short-term countermeasures could include:

Intersection of 14th Street and Cole Street (looking west)

- Moving the stop-signs closer to the intersection and painting a stop bar to reinforce the desired stop location;
- Placement of STOP AHEAD pavement markings, reflective sign post sleeves, and LED-outlined STOP signs to reinforce stop sign visibility; and
- Implementation of a 4-way stop.

Further, it may be desirable to conduct a traffic signal warrant study to determine whether or not a traffic signal is warranted to improve safety. Traffic signal warrant studies typically cost on the order of $5,000 to $10,000 and traffic signal replacements can cost on the order of $250,000 per intersection. Finally, any future improvements/redevelopments at this intersection should consider and to the extent possible, improve intersection sight-distance.

Re-establish Street Grid

Historically, this part of the City had a dense urban street grid. As illustrated in the aerial photograph to the right, this network has been cut-up over time with the construction of "suburban style" arterials (e.g., North Florissant Avenue and Tucker Boulevard) superimposed over the grid system. There is a desire to reestablish the street grid network to make the neighborhoods more walkable/bikeable and encourage urban scale redevelopment.

North Florissant Avenue at 14th Street/Mullanphy Street: The current alignment and configuration of North Florissant Avenue between 14th Street and Tucker Boulevard causes challenges for connectivity within these neighborhoods. North Florissant Avenue connects to Tucker Boulevard, creating a large six-lane arterial roadway through the middle of this area. Before the construction of the New Mississippi River Bridge, this was an important connection for the City. However, now Tucker Boulevard is the primary artery for traffic from I-70 and Illinois into Downtown. The section of North Florissant Avenue between 14th Street and Tucker Boulevard is no longer needed. Although it is six-lanes wide, this section of roadway only carries about 5,500 vpd (based upon machine counts conducted by CBB on May 27 to June 2, 2016). This section of 6-lane roadway can be removed and the street system restored back to a grid configuration. The excess right-of-way along Mullanphy Street could be used for the Iron Horse Trestle Park Trail. Traffic on North Florissant Avenue would be diverted to 14th Street. With this diverted traffic, 14th Street would be expected to carry on the order of 10,000-12,000 vpd – which is appropriate for a two or three lane roadway. The proposed intersection configuration is shown in the drawing to the right. A preliminary design study should be undertaken to determine the likely cost for this project, which could be on the order of $1,000,000 to $1,500,000, excluding right-of-way needs.

Superblocks: Over time, super-blocks have been created as a result of land development, disconnecting neighborhoods from each other. An example is the large block bound by 14th Street, 13th Street, Cass Avenue, and Biddle Street. Another is the large block bound by Cole Street, Dr. Martin Luther King Drive, 14th Street, and 18th Street. In addition to the reconfiguration of North Florissant Avenue to 14th Street (discussed above) local streets that are currently closed off should be reconnected. This "reconnection" would be done over time and wherever possible through redevelopment. Examples include extending the residential streets in the Preservation Square development across 14th Street connecting to 13th Street, and the reconnection of Carr and O'Fallon Streets between 14th Street and Tucker Boulevard.

14th Street Reconfiguration

As previously discussed, several plans have identified possible alignments/improvements along 14th Street (e.g., Northside-Southside Metrolink Expansion, Downtown Streetcar, and Iron Horse Trestle Park Trail). It is important that these projects work together as they would all share a common right-of way. As shown below, the existing right-of-way along 14th Street is generally 80' wide, with 65' of pavement and 7.5' for curbs, sidewalks and utilities on either side of the road.

The general consensus amongst the stakeholder agencies appears to be for an ultimate 104' cross-section with a multi-use trail facility on the east side of the street and a center running enhanced transit corridor. This corridor could be configured (from west to east) as shown below:

- 6' sidewalk (west side of street)
- 2' green buffer
- 1' curb
- 8' southbound parking lane
- 12' southbound travel lane
- 27' center-running enhanced transit corridor
- 12' northbound travel lane
- 8' northbound parking lane
- 1' curb
- 5' green buffer
- 12' bike trail
- 2' buffer
- 8' sidewalk (east side of street)

There is not currently right-of-way available to construct the ultimate 104' cross-section. However, Great Rivers Greenway is currently working to purchase 24' of additional right-of-way between Lucas Avenue and Biddle Street along the east side of 14th Street so that the right-of-way exists for a project (or multiple projects) in the future. Great Rivers Greenway is currently purchasing 36' of right-of-way near major intersections to allow for future turning lanes. The right-of-way for the section from Biddle Street to Mullanphy Street will need to be purchased as a part of a separate project. At this time it is unclear whether the right-of-way between Biddle Street and Mullanphy Street will be purchased from the east side of 14th Street or the west side of 14th Street. It is also important to note that in the area of a potential Biddle Street transit station, additional right-of-way (135') will be required to provide space for the transit station. A conceptual cross-section at the Biddle Street Station is shown below.

The overall layout for the ultimate reconfiguration of 14th Street is shown in the conceptual drawing below.

Of course other roadway configurations are possible. Conceptual cross-sections with BRT and with side-running transit are shown below.

Because of all the planning efforts in this corridor, communication is critical when coordinating projects. As such, we have presented a phased approach that can allow for some projects to move forward in the short term (e.g., Iron Horse Trestle Park Trail) while the planning/decision making process is still underway with other projects (e.g., Northside-Southside Metrolink Extension). It is unlikely that all of the funding for all of these projects will be obtained at the same time. Under one example scenario, it is possible that funding becomes available for the Iron Horse Trestle Park Trail before a final decision is made on the ultimate configuration for enhanced transit in the corridor.

Preliminary cost estimates for the various projects are provided below:

- Northside-Southside Metrolink Extension = Approximately $1Billlion for the total project, or $46 Million per mile for the Northside segment (2007 dollars)[10]
- Downtown Street Car = $220-$270 Million (2012 dollars)[11]
- West Florissant BRT (need to get these costs from Metro)
- Iron Horse Trestle Park = $60 Million[12]

As such, a flexible phasing strategy is provided in the following sections.

Short Term: On-street Cycle Track: As an immediate improvement, it would be possible to reduce 14th Street from four lanes to 3 lanes and install an on-street cycle track on the east side of 14th Street. This would complete a low-cost and short-term connection to the Iron Horse Trestle Park and Old North area. The cost to complete this project could be on the order of $100,000 to $500,000 depending on the types of treatments used. The existing pavement would be used in place, with the following cross-section (from west to east) as shown below:

- Existing sidewalk/curb west side of 14th Street
- 8' southbound parking lane
- 11' southbound drive lane
- 10' center turn lane
- 11' northbound drive lane
- 8' northbound parking lane
- 5' buffer
- 12' cycle track
- Existing sidewalk/curb east side of 14th Street

[10] Northside Study Final Report, October 10, 2008
[11] St. Louis Streetcar Feasibility Study, March 2013
[12] http://greatriversgreenway.org/mississippi-greenway-master-plan/

The buffer between northbound traffic and the cycle track can be configured with items such as planters as shows in the photographs below:

<u>Mid Term Alternate 1: Build Trail on East Side of 14th Street</u>: As an intermediate measure, the Iron Horse Trestle Park Trail could be built on the east side of 14th Street (without full reconstruction of 14th Street) in areas where 104' of right-of-way has been acquired. This is possible because the Iron Horse Trestle Park Trail generally has a 28' to 30' cross section (from west to east) as shown below:

- 1' curb + 5' green buffer
- 12' bike trail
- 2'-6' buffer
- 6'-8' sidewalk.

If this facility were constructed on the east side of 14th Street, it would require 22.5' of the existing pavement. In other words, the 30' trail cross section could fit in the existing 7.5' sidewalk/buffer/curb and additional 22.5 feet of existing pavement. Since the existing pavement is roughly 65' wide, this would leave 42.5' of pavement on the west side of the street in place. As shown in the figure below, this pavement could be reconfigured with two 12' lanes and 8' parking lanes on either side of the street (with 2.5' extra pavement). The 24' of right-of-way currently being purchased by Great Rivers Greenway would be preserved for a future enhanced transit corridor.

Mid Term Alternate 2: Rebuild 14th Street and Leave Space for Transit Corridor in Center: As another interim measure, 14th Street could be fully reconstructed (shown below) using a center planted median as a place holder for the future enhanced transit alignment. This alternative does require the full reconstruction of 14th Street.

Summary Exhibits

Summary exhibits of the existing conditions are provided in the following pages.

Transportation Map - Sheet 1

Saint Louis Great Streets INITIATIVE
LEARN · SHARE · PLAN · BUILD

[Re] Think 14th Street - Great Streets

Transportation Map - Sheet 2

CITY OF SAINT LOUIS MISSOURI

Saint Louis Great Streets INITIATIVE
LEARN · SHARE · PLAN · BUILD

[Re] Think 14th Street - Great Streets

MARKET ANALYSIS & SOCIO-ECONOMIC

MARKET & ECONOMIC DEVELOPMENT
WHITE PAPER

GREAT STREETS
NORTH 14TH STREET

DRAFT

ST. LOUIS, MISSOURI

JUNE 13, 2016

PREPARED FOR

City of St. Louis, Missouri
East-West Gateway Council of Governments

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A CHANGING NATION

National and regional trends in economic development, housing construction, demographics, and consumer preferences are keys to understanding what could be in store for the future development of the North 14th Street Corridor in the City of St. Louis between the Washington Avenue Loft District and Mullanphy Street.

A GROWING NATION, A STABLE REGION

The U.S. population grows roughly ten percent per decade and has for many decades.[1] While that growth is not evenly distributed across America's communities, demand for additional housing is persistent as the national population continues to grow. Demand for places of employment (such as office space) and places to provide services (such as retail space) also continue to grow despite occasional business cycle downturns.

- The United States will reach 400 million people by 2040, up 100 million (33%) from 2005.
- The next 100 million people will require 40 million homes[2].
- Places of work for a net additional 58 million or so will also be needed.[3]

But that's just the *net* housing and place-of-employment need. Many homes and workplaces will need to be replaced during that time, too. And the demands for different housing and employment *products* will change as the economy, demographics, and styles inevitably evolve. There will be increased demand for senior housing, for instance, as well as increased demand for smaller housing because fewer households will have children, and those who do have children will have fewer of them. Other types of housing may become dysfunctional, less valuable, and perhaps largely vacant. Office spaces are declining on a per worker basis, meaning less space per person is needed, though manufacturing and other industrial facilities create more space per employed person because machines and robotics require more space.

In short, there will be much change in the places where people live and work, even if there is no growth. But there will be net growth, too.

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[1] Though the pace is a little slower at present. Recently released 2015 population estimates show that the country added 3.9 percent more residents between 2010 and 2015, suggesting that the decade of 2010 to 2010 might add only about eight percent more population.

[2] *The Next 100 Million* by Arthur Nelson, Virginia Polytechnic Institute 2007.

[3] The U.S. Bureau of Economic Analysis shows that jobs in the U.S. totaled the equivalent of 58.3%of the U.S. population in 2014, down from 59.7% in 2007 but essentially the same as the 58.1% in 2001. The St. Louis metropolitan area has higher ratios: Jobs were the equivalent of 60.7% of St. Louis metro population in 2014, 62.0% in 2007, and 61.0% in 2001. Thus, for every 100 added residents in the metropolitan area, space for about 60 more jobs must be created or occupied.

Such forces presently affect the future of the City of St. Louis and, potentially, the near north side, while suggesting opportunities to capture changing markets along North 14th Street.

The population of the St. Louis metropolitan area was estimated to be 2,811,600 in mid-2015.[4] This was a 0.8 percent increase (21,560 people) from the 2010 population, or a growth rate only about one-fifth that of the nation. This relatively sluggish regional growth is an important, and possibly limiting, factor in projecting potential growth and change on the near north side and along 14th Street.

Of that metropolitan growth, effectively none took place in the city of St. Louis which continued its 60-year trend of declining population by losing a net of 3,600 residents between 2010 and 2015 to total of 315,700.[5] But between the national Census counts of 2000 and 2010, Downtown St. Louis and the city's "central corridor" actually increased their residential populations, as depicted on the map to the right. Produced by East-West Gateway Council of Governments, the map shows green dots where population increased between 2000 and 2010 (one dot per 25 people) and red dots for decreases. Both the north and south sides of St. Louis lost population, as did most of the areas within the I-255/I-270 circumferential highway (shown here), but the central corridor grew.[6] That corridor, however, does not include the North 14th Street study area other than at the very southern end where 14th Street intersects with the Washington Avenue Loft District, a major source of added housing and population in the city.

Still, the near north side has done its part in city population growth in the last 30 years. Creation of Columbus Square, for instance, just north of Cole Street and east of 11th Street triggered a great deal more modest income housing in that area. Carr Square and O'Fallon Place (now Preservation Square) did their parts by upgrading housing quality and attracting long-term residents. The Old North St. Louis neighborhood has long been active in housing renovation and adding more residents or at least stabilizing population. With coordinating planning and strategic action, all of these areas can continue to attract housing and population growth which, in turn, leads to safer communities and more commercial and public amenities.

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[4] U.S. Census Bureau, www.census.gov.

[5] U.S. Census Bureau, www.census.gov.

[6] Specific numbers related to this growth are not immediately available. The full dot map, available at www.ewgateway.org, illustrates growth and decline patterns for the eight-county, bi-state East-West Gateway region.

While post-2010 population estimates from the Census Bureau are not available, estimates by Esri[7] within a walking distance of 15 minutes from the intersection of North 14th and Biddle Streets show 10,600 residents in 2010 increasing to 11,100 in 2015 and projected to 11,500 by 2020. In other words, North 14th Street is well located to capture some of the population growth that is being catalyzed by major changes in the greater downtown area if, indeed, population and housing expansion is a desired goal in and immediately adjacent to the study area.

In many ways, therefore, the growth potential of North 14th and the near north side is tied to the growth of Downtown St. Louis which is the largest concentration of economic activity not only in the city but in the metropolitan area. In the last ten years or so, Downtown has added some 5,000 housing units, mostly due to renovation and re-use of existing buildings. Attracting some of this growth northward, particularly for more moderate income households, can be a goal of the near north side.

Smaller Households Mean Smaller Homes

The national population is not only growing but it is shifting demographically, which implies that the types of housing offered will have to be altered to meet changing needs. For instance, 45 percent of American households had children in 1970, but this share will be reduced to 27 percent by 2030. And there are, and will be, fewer children in such households. American families with children had an average of 2.3 children in 1960, but this dropped to 1.9 by 2010. And, of course, there were fewer families with children by 2010. About 57 percent of families had children in 1960, falling to about 45 percent in 2010.[8]

Household Type	1970	2000	2030
HH with Children	45%	33%	27%
HH without Children	55%	67%	73%
Single/Other HH	14%	31%	34%

Source: Arthur C. Nelson, Presidential Professor & Director of Metropolitan Research, University of Utah.

Share of Household Growth by HH Type, 2010-2020

HH Type	All
With Children	10%
Without Children	90%
Single Person	36%

Source: Arthur C. Nelson, Presidential Professor & Director, Metropolitan Research Center, University of Utah

[7] Esri is an independent vendor of socio-economic data. Using federal statistics, including the Census Bureau, as its basis for estimating small area data, Esri models socio-economic changes between the decennial census periods.

[8] Some of this jargon can get confusing! An important note is that households are the same as occupied housing units and can be occupied by one or more related (blood, marriage) or unrelated individuals. Families are households made up of related individuals. So "families" is a subset of "households." Enough demographic lessons.

Moreover, 14 percent of all U.S. households were single persons in 1970, but this more than doubled to 31 percent in 2000, and is projected to increase to 34 percent by 2030. As shown to the right, however, residents in the study corridor are much less prone to be single person households even as single-person households make up more than 40 percent of the city's population, well above the national average.

One indicator that the study corridor is not "average" in this regard is demonstrated by the corridor's share of children, as shown below. Percentages of school age children in the corridor (here defined as extending between Tucker Boulevard and 16th Street) are markedly higher than in the city has a whole. Of course, children cannot live in single-person households, so there is a lower percent of such households in the corridor study area than in the city as a whole.

Smaller and fewer families are already increasing the demand for attached and smaller lot housing throughout the country, while there is already an oversupply of large lot housing nationally. By 2025, 17 million new *attached* homes will be needed in the U.S., and 18.5 million new *small lot* homes will be needed. Meanwhile, there will be an *oversupply* of 1.5 million *large lot* single family homes by 2025.[9]

[9]A.C. Nelson. "Leadership in a New Era." *Journal of American Planning Association*. Vol. 72, Issue 4, 2006.

The scale of this smaller housing trend may be less pronounced on the near north side if it continues to be a place for raising school-age children. Indeed, the study area might benefit from continued development of, say, three-bedroom, homes, though they need not be "larger" houses or apartments.

CATERING TO AN AGING POPULATION AND THE MILLENIALS

Still, there is increasingly another important demographic trend that creates a need for smaller and, in some case, specialized types of housing: the aging population. In the United States, 41 million of the next 100 million residents will be over 65. Older adults are often not able or prefer not to live alone in single family detached homes.[10] Multifamily housing within walking distance to retail, health care, and public transit caters to seniors.

Yet, while the huge cohort of baby boomers (born 1946-1964) is aging into new and smaller housing choices, an even larger cohort is presently, and aggressively, entering its child-rearing age. But these Millenial households are choosing to have fewer children than did the boomers and are far more likely to prefer urban, walkable, neighborhoods requiring less use of automobiles and greater use of alternative forms of transport—transit, bikes, shared cars, even walking. This is partly what is driving the increase in "excess" large lot homes in the nation, as noted earlier.

[10] That said, there are many government and non-profit efforts in the nation and in St. Louis metro area to identify community and social ways to support more "aging in place" so that seniors do not have to leave their long-time homes because of frailty. As such programs and technologies expand, previously projected demand for seniors-only housing will likely decline. Support services for the elderly may increase, however, or at least their cost could increase if such services are provided at individual housing units rather than more concentrated within, say, a senior housing development.

NEAR NORTH SIDE AND THE CITY OF ST. LOUIS

North 14th Street is part of what is generally considered the near north side of St. Louis, or that area of the city immediately north of Downtown. For this white paper, comparative statistics were obtained for zip code 63106, which effectively represents the near north side excluding some of the Columbus Square area north of the convention center. A relatively arbitrary boundary was drawn also to represent the area around North 14th Street, generally extending to Tucker Boulevard on the east to 16th Street on the west. Because of the recent growth and notoriety of the Washington Avenue Loft District, that corridor is also compared, as shown on the following map.[11]

The blue boundary shows the 63106 zip code which had a 2015 population estimated at 11,470. Mostly within the zip code is the 14th Street corridor, shown in red, with a 2015 population of about 1,830, about 16 percent of the zip code's population. The study corridor covers just under ten percent of the zip code's land area, indicating that population density in the corridor (4,800 persons per square mile) is greater than in the zip code as a whole (2,900 per square mile). Density in the city as a whole is about 5,100 persons per square mile.

Zip Code 63106 Population	11,470
14th Street Corridor Population	1,830
Wash. Ave. Loft District Population	4,320
City of St. Louis Population	316,700

[11] The shown boundaries are approximate and should not be relied upon for other mapping purposes.

The area depicted as the Washington Avenue Loft District on the above map is actually a much wider than the avenue itself, extending from Delmar Boulevard/Convention Plaza on the north to Olive Street on the south, and from Ninth Street to Jefferson Avenue east to west. This 0.3 square mile has an estimated population of 4,320, roughly half of the entire residential population of Downtown St. Louis. Population density is over 14,000 people per square mile.

OTHER NOTABLE SOCIO-ECONOMIC CHARACTERISTICS

While the nation's homeowner occupancy rate is about two-thirds (i.e., about 66 percent of American households are occupied by their owners), the rate is much lower in the City of St. Louis at just over 45 percent. St. Louis is much more of a rental occupancy market than owner-occupied. The near north side is even less owner-occupied, as shown to the right. Well under 10 percent of 14th Street corridor households are owner-occupants, and fewer than 15 percent of zip code households are owner occupants. This suggests a substantial opportunity to increase the willingness of area residents to buy homes, a factor that will be heavily dependent on the construction of housing traditionally acceptable to prospective homeowners.

It will also be dependent on incomes and steady jobs of the residents of such housing. Mortgage lenders much prefer sound and consistent annual incomes of their borrowers, which is often equated with job stability. As is discussed shortly, incomes are quite low on the near north side which has evolved to a community of generally low income renters which, in turn, is partly a function of the amount of public housing that used to dominate the area. Thus, achieving goals of neighborhood sustainability based on homeownership is probably unrealistic anytime soon, though there are many other ways to achieve sustainability, though most of them rely heavily on collective or government forces rather than the motivations homeowners to protect property values.

A particular challenge for near north residents—at least those in the labor force—is a relatively low level of formal education compared to job growth in a range of skills. In the long aftermath of the recent Great Recession, there has been generally sluggish job growth in the U.S. as a whole, and certainly in metropolitan St. Louis. As it turns out, net job losses have been concentrated in what are classified as "middle skill jobs." Shown below, for example, are job count changes in metro St. Louis between 2007 and 2014. There has been growth in jobs that require low skills and high skills, but job losses in jobs that require what are deemed middle level skills. This is a phenomenon throughout most of the country.

Higher skill jobs typically require college degrees or very strong skills training in vocational and crafts occupations. Low skill jobs require very little formal training and education, though they all require certain "soft skills" such as good behavior, showing up on time, and so forth.

Unfortunately, the general education levels of residents in the North 14th Street corridor do not serve them well, by and large, for occupations in higher skill positions. The chart to the right, by the way, includes only adults who are 25 years old or more. Conditions are somewhat better in the entire zip code and better still in the city as a whole. This low level of local formal education could relegate far too many residents to low skill, and consequently low wage, jobs which further compounds challenges for homeownership and higher value/higher amenity housing.

HOUSEHOLD INCOME

Per capita income in the 63106 zip code is less than half that of the entirety of St. Louis City, and people living in the more immediate 14th Street corridor have lower incomes still. This is all in sharp contrast to the households in the northern Downtown area. The map below depicts household income on a per-square-mile basis as determined at the Census block group geography. The purpose is to distinguish areas of high household income (e.g., central St. Louis County) from those where incomes might be lower but the concentration of households is higher.[12] Still, while near north St. Louis has lower individual incomes, the density of that population is too low to translate into a stronger "buying power" market. Raising incomes in the area and/or

[12] Note, for instance, that the high-income central corridor west of I-170 is depicted here as rather middling. That's a reflection of lower density housing even though each house has very high incomes. East of I-170 is also wealthy, but also much more densely developed. The south side of the city of St. Louis also shows strong income density even though individual incomes are not very high. Retailers, of course, prefer locations near strong income density to take advantage of the nearby buying power.

attracting more residents to the area would have a notable positive impact on the area's buying power and, in turn, its ability to attract and support more retailing and other consumer services.

AGE OF THE POPULATION

North 14th Street has a notably higher percentage of young children than in the city as a whole, particularly those below the age of 15. This is accompanied by a very high percentage of 25-34 year olds, perhaps reflecting the parents of the children. On the other hand, the city has higher shares of middle and older residents.

A related challenge for the corridor is the provision of sufficient activities, education resources, and family management assistance. Much of this is being addressed with the abundance of affordable housing and support programs. Given the experience with affordable housing and such programs, the corridor and its envi-

rons may be suitable for additional mixed-income housing and social services to take advantage of certain economies of scale with both physical and human assets.

DEMOGRAPHIC SEGMENTATION

Market researchers, political campaign strategies, and city planners often segment the American population into groups that have common characteristics. One such approach is called "Tapestry" by the independent socio-economic data vendor Esri. Esri divides American households into 67 segments which are useful in better understanding local community characteristics in the context of larger geographic areas[13] and creating policy actions that best suit particular types of people.

Of the 67 Esri Tapestry segments, Zip Code 63106 is home to four, as illustrated on the above graph, and the 14th Street corridor has just two. In both cases, the largest group, by far, is called "City Commons" followed by "Modest Income Homes." Intriguingly, the higher income/buying power corridor defined by the Washington Avenue Loft District is defined as have only a single Tapestry group: "Metro Renters." Actually, many of those households aren't specifically renters, but they share most characteristics of urban dwellers in loft districts and related areas who mostly are renters. Almost a hundred such households are also found in 63106, but these may be the same people also assigned to the Loft District where the zip code overlaps.

More details on each of these four Tapestry groups are found in Appendix A.[14]

Meanwhile, the City of St. Louis encompasses 28 of the 67 Tapestry groups, a testament to the demographic diversity of the county.[15] With that many groups not represented, or poorly represented, in the study area,

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[13] No state, county, or city in the U.S. contains all 67 groups. Some of them are defined in terms of geographic location, like "Pacific Heights" or "Rustbelt Traditions." The St. Louis area is certainly not closely associated with the Pacific Ocean, nor is California much associated with the industrial rustbelt, so many of the Tapestry groups are concentrated in particular areas.

[14] More extensive descriptions of these and all other Esri Tapestry segments can be found at http://www.esri.com/library/whitepapers/pdfs/community-tapestry.pdf.

there may be opportunities to adapt 14th Street to attract and support additional groups that are present elsewhere in the city. This paper does not delve into which groups would be most appropriate in a 14th Street context, but future market research could identify prospects for a marketing and housing development campaign.

EMPLOYMENT AND LABOR FORCE

The U.S. Census Bureau reported that 5,790 people were employed in zip code 63106 in 2014, a remarkable increase of just over 1,000 jobs for a 21.6 percent growth rate after 2002. Meanwhile, the city of St. Louis, as a whole, gained 3,100 jobs between 2002 and 2014 from 230,200 to 233,300, an increase of 1.3 percent.[16] In short, 63106 has been a stalwart in both job retention and growth over the past decade and more.

2014 Average Daily Job Commuters to Into, Within, and Out of Zip Code 63106
Source: U.S. Census Bureau "On the Map."

[15] By comparison, New York City (population 8.43 million) has 44 Tapestry groups.

[16] Source: http://onthemap.ces.census.gov/. The employment figures in this data source, however, are low. In fact, according to the much more comprehensive Regional Economic Information System (REIS) of the U.S. Bureau of Economic Analysis (housed in the Department of Commerce, just like the Census Bureau), St. Louis City had 276,750 jobs in 2014 and 283,570 in 2002, actually a net loss of 2.4%. The latter database is available only for counties (the City of St. Louis is a county unto itself) and includes sole proprietor and other kinds of jobs that are not captured by the "on the map" Census data. Thus, there may be more jobs in 63106 than shown here. Still, the trend in the city has been downward to stable, while the trend in 63106 has been strongly upward.

The Census job data for 63106 (depicted on the map on the previous page) also reveal that more people commute into 63106 for jobs than commute out of 63106 for jobs elsewhere in the metropolitan area. In 2014, about 3,800 zip code residents commuted to jobs outside the zip code while just 136 residents remained in the zip code for their daily work. Meanwhile, about 5,650 people commuted from elsewhere into the 63106 for work. This indicates that the zip code is not only a crucial job center for St. Louis, but that there are 5,650 people who are at least somewhat familiar with the area who might be attracted to live in the area if appropriate housing and amenities could be created or improved. In other words, there is a sizable market segment of prospective residents already at 14th Street's doorstep.

Moreover, as recently announced, the federal government's National Geospatial-Intelligence Agency (NGA) will be relocating its western facilities from the south St. Louis riverfront to the intersection of Jefferson and Cass Avenues near the 14th Street corridor. NGA is expected to relocate all 3,100 of its employees to the area, thus sharply increasing the employment in 63106 and increasing the number of in-commuters. This could also create a substantial opportunity to attract some of those employees to become residents of the nearby area, thus increasing local buying power and property values.

The NGA is expected to be served strongly by the new Stan Musial Bridge over the Mississippi River and by commuters from the north and northwest using I-70 as their driving route. This also increase commuter traffic flow in the 14th Street corridor, another factor in potentially improving prospects for attracting more convenient retail and personal services to the area. While it is unknown precisely where the current NGA employees presently reside (data has not been made available), U.S. Census data indicate that 22 percent of the people employed in NGA's present census tract (1246) live in Metro East.[17] Another 39 percent of the people employed in the current NGA census tract commute from St. Louis County, 16 percent from within the City of St. Louis, ten percent from Jefferson County and six percent from St. Charles County.

The in-commuters to zip code 63106 tend to be paid a little bit more than 63106 residents. The Census Bureau breaks up the commuting data into three broad annual wage and salary ranges: Under $15,000, between $15,000 and $40,000, and over $40,000. In 2014, 47 percent of the 5,654 in-commuters were paid more than $40,000 at their jobs in the zip code. In sharp contrast, only 12 percent of those who lived in 63106 and worked elsewhere earned $40,000 or more, and only 11 percent of those who both lived and worked in 63106 earned $40,000 or more. As if more proof was needed, 63106 is a modest to low income residential area,

[17] Census data from the "On the Map" web site indicate that, in 2014, 3,460 people were employed in census tract 1246. If NGA does, in fact, employ 3,100 people, it would represent nine out of ten workers in that tract. So the aggregated data would seem to very closely match actual commuting patterns for NGA itself.

though it contains a great many jobs that pay relatively high wages. From another perspective, of course, this means the in-commuters have more spending power, so they should be able to help support more retail space in the general area.

Perhaps as an indicator of the improving quality of jobs in 63106, NGA's current census tract (1246) on the near south side has 75 percent of its workers earning $40,000 or more per year. Attracting that "payroll" to 63106 will certainly increase the higher earnings of people employed in the zip code. But can some of the zip code's residents hold some of those jobs? Training programs to encourage NGA's hiring of local residents might be in order, particularly if those programs are tied to incentives that discourage such residents from relocating their homes out of the zip code.

OPPORTUNITIES FOR THE 14TH STREET CORRIDOR

In light of the broad market forces summarized above, parts of the 14th Street study corridor are located well for higher and better uses if policies can be adapted to attract growth based on changing lifestyles, evolving demographic groups, and special economic strengths.

MAJOR ADVANTAGES AND DISADVANTAGES

One of the corridor's principle economic advantages is that it is adjacent to Downtown St. Louis. While Downtown has had its share of socio-economic struggles in recent years as macro socio-economic forces in urban centers have evolved, it is still the largest concentration of a wide range of jobs in the metropolitan area and has experienced population growth in the last 15 years. The larger area around 14th Street—that is, zip code 63106—has had job growth and expects quite a lot more as the NGA site is developed and re-occupied in the next several years.

Also benefiting the location of 14th Street is access to the interstate highway network, particularly I-70 both west and east. Moreover, 14th Street itself is a direct link through Downtown St. Louis to I-64. 14th Street has long been planned as a bus-rapid-transit (BRT) route to north city and north St. Louis County and may, alternatively, be a route for rail-based transit. Either of these enhanced transit options, however, may be relocated westward as planning continues for commuting access to the NGA site.

The western parts of the corridor are characterized by remarkably attractive neighborhoods. Major new developments are underway and planned. Existing housing is in good condition, with only minor maintenance requirements other than in Preservation Square (formerly known as O'Fallon Place). Preservation Square is the focus for more than $30 million in reinvestment to greatly improve the housing and amenities, including a reduction in density and an increase in higher income households.

On the downside, 14th Street lacks a clear identity that ties it tightly to Downtown or even to the revitalizing initiatives of the Old North St. Louis area. As a very low income residential corridor, 14th Street has a reputation as a concentration of poor households coupled with many industrial properties. This gives the area a segregated feel where the less desirable land uses of a region or city are relegated. While it is true that low income households predominate and there is much industry, including trucking and outdoor storage, the housing is planned to become more diversified (much of this change is underway) and some of the least desirable land uses (particularly the automobile storage yard) can probably be replaced by more image-and market-friendly uses.

REAL ESTATE MARKET CONDITIONS

The 14th Street corridor (extending from Delmar Boulevard on the south to Mullanphy Street on the north, and from Tucker Boulevard on the east to North 16th Street on the west) contains an expanding number of residential structures, a small amount of retail and office space, and a great deal of industrial uses. Most non-residential buildings are relatively old. As shown below, the average retail structure is 68 years old, the average office building is 52 years old, and the average industrial building is 69 years old, all according to data obtained through CoStar, an independent vendor of local real estate information. That said, some of the nearby industrial buildings, in particular, are either relative new or have had substantial reinvestment activity in the last decade or so, particularly in the Martin Luther King, Jr. Boulevard corridor.

According to Costar, the 14th Street corridor did not change its retail occupancy during 2015 but lost about 6,500 square feet of occupied office space in 2015. Occupied industrial space also remained unchanged. Of the some 411,000 square feet of non-residential space noted to the right, almost 90 percent is considered industrial. Thus, the CoStar data would suggest that this is an industrial area, partly because there is no reference to residential structures.

Existing Retail Conditions	
Total RBA (SF)	20,198
Current Average Occupancy	N/A
Average Lease Rate (NNN)	N/A
Average Building Age (Years)	68
2015 Absorption (SF)	-
Existing Office Conditions	
Total RBA (SF)	25,500
Current Average Occupancy	74%
Average Lease Rate (Gross)	N/A
Average Building Age (Years)	52
2015 Absorption (SF)	(6,500)
Existing Industrial/Flex Conditions	
Total RBA (SF)	365,370
Current Average Occupancy	94%
Average Lease Rate (Gross)	$ 8.40
Average Building Age (Years)	69
2015 Absorption (SF)	-
Source: Costar 2016	

Residential development in the corridor is clearly dominated by "affordable housing," though there is much effort at present to change the housing opportunities for a greater mix of low, modest, and middle incomes. Still, the corridor likely has a "market image" as an industrial and low-income location—which it is, in many ways. This is an image which should be addressed in future actions in and by corridor interests in order to attract a more diverse land use pattern, residents, and patrons.

Leasing rates for the retail and office space in the corridor are not available because of the small amount of such space, but the average gross leasing rate of $8.40 per square foot per year for industrial buildings is probably on the low side of regional market averages. It is relatively high for strictly manufacturing buildings, but the corridor's industrial space leans a lot more toward "flex-space" which commands higher rents because of the variety of uses that are conducted in the buildings and the adaptability of the buildings to changing needs.

First Directions Parcel Reinvestment Concentrations

Using the Costar database as a start and combining that with a visual inspection of the properties in the corridor study area and an evaluation of property tax records, each land parcel was evaluated as to its relative potential for development or redevelopment. The map on the next page illustrates three classifications.

1. Dark gray properties indicate those that do not need significant reinvestment at present ("Firm: No Intervention Needed"). These represent stable businesses and other purposes that appear to have long-term viability and consistency within the corridor. Still, a major goal of the Great Streets plan should be to support these "firm" properties with appropriate public and private investments that help to improve their real estate value and assure their sustainability.

2. Blue properties, conversely, are considered "Ripe for Development." One indicator of this classification is that the market value of the improvements on some sites is most often less than the value of the land, a factor which is driven by underutilization, building vacancy, or lack of building improvements altogether. Fully functioning buildings generate positive cash flows and, in turn, higher values. Buildings that do not achieve higher values are either occupied by poor businesses or they seem not to be suited for contemporary uses. In either case, solutions might involve major renovation or rehabilitation, or clearance in favor of more functional buildings.

   Razing of structures, however, has to be balanced against their architectural and historical value in the corridor. This is of particular concern in on the site of the former, and quite dilapidated, Carr School. Yes, newer buildings might be more functional and profitable, but a major contributing factor to the special identity of 14th Street could be the early-to-mid 20th century architectural styles of this building, in particular. Rejuvenating older corridors, therefore, often requires quite different approaches than simple

"market-based solutions," including more public or philanthropic intervention to save the structures and to find specialty users/occupants.

3. In between the dark gray and the blue sites are the green properties. In some ways, these are stable and are not substantially contributing to negative perceptions of the corridor. In other ways, they are not being utilized to their fullest potential. They are tempting locations for public intervention in order to leverage the private market because the green-colored sites typically require less costly approaches to increasing the quality of a corridor to attract private investment on other properties. But such public intervention might not still be enough to attract sufficient interest in the blue properties.

   That said, many of the green-colored properties in the 14th Street corridor may very well have serious environmental degradation in the ground, if not in the remaining buildings themselves. Thus, there are likely to be "extraordinary costs" associated with public or market-based intervention.

A public reinvestment strategy, therefore, may be to take over (purchase) certain of the blue properties in order to stem further deterioration, and then offer incentives to reputable property owners and businesses as partners in renovations and occupancy. This should have the effect of forestalling negative trends while encouraging private market responses in, especially, the green properties which should not require as many public resources. Moreover, depending on the robustness of re-emerging markets, some current blue properties could turn green, thus requiring less or no public intervention. In turn, these public and private investments help to support the black properties, where no intervention is yet needed, so that they do not become blue or green over time.

With all of in mind, it is a very important to note that some of the "market-based" response to some of the blue and green properties is already taking place. Preservation Square, for instance, noted as a "possible opportunity site" on the previous map is the focus of a formidable Choice Neighborhoods plan, led by Urban Strategies and McCormack Baron Salazar of St. Louis, where more than $30 million is anticipated for reinvestment in

The City of St. Louis is using a $280,000 donation to construct a roller rink on the western half of Loretta Hall Park. Photo by Development Strategies, May 23, 2016.

the housing and its amenities. In addition, Preservation Square interests are working with Carr Square Community Association and the YMCA of Metropolitan St. Louis to create a new, YMCA-operated community center[18] on the blocks between O'Fallon and Carr Streets on the west side of 14th Street. And the City of St. Louis is constructing a roller rink in Loretta Hall Park to support youth activities in the area.

RETAIL BUYING POWER VS. RETAIL SALES

Given income density of the residents of the 14th Street corridor, it is little surprise that more retail and dining options have not developed in the area. The most concentrated retail is about 9,000 square feet in Salama's Market at Cass Avenue and North 13th Street. Just south along 13th Street are stand-alone restaurants such as Rib Shack, KFC, and Domino's Pizza, while McDonald's has a restaurant a little further south on Tucker Boulevard. Cass Bank also operates on North 13th Street.

Turning to the larger market area represented by zip code 63106, there is, in aggregate, something of a balance between retail buying power and overall retail/restaurant sales, as shown on the graph to the right. This information, from Esri Business Analyst Online (BAO), however, shows that a very large amount of local buying power for general merchandise goods and a smaller amount for groceries are "leaked" from the zip code to other places. In other words, there may be room for more general merchandise and/or grocery stores.

[18] Unofficial insights from stakeholders indicate that this facility could become, effectively a replacement for the existing Downtown YMCA on Locust Street between 15th and 16th Streets.

The two maps to the right illustrate this point. Both of them highlight the 14th Street study area. The map on the left shows the location of where groceries can be purchased, demonstrating that there are quite a few grocery kinds of stores within reach of most households in the study area. The map on the right shows the location of general merchandise stores, where there are far too options, though there is a Dollar General store planned near the Old North St. Louis neighborhood within the next year.

In light of many comments received that the 14th Street corridor and environs could use far better grocery store alternatives than may otherwise seem convenient, the demographics of similar market areas around the relatively new Fields grocery store on Lafayette Avenue at Truman Boulevard on the near south side and the intersection of 14th and Biddle Streets in the study area are compared. The near south site location also contains a Walgreens store.

5 – 10 – 15 MINUTE WALKING TIMES (Source: Esri)

14th & Biddle Streets **Lafayette Ave. & Truman Pkwy.**

As the following two graphs illustrate, the near south side has population and buying power advantages within five-minute walks, the near north side has a slightly higher population, though less aggregate buying power within ten minutes, but the near north side exceeds the near south side in both population and retail buying power within a 15-minute walk. In other words, a case might be made that a small grocery store in the study area, or very nearby, could be supported at least as much as the Fields store near Lafayette Square.

The bigger challenge, however, is that the jump in population and buying power with 15 minutes of the near north side is driven by residents in the Washington Avenue Loft District and east of Tucker Boulevard in the Columbus Square area. While the Loft District can be said to need a small, but full-line, grocery store to more conveniently serve its growing market, can those residents be lured north of Washington Avenue in order to create a profitable market circumference? Moreover, an issue raised by stakeholders is that residents east and west of Tucker all-too-often do not get along. Thus, while the market might support a grocery store like Fields, the necessary market segments need to be drawn together more strongly in a manner that is not apparently today. That's not a question that can be adequately addressed in this white paper, but insights from the recent (though yet unavailable) YMCA market study for its proposed facility might prove enlightening in how to mix racial, social, and income classes in this part of the city.

Preliminary Development Program

The following graphics depict how the 14th Street corridor and environs could evolve into a revitalized and more vibrant urban district. Suggestions are based on the contextual market assessment in this report, on consultant with the land use planning consultants, and on ideas and insights from various stakeholders and information providers.

COMMUNITY PLACES

First is a need and opportunity to create better community places, including private sector places, in order to encourage neighborhood gatherings and to attract people and patrons from a wider area. For instance, as shown below,[19] there can and should be created a much improved community center fronting 14th Street (do not turn its back to 14th Street!) and accommodating a wide range of uses. The YMCA of Metropolitan St. Louis is already considering the suggested site in conjunction with other area interests. The illustration is one of the Kroc Centers that have built in many cities in union with the Salvation Army.

At the southern end of the corridor, a goal is to attract more of the Washington Avenue Loft District residents and patrons to places north of the Loft District in order to encourage more integration of people and businesses. This area is dominated by unattractive parking lots, parts of which might be at least temporarily converted to parkland for summer concerts, movies, and family gatherings. The Loft District itself is heavily populated but lacks large and convenient green spaces except as far away as the Gateway Mall. Instead of a

[19] All photographs and other illustrations in this section of the white paper are for suggestive purposes only. They are not necessarily the recommended designs, formats, locations, businesses, or architectural designs that will and should evolve as the corridor achieves higher, better, more intensive, and more profitable land uses.

green lawn, or maybe in conjunction with it, perhaps a beer garden managed by one of the local brew pubs could be created. This would encourage patrons to experience large spaces north of, especially, Lucas Avenue in an environment that is non-threatening yet impactful for additional commercial growth to the north.

Live-Work and Mixed Used Residential Areas

The planned renovation of Preservation Square combines with the need to link the 14th Street corridor more strongly with revitalization of the Old North neighborhood to suggest the development of a variety of market-based housing alternatives in the north part of the corridor. Once renovated (actually, even now), Preservation Square and the automobile storage lot across 14th Street will be incompatible. While the current fence on 14th Street hides the auto lot fairly effectively, it also creates a barrier to a more walkable and accommodating residential environment on the near north side. Thus, conversion of that property to housing, particularly live-work housing for energetic urban dwellers, would take advantage of access to downtown jobs, recreation, dining, and shopping but at more affordable prices and rents.

Similar kinds of housing could also be supported at 14th and Mullanphy both as a convenient location to jobs throughout the region (Downtown, Metro East, and North City and County) and as a more appealing entryway into the corridor as well as to the employment center to be reinforced by NGA at Jefferson Avenue. More population at this juncture will also contribute to buying power and patronage that is still needed in support of the 14th Street Mall just north of the study area.

URBAN TOWNHOUSES

Not everything has to be "live-work" or "mixed use." In fact, much of the 14th Street corridor is well suited for additional affordable housing, but outside the model of, say, Preservation Square or the on-going expansion of Carr Square. Such housing would be fully appropriate on the east side of 14th and could be appealing to many people who cannot quite afford Downtown housing but need starter housing for new careers and young families.

GENERAL MERCHANDISE AND DRUG STORES

The Northside Regeneration program already anticipates a small, but full-line, grocery store in the area where Tucker Boulevard and North 13th diverge. If this can be accomplished in a manner that draws patrons from east, west, north, and south, it is to be encouraged fully. But a bigger "leakage" is taking place in the general merchandise retail sub-sector which, without much imagination, can extend to modern day drug stores. Walgreens and CVS stores, for instance, carry a wide range of general merchandise as well as providing personal health care products. These kinds of stores should be considered in the same development area as the grocery store if at all possible in order to best satisfy the convenience shopping needs of the surrounding res-

idential areas. Moreover, at that location, they can be positioned to capture a substantial amount of purchases from commuters traveling to and from jobs Downtown and along Jefferson Avenue to the west.

NEIGHBORHOOD RETAIL

While convenience shopping is extremely important in support growing and mature neighborhoods, so are places that cater to more local markets. With a desire to convert 14th Street into not only a more walkable corridor, but also a biking and enhanced transit corridor, neighborhood retail and unique dining experiences are vital. These can be provided as small, stand-alone facilities on strategic corners or as the ground floors of urban housing developments. They would be intended for small coffee shops, entrepreneurial and ethnic eating and drinking places, smaller pharmacies, nail and hair salons, dry cleaners, and the like. Designed and positioned properly, these places will attract walkers and short-distance drivers as well as transit commuters. And they can collectively create a "village" kind of setting that helps to define a unique image for the 14th Street corridor.

Source: Development Strategies

ORGANIZING FOR SUCCESS

While there are site-specific challenges and site-specific opportunities throughout the 14th Street corridor, it is an observation of this paper that a first major step toward improvements is to "get organized." As possibly suggested by the poor attendance at the charrette public workshops, 14th Street and its environs may not have the solidarity to support more organized initiatives focused on collective interests.[20] Still, in order to progress with improvements in the corridor, a strong organizational structure should be considered, ideally in conjunction with another well-established organization. In this case, linkage to the Downtown St. Louis Community Improvement District (CID) is suggested. Alternatively, 14th Street might create its own CID, particularly if and when it attracts more residential and commercial investment.

COMMUNITY IMPROVEMENT DISTRICT

In generic terms, many of the functions of a Missouri-enabled community improvement district (CID) are managed as business improvement districts (BID) in other parts of the U.S. In essence, a CID is formed as a special interest "municipality" with a limited purpose, a defined geographic area, and a board of directors composed of the taxpayers within the district. Many retail developers "overlay" CIDs on their developments in order to raise their own sales or property taxes so that the additional funds can help pay for capital improvements of the new projects. More appropriate for 14th Street are those CIDs that are created to support revitalization of existing commercial and mixed-use areas.

Perhaps the largest CID in Missouri is Downtown St. Louis (http://www.downtownstl.org/downtown-cid/). Using a complicated "taxing" formula, the Downtown CID raises about $2.8 million per year which supports personnel and services primarily to maintain a cleaner downtown environment and to augment normal police services with security patrols. The patrol people also serve as Downtown Guides for tourists and other visitors. Some of the CID revenue is also available for small capital improvements, but the primary purpose is to amplify the amount and quality of city services that is otherwise normally applied downtown by City government.

[20] That said, the poor attendance can also be attributed to recent major planning workshops conducted for Preservation Square and to the competing—and perhaps more compelling at the time—challenge of the City's proposal to convert the former Biddle Street Market building into a shelter for the homeless. Thus, while poor charrette participation was a planning disappointment, this may not be as powerful a signal of disorganization as might otherwise be deduced.

As it turns out, the Downtown CID's boundaries overlap with a small corner of the 14th Street corridor, as illustrate on the following map. The CID map was obtained from the web site of Downtown STL[21] and the overlap occurs between Convention Plaza/Delmar on the south, Tucker Boulevard on the east 14th Street on the west, and Cole Street on the north. In other words, part of the corridor is already "Downtown."

A Downtown STL representative indicated that the CID would be very interested in making some inroads toward improved investment north of Delmar up 14th Street and has, in fact, been working with property owners on both sides of 14th Street just north of Lucas to perhaps develop a parking garage to serve the Loft District. While far from fully planned, concepts for a garage would include ground floor retail space to assure that street level activities are consistent with the Loft District and plans that will emerge from the Great Streets project. No conversations to date, however, address extension of the CID northward.

[21] http://www.downtownstl.org/wp-content/uploads/2014/09/CID.jpg

South Grand CID

An alternative for 14th Street might be emulation is the South Grand Community Improvement District (http://www.southgrand.org). The South Grand CID was organized in 2001 to provide enhanced public safety, maintenance, building improvements, and economic development beyond those services already supplied by the City. The district boundaries are on both sides of South Grand Boulevard extending from Utah Place north to Arsenal Street.[22] By the way, the South Grand CID contracts with Downtown STL to manage the CID, so it may be possible to join forces with the staff expertise of Downtown while maintaining a distinct image as North 14th Street.

Some of the advantages of the South Grand CID are:

- It is a consistent source of funds to improve South Grand in order to attract new investments, businesses, residents (even outside the CID), and visitors.
- The District administers a work plan focused on keeping the area safe and clean as well as sponsoring and supporting special events for the larger community, which increases market patronage as well..
- The District provides the financial resources to reduce building vacancies and attract new businesses to the District.

The CID operates as a political subdivision run by a board of directors comprised of unpaid volunteers—all of whom are assessment-paying property owners within the district. Somewhat like the Downtown CID, South Grand has a fairly complicated assessment formula for raising funds. As provided by the executive director, this formula is:

- Each taxable property is annually charged $0.2563 (25.63¢) for each square foot of land area.

[22] The South Grand CID is presently evaluating growth opportunities to its north to encompass the east side of South Grand across from Tower Grove Park.

- Each taxable building is annually charged $0.4066 (40.66¢for each floor area square foot on the first floor (street level), plus
- Another $0.2600 (26.00¢) for each building square foot on upper floors.

For 2015, this formula raised $211,000. In addition, the CID imposes a 0.5 percent economic development sales tax, authorized by the State of Missouri, on taxable retail sales. This tax raised another $123,000 in revenue for the district. With those funds, and other monies raised through various events and grants, the CID is able to support an office staff, a set of South Grand Guides in uniforms who walk the district, necessary clean-up services, and marketing and promotion programs.

Moreover, the South Grand CID coordinates business hours, resolves disputes between businesses, resolves disputes between businesses and city government, and lobbies on behalf of the district within city government.

Requirements to Create a CID

Creation of any sort of funding or management district generally must follow strict requirements set out in Missouri state law. These aren't onerous, but they are intended to assure that all parties that are potentially affected within a district are treated fairly. A review of the CID creation process is illustrative.

Community improvement districts are authorized in state statutes, RSMo §§ 67.1401 – 67.1571. When created, they are separate political subdivisions or nonprofit corporations.

- A CID can plan for and help pay for community improvements, including (but not limited to): pedestrian malls or plazas; parks, trees, and other landscaping; public rights-of-way, utilities, parking lots/garages, and other infrastructure; and "any other useful, necessary, or desired improvement."
- A CID can provide services in the district including (but not limited to): music, news, childcare, parking, buses/transportation, leasing space for sidewalk cafes security services in addition to normal city police services cleaning, maintenance, refuse collection, etc., also in addition to normal municipal services, promoting tourism, managing recreational/cultural events, sponsoring special events, and contracting for or conducting economic, planning, marketing, and other studies.
- A CID may issue bonds for up to 20 years (that is, incur debt) payable from resources raised through its adopted financing techniques.
- A CID may demolish or renovate structures in areas declared "blighted" by the local municipal elected officials in order to catalyze public and private re-investment in real estate.

Formation of a CID requires a petition, which must be signed by property owners of at least 50% of the district's assessed value *and* at least 50% per capita of property owners in the district. In other words, half of the property owners must agree to the CID which must also include enough property owners to represent half or more of the collective property value. For example, if there are three property owners and one of them owns 60% of the property value, that owner must agree to the CID petition in addition to at least one of the other two property owners. The two "minority value" owners cannot, themselves, agree to form the CID nor can the majority value owner.

After the petition is filed and approved, the local municipal government holds a public hearing regarding formation of the district and, if acceptable to the general public (though no general election is required), the district is established by municipal order or ordinance.

Other requirements include that the CID must have a board of between five and 30 directors and that the CID must have contiguous boundaries.

Establishing CID Funding

Petitioning and creation of the CID does not yet provide for funding of CID responsibilities which, in turn, are determined by the board of directors. There are three ways to create financing resources:

- The CID may levy a retail sales tax of up to 1% if approved by a majority of registered voters in the district, or, if there are none, a majority of the owners of real property within the district. In other words, registered voters have priority but some commercial districts have no residents, in which case a majority of the property owners decide on the sales tax. Those owners may include non-retailers.
- The CID may levy a property tax (no limit) if approved by a majority of registered voters in the district, or, if there are none, the owners of real property within the district. Again, registered voters have priority, even for property taxes that would apply to the commercial property owners.
- Or the CID may impose special assessments if approved by a majority of both (a) property owners of at least 50% of the district's assessed value, and (b) at least 50% per capita of property owners within the district. This is the same requirement as noted above for the petitioning process. The special assessment method is used in the South Grand CID, earlier described, and for the Downtown St. Louis CID.

APPENDIX A: FOUR TAPESTRY SEGMENT DETAILS FOR 14TH STREET ENVIRONS

CITY COMMONS

LifeMode Group: Midtown Singles

City Commons

11E

Households: 1,082,000

Average Household Size: 2.66

Median Age: 27.6

Median Household Income: $17,000

WHO ARE WE?

This segment is one of Tapestry's youngest and largest markets, primarily comprised of single-parent and single-person households living within large, metro cities. While more than a third have a college degree or spent some time in college, nearly a third have not finished high school, which has a profound effect on their economic circumstance. However, that has not dampened their aspiration to strive for the best for themselves and their children.

OUR NEIGHBORHOOD

- Single parents (Index 315), primarily female, and singles head these young households.
- Average household size is slightly higher than the US at 2.66.
- *City Commons* are found in large metropolitan cities, where most residents rent apartments in midrise buildings.
- Neighborhoods are older, built before 1960 (Index 150), with high vacancy rates.
- Typical of the city, many households own either one vehicle or none, and use public transportation (Index 309) or taxis (Index 354).

SOCIOECONOMIC TRAITS

- Although some have college degrees, nearly one in three have not graduated from high school.
- Unemployment is very high at 24% (Index 274); labor force participation is low at 54% (Index 86).
- Most households receive income from wages or salaries, but nearly one in four receive contributions from Social Security (Index 306) and public assistance (Index 420).
- Consumers endeavor to keep up with the latest fashion trends.
- Most families prefer the convenience of fast-food restaurants to cooking at home.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by Gfk MRI.

11E

LifeMode Group: Midtown Singles

City Commons

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 27.6 US: 37.6

| Indicates US

RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The Index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The Index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 49.5 US: 62.1

INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

AVERAGE HOUSEHOLD BUDGET INDEX

The Index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An Index of 100 is average. An Index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.

OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.

11E

LifeMode Group: Midtown Singles

City Commons

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Baby and children's products, like food and clothing, are the primary purchases.
- They shop primarily at warehouse clubs like Sam's Club and discount department stores such as Kmart.
- While most residents obtain privately issued medical insurance plans, some are covered by Federal programs like Medicaid.
- They subscribe to cable TV; children-oriented programs are popular, as are game shows and home shopping channels.
- Magazines are extremely popular sources of news and the latest trends, including baby, bridal, and parenthood types of magazines.
- They enjoy listening to urban radio.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Multiunit Rentals; Single Family

Average Rent:
$650
US Average: $990

POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

11E
LifeMode Group: Midtown Singles
City Commons
TAPESTRY SEGMENTATION
esri.com/tapestry
SEGMENT DENSITY
This map illustrates the density and distribution of the City Commons Tapestry Segment by households.
High
Low
For more information
1-800-447-9778
info@esri.com
esri.com
esri

MODEST INCOME HOMES

LifeMode Group: Hometown

Modest Income Homes

12D

Households: 1,632,000

Average Household Size: 2.56

Median Age: 36.1

Median Household Income: $22,000

WHO ARE WE?

Families in this urban segment may be nontraditional; however, their religious faith and family values guide their modest lifestyles. Many residents are primary caregivers to their elderly family members. Jobs are not always easy to come by, but wages and salary income are still the main sources of income for most households. Reliance on Social Security and public assistance income is necessary to support single-parent and multigenerational families. High poverty rates in this market make it difficult to make ends meet. Nonetheless, rents are relatively low (Index 73), public transportation is available, and Medicaid can assist families in need.

OUR NEIGHBORHOOD

- Households are single person or single parent (usually female householders). Multigenerational families are also present.
- Homes are predominantly single family; values reflect the age of the housing, built more than 60 years ago.
- Over half of the homes are renter occupied; average rent is lower than the US average.
- Most households have no vehicle or one car, with a high dependence on public transportation.

SOCIOECONOMIC TRAITS

- Almost a quarter of adults aged 25 or more have no high school diploma.
- Labor force participation is only 50%, with unemployment at more than double the US rate.
- Income is less than half of the US median income; one in three households are in poverty, dependent on Social Security, public assistance, and Supplemental Security Income.
- Consumers in this market consider traditional gender roles and religious faith very important.
- This market lives for today, choosing to save only for a specific purpose.
- They favor TV as their media of choice and will purchase a product with a celebrity endorsement.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by GfK MRI.

12D

LifeMode Group: Hometown

Modest Income Homes

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 36.1 US: 37.6

| Indicates US

RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The Index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The Index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 33.3 US: 62.1

INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

AVERAGE HOUSEHOLD BUDGET INDEX

The Index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An Index of 100 is average. An Index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.

OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.

12D LifeMode Group: Hometown

Modest Income Homes

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by OSI MRI)

- To make ends meet, consumers shop at warehouse clubs and low-cost retailers.
- Unlikely to own a credit card, they pay their bills in person.
- This market supports multigenerational families; they are often primary caregivers for elderly family members. On average, *Modest Income Homes* residents have a higher reliance on Medicaid.
- For entertainment, they listen to gospel and R&B music and prefer to watch BET.
- The recreational activity of choice for residents is basketball.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Single Family

Average Rent:
$720
US Average: $990

POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

12D
LifeMode Group: Hometown
Modest Income Homes
TAPESTRY SEGMENTATION
esri.com/tapestry
SEGMENT DENSITY
This map illustrates the density and distribution of the Modest Income Homes Tapestry Segment by households.
High
Low
For more information
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info@esri.com
esri.com
esri

SOCIAL SECURITY SET

LifeMode Group: Senior Styles

Social Security Set

9F

Households: 962,000

Average Household Size: 1.72

Median Age: 44.2

Median Household Income: $16,000

WHO ARE WE?

Social Security Set is an older market located in metropolitan cities across the country. Over one-third of householders here are aged 65 or older and dependent on low, fixed incomes, primarily Social Security. In the aftermath of the Great Recession, early retirement is now a dream for many approaching the retirement age; wages and salary income in this market are still earned. Residents live alone in low-rent, high-rise buildings, located in or close to business districts that attract heavy daytime traffic. But they enjoy the hustle and bustle of life in the heart of the city, with the added benefit of access to hospitals, community centers, and public transportation.

OUR NEIGHBORHOOD

- Most residents live alone in this older market; 19% of householders are aged 75 and older; another 17% are 65 to 74 years old.
- Multiunit rental properties with affordable rents are predominant (Index 62).
- Located in higher-density, high-traffic areas of metropolitan cities with good access to public transportation, vehicle ownership is low.

SOCIOECONOMIC TRAITS

- These aging consumers rely mostly on Social Security income but also depend on Supplemental Security Income and public assistance.
- Wages and salary income are still earned by almost half of all households.
- With fixed incomes, consumers remain price sensitive.
- A trusted source of information, TV is an important part of their lives.
- An aging population that is often limited by medical conditions, they are willing to try advanced medication but rely on their physicians for recommendations.
- Rather than eat out, *Social Security Set* residents prefer to have their meals at home, whether they order takeout or warm up a frozen dinner. To save money, many frequently cook their own meals.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The index represents the ratio of the segment rate to the US rate multiplied by 100.
Consumer preferences are estimated from data by GfK MRI.

9F

LifeMode Group: Senior Styles

Social Security Set

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 44.2 US: 37.6

| Indicates US

RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The Index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The Index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 74.2 US: 62.1

INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

AVERAGE HOUSEHOLD BUDGET INDEX

The Index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An Index of 100 is average. An Index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.

OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.

9F

LifeMode Group: Senior Styles

Social Security Set

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- With limited resources, spending on entertainment is restricted. To pass the time, residents have basic cable television. Daytime news, documentaries, and game shows are popular. Activities outside the house are also limited, but bingo at the local community center is a favorite. When the TV is off, the radio is on; residents aren't picky about the radio station, but do enjoy the companionship.
- Risk-averse consumers in *Social Security Set* prefer to pay their bills in person, usually with cash. Some residents don't have a checking account, although one in three maintain a savings account for their small savings.
- Technology is a bear for these consumers. They steer away from cell phones, computers, and digital cameras.
- Many residents are dependent on Medicare and Medicaid for health care expenses.
- They don't eat out often, but KFC and McDonald's are their restaurants of choice.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Multiunit Rentals

Average Rent:
$620

US Average: $990

POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

9F
LifeMode Group: Senior Styles
Social Security Set
TAPESTRY SEGMENTATION
esri.com/tapestry
SEGMENT DENSITY
This map illustrates the density and distribution of the Social Security Set Tapestry Segment by households.
High
Low
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esri.com
esri

METRO RENTERS

LifeMode Group: Uptown Individuals

Metro Renters

3B

Households: 1,734,000

Average Household Size: 1.66

Median Age: 31.8

Median Household Income: $52,000

WHO ARE WE?

Residents in this highly mobile and educated market live alone or with a roommate in older apartment buildings and condos located in the urban core of the city. This is one of the fastest growing segments; the popularity of urban life continues to increase for consumers in their late twenties and thirties. *Metro Renters* residents income is close to the US average, but they spend a large portion of their wages on rent, clothes, and the latest technology. Computers and cell phones are an integral part of everyday life and are used interchangeably for news, entertainment, shopping, and social media. *Metro Renters* residents live close to their jobs and usually walk or take a taxi to get around the city.

OUR NEIGHBORHOOD

- Over half of all households are occupied by singles, resulting in the smallest average household size among the markets, 1.66.
- Neighborhoods feature 20+ unit apartment buildings, typically surrounded by offices and businesses.
- Renters occupy close to 80% of all households.
- Public transportation, taxis, walking, and biking are popular ways to navigate the city.

SOCIOECONOMIC TRAITS

- Well-educated consumers, many currently enrolled in college.
- Very interested in the fine arts and strive to be sophisticated; value education and creativity.
- Willing to take risks and work long hours to get to the top of their profession.
- Become well informed before purchasing the newest technology.
- Prefer environmentally safe products.
- Socializing and social status very important.

TAPESTRY SEGMENTATION
esri.com/tapestry

Note: The Index represents the ratio of the segment rate to the US rate multiplied by 100. Consumer preferences are estimated from data by Gfk MRI.

3B

LifeMode Group: Uptown Individuals

Metro Renters

TAPESTRY SEGMENTATION
esri.com/tapestry

AGE BY SEX (Esri data)

Median Age: 31.8 US: 37.6

| Indicates US

RACE AND ETHNICITY (Esri data)

The Diversity Index summarizes racial and ethnic diversity. The Index shows the likelihood that two persons, chosen at random from the same area, belong to different race or ethnic groups. The Index ranges from 0 (no diversity) to 100 (complete diversity).

Diversity Index: 59.3 US: 62.1

INCOME AND NET WORTH

Net worth measures total household assets (homes, vehicles, investments, etc.) less any debts, secured (e.g., mortgages) or unsecured (credit cards). Household income and net worth are estimated by Esri.

Median Household Income

Median Net Worth

AVERAGE HOUSEHOLD BUDGET INDEX

The Index compares the average amount spent in this market's household budgets for housing, food, apparel, etc., to the average amount spent by all US households. An Index of 100 is average. An Index of 120 shows that average spending by consumers in this market is 20 percent above the national average. Consumer expenditures are estimated by Esri.

OCCUPATION BY EARNINGS

The five occupations with the highest number of workers in the market are displayed by median earnings. Data from the Census Bureau's American Community Survey.

3B LifeMode Group: Uptown Individuals

Metro Renters

TAPESTRY SEGMENTATION
esri.com/tapestry

MARKET PROFILE (Consumer preferences are estimated from data by GfK MRI)

- Enjoy wine at bars and restaurants.
- Shop at Trader Joe's and Whole Foods for groceries; partial to organic foods.
- Own a Mac computer and use it for reading/writing blogs, accessing dating websites, and watching TV programs and movies.
- Favorite websites: Facebook, Twitter, YouTube, and LinkedIn.
- Use a tablet for reading newspapers and magazines.
- Participate in leisure activities including yoga, Pilates, and downhill skiing.
- Shop for clothes at Banana Republic, The Gap, and Nordstrom.

HOUSING

Median home value is displayed for markets that are primarily owner occupied; average rent is shown for renter-occupied markets. Tenure and home value are estimated by Esri. Housing type and average rent are from the Census Bureau's American Community Survey.

Typical Housing:
Multiunit Rentals

Average Rent:
$1,310
US Average: $990

POPULATION CHARACTERISTICS

Total population, average annual population change since Census 2010, and average density (population per square mile) are displayed for the market relative to the size and change among all Tapestry markets. Data estimated by Esri.

ESRI INDEXES

Esri developed three Indexes to display average household wealth, socioeconomic status, and housing affordability for the market relative to US standards.

3B
LifeMode Group: Uptown Individuals
Metro Renters
TAPESTRY SEGMENTATION
esri.com/tapestry
SEGMENT DENSITY
This map illustrates the density and distribution of the Metro Renters Tapestry Segment by households.
High
Low
For more information
1-800-447-9778
info@esri.com
esri.com
esri

APPENDIX B: POPULATION BY TAPESTRY IN 14TH STREET, 63106, AND ST. LOUIS

Segment Number	Tapestry Segment	63106	Rest of St. Louis City	14th St. Corridor	Rest of St. Louis City	City of St. Louis
11A	City Strivers					1,130
11B	Young and Restless					2,196
11C	Metro Fusion					9,588
11D	Set to Impress					21,993
11E	City Commons	8,393	23,938	1,466	30,865	32,331
12A	Family Foundations					11,513
12C	Small Town Simplicity					573
12D	Modest Income Homes	2,252	56,299	360	58,191	58,551
13A	International Marketplace					766
13D	Fresh Ambitions					4,198
14B	College Towns					3566
14C	Dorms to Diplomas					4,390
2A	Urban Chic					1,162
3A	Laptops and Lattes					3,658
3B	Metro Renters	98	27,033	1,216	25,915	27,131
5B	In Style					6,596
5C	Parks and Rec					6,211
5D	Rustbelt Traditions					6,524
5E	Midlife Constants					688
8A	City Lights					2,715
8B	Emerald City					59,292
8C	Bright Young Professionals					628
8E	Front Porches					13,694
8F	Old and Newcomers					4,665
8G	Hardscrabble Road					16,682
9B	Golden Years					738
9E	Retirement Communities					1,184
9F	Social Security Set	724	10,439			11,163
	Total Population	11,467	117,709	3,042	114,971	313,526
	Total Groups	4	4	3	3	28
	Share of Population	3.7%		1.0%		
	Share of Groups	14%		11%		

ENVIRONMENTAL

Great Streets Initiative | N. 14th Street

Environmental Infrastructure

June 2016

Prepared by:

SWTDESIGN

For East West Gateway Council of Governments and in collaboration with Development Strategies, CBB and Christner

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Project Description | Environmental Infrastructure

Less than a mile north of Downtown St. Louis, racially diverse communities struggle to thrive as they are challenged by dated infrastructure, poor connectivity and a vast landscape of vacant properties. With the neighborhood's ideal location and abundance of potential, paired with significant pending investment and development of the surrounding area, this Great Streets study explored connecting these improvements, now and in the future, to strengthen the N. 14th Street corridor. An intense design charrette gathered planners, engineers, urban designers and landscape architects to interview stakeholders, test alternatives, and ultimately develop a visionary plan. This plan will guide new growth and development in a way that protects, preserves, and rehabilitates the urban character while incorporating environmentally sustainable features that enhance the quality of life for residents and revitalize the physical and social dimensions of the community.

The study area encompasses the ¾-mile segment of N. 14th Street between Delmar Boulevard/Convention Plaza to Mullanphy Street and the adjacent parcels.

Existing Conditions | Context

A great number of ongoing planning efforts are focused in and around North St. Louis. These initiatives and efforts influence the existing and perceived conditions of the N. 14th Street corridor. Some of these influential projects include:

Choice Neighborhoods Initiative:

This HUD program helps communities address government assisted and vacant housing units, while investing in people and neighborhood assets, to transform neighborhoods of distress into revitalized mixed-income neighborhoods. Currently the plans include a renovated Preservation Square development with an improved, mixed-use face along N. 14th Street while also reopening the street grid for more fluid access. The current plans have also identified the Choice Neighborhood boundary in seeking an EcoDistrict designation. EcoDistricts are propelling a new model of urban regeneration that ensures just, sustainable, and resilient neighborhoods for all.

The *EcoDistricts Protocol* starts with an unwavering commitment to three Imperatives: *Equity, Resilience, and Climate Protection.*

Existing Conditions | Context

National Geospatial-Intelligence Agency (NGA)

NGA and the United States Army Corps of Engineers (USACE) have released the Record of Decision (ROD) selecting St. Louis City as the site for Next NGA West Campus. The Environmental Impact Statement evaluated the social and environmental impacts and benefits of constructing and operating the Next NGA West campus and ultimately chose St. Louis City out of four proposed sites.

Approximately 3,000 employees work at the current NGA Campus in South St. Louis City, and it has been projected that the workforce will grow, perhaps significantly, at a new facility. The city had a number of positives to offer, and will in return benefit considerably from the development of 99-underutilized-acres just northwest of downtown. Improved access, utility infrastructure, services and neighborhood amenities for NGA employees are already under development and being implemented. These enhancements will improve neighborhood conditions for all.

Existing Conditions | Context

Great Rivers Greenway District: Iron Horse Trestle

Great Rivers Greenway (GRG) and the City of St. Louis have begun looking at potential areas along the Mississippi Greenway that would benefit from design modifications to decrease conflicts between recreational users and vehicles that need access for commerce along the industrial riverfront. The Trestle, an abandoned, elevated rail line, spans Interstate 70 between Chambers Street and Tyler Street. This rail-to-trail conversion plan is a $60 million initiative, which taxpayer funding cannot cover alone and will require a comprehensive partnership effort with major private or grant investment to move forward. In addition to the Trestle, GRG is planning a bicycle/pedestrian connection from the landing of the old rail line south to the Metro Transit Center and has already begun right-of-way acquisition discussions along N. 14th Street to do so. This future facility has the potential to be a significant feature along this corridor.

Old North St. Louis Neighborhood Plan

In 2015, the City Planning and Urban Design Agency asked the U.S. Environmental Protection Agency (EPA) for technical assistance to develop a vision and create an implementable plan to further the transformation of the Old North St. Louis neighborhood into an environmentally sustainable historic district. EPA assembled a team of consultants to help develop overall neighborhood strategies and design options based on city, resident, and stakeholder goals. The report provides a comprehensive vision for sustainably redeveloping Old North St. Louis and offers overall neighborhood strategies to help meet the community's goal to foster environmentally friendly redevelopment while preserving the area's historic assets and improving quality of life.

These overall neighborhood strategies for Old North are: ***Improve connectivity*** to enable people walking, biking, or taking public transit; ***Enhance environmental performance*** to help the community reach its sustainability goals and provide value-added benefits to the neighborhood; and ***Encourage more productive land use*** to make the most of vacant and underutilized properties and promote increased density.

Existing Conditions | Context

The North Riverfront Open Space & Redevelopment Plan

Completed in September 2015 by a multidisciplinary team of consultants, a vision for the riverfront takes advantage of the location and rich history of the site to develop a world-class destination where one can live, learn, work, and play. The North Riverfront Open Space & Redevelopment plan was formally adopted as a Topical Plan by the St. Louis Planning Commission in December 2015.

Development of the nearly one- hundred acres of blighted and dilapidated land just north of the City's crown jewel, the Arch, has become a priority for many. This planning effort is a great opportunity for St. Louis to once and for all, reconnect to the river that made it great.

Riverfront Park

In an effort to advance the above mentioned North Riverfront Open Space & Redevelopment plan, design of a new riverfront park is underway. The design of the park, being led and sponsored by Great Rivers Greenway District, will promote wellness, incorporate innovative storm water techniques, and include ways to create value for existing historic resources and entice development along its edges. The plan is aggressively working to create a vision for an urban landscape of parks and adjacent infill development that will connect to adjacent neighborhoods while providing much needed public space connecting the Arch Grounds to the North Riverfront Trail.

Existing Conditions | Physical Assessment

SURFACE PERMEABILITY

Roughly 75% of the study area consists of impervious surfaces, including building roofs, streets and parking lots. Of the remaining 25% that appears to be pervious, the true percolation rate is questionable as the majority of these turf covered parcels are disguising old hardscapes and compacted materials. An increase in permeable surfaces improves water quality, reduces flooding, and alleviates a significant portion of the stormwater volume straining the already antiquated sewer system.

Percentage of permeability is largely dependent upon the density and type of development. Though 25% permeability is neither ideal nor detrimental, new development should strive to maximize permeability on-site. These best practices will provide an overall increase of permeability and related benefits corridor-wide.

Existing Conditions | Physical Assessment

GREEN SPACE

Loretta Hall Park is a 2.3-acre community park offering playgrounds, sports fields, basketball courts, and plans for a new outdoor roller-skating rink. The park is maintained by the City of St. Louis Parks Division. While providing a significant green space within the study area and great amenities to nearby residents, the park's frontage along N. 14th Street is discreet and provides limited access.

The existing tree canopy cover for the study area is approximately 6%, with the highest concentration in and around Preservation Square. Some residential streets, such as O'Fallon Place, benefit from a tree-lined parkway strip. However, many of these trees are not ideal species and/or have reached their maximum growth potential in the urban conditions leaving them subject to becoming hazards and maintenance nuisances. New development should incorporate trees conducive to urban environments (hardy, salt-tolerant, lower maintenance) with the goal to diversify age and species creating a healthy, sustainable increase in tree canopy.

A significant opportunity exists to dramatically increase tree canopy throughout the study area with specific focus on successional planning and replacement of existing trees impacted by future redevelopment. A higher percentage of tree canopy coverage can greatly affect a neighborhood's long-term environmental sustainability and quality of life. Mature trees can help reduce energy demand, air and water pollution, noise pollution, greenhouse gas emissions, ambient air temperatures, and heat-related illness.

O'Fallon Tree Canopy

Loretta Hall Park

UTILITIES & INFRASTRUCTURE

As in many older urban areas, utility infrastructure is layered and compact, likely to be impacted significantly with any redevelopment. Existing electric service largely extends laterally across N. 14th Street expanding opportunities for right-of-way adjustments without the burden of relocating power lines/poles which can sometimes be quite cost prohibitive Existing street lights line the corridor, but many are not in working order leaving the street and surrounding neighborhoods sparsely illuminated and feeling unsafe.

Gas service (Laclede-Spire Energy)has limited mains running within the street section (running center street from south of Cole to Dr. Martin Luther King (MLK); however gas lines cross 14th Street at various points along the study area. Region-wide upgrades to higher pressure systems are planned throughout the St. Louis region providing efficiencies to existing clients and future service.

Communications (Charter) is intensely woven throughout the corridor both above and underground. This web of infrastructure requires significant coordination to provide service to new development without greatly disrupting service to existing customers. The communications industry is aggressively competing for contracts with housing developments and may provide opportunity to reduce visual clutter of satellite dishes.

Water mains bounce from side to side throughout the corridor running on the west side of N. 14th Street from Mullanphy to Biddle, the east side of N. 14th Street from Biddle to Dr. Martin Luther King, and weaves somewhere around the centerline of the roadway from MLK to Delmar. No representatives from the City Water Division participated and therefore a comprehensive understanding of existing conditions is limited.

Overhead Utilities

Existing Conditions | Physical Assessment

STORM AND SEWER SYSTEM

The study area is in the Bissell Point Watershed which is a priority area for the local managing sewer district (MSD). This watershed is undergoing a very aggressive initiative to eliminate the Sanitary Sewer Overflows (SSOs) and Combined Sewer Overflows (CSOs). However, the immediate study area does not include any anticipated capital improvements. The majority of all storm and sanitary infrastructure within the study is combined and aged.

MSD Green Infrastructure Focus Area/Project Clear Pilot Rain Gardens

- The map on the left shows the focus area for green infrastructure projects in purple.

Existing Conditions | Physical Assessment

TOPOGRAPHY AND DRAINAGE

Topography plays a significant role in managing hydrology but also has a significant impact on visual safety along the N. 14th Street corridor for automobiles and pedestrians. Though the lowest spot as indicated on the map is near the north end of the corridor and the watershed is a tributary to the Mississippi River, N. 14th Street has several rises and falls creating stormwater management "hot spots" throughout corridor.

Clinton and 14th Street Rain Garden

CHARRETTE PROCESS

A four-day planning charrette gathered planners, engineers, urban designers and landscape architects to interview stakeholders, test alternatives, and ultimately develop a visionary plan to guide new growth and development. Stakeholder focus groups were facilitated to provide a deeper knowledge and awareness of existing conditions, ongoing capital improvements, and bring further awareness to the project study area. The consultant team greatly benefited from discussion with key stakeholders and relevant agencies. Specific to environmental infrastructure and utilities, stakeholder participation included:

- Great Rivers Greenway District
- City of St. Louis Board of Public Service
- Spire Energy (formerly known as Laclede Gas)
- Charter Communications
- Metropolitan St. Louis Sewer District (MSD)

WHAT WE HEARD:

Coordination and pre-planning will be a critical priority. Many of the existing utilities and services both overhead and underground have planned capital improvements to upgrade service. Timing of these investments is critical to minimize costly rework and planned easements and/or dedicated duct banks will limit disturbance and disruption to existing utility service. Providing utilities with ample space and flexibility by identifying smart locations will provide ease of access for future maintenance and limit disturbance of improved streetscape features.

Community Goals & Vision | Charrette Process

CHARRETTE IDENTIFIED OPPORTUNITIES:

- Maximize surface permeability and improve water quality
- Improve air quality / Reduce heat-island
- Increase biodiversity/habitat
- Improve access to open space
- Improve safety/security
- Investigate alternative energy sources
- Integrate environmental performance with overall neighborhood identity

Improved transportation networks and strengthened connectivity lead the design concepts for N. 14th Street. Alternative modes of transportation, including transit and bicycle/pedestrian facilities, create a linear framework in which to piggy-back environmental infrastructure improvements. In conjunction with these transportation driven changes, it is proposed the adjacent land uses will evolve to embrace the street, stitch neighborhoods together, and increase in density as appropriate to downtown St. Louis. It is important to plan for a balanced socio/environmental ecosystem as density rises and development occurs. It is recommended to designate places for community to gather while establishing an identity and sense of place. These land use changes are opportunities to preserve open space, increase permeability, and manage stormwater with more localized best management practices.

ENVIRONMENTAL INFRASTRUCTURE STRATEGY ALTERNATIVES CONSIDERED:

- On-Street /Linear Environmental Infrastructure
- Localized Stormwater BMPs
- Sustainable Development Practices

The following pages further describe these strategy alternatives and how they parallel the phased implementation recommendations.

ON-STREET / LINEAR ENVIRONMENTAL INFRASTRUCTURE

As improvements are made to the road network and pedestrian infrastructure, the following environmental infrastructure strategies can be incorporated into the design. These strategies should be viewed as opportunities to create shared infrastructure, lessening the burden of localized site-specific BMPs and reducing independent parcel redevelopment costs making redevelopment more attractive fiscally and aesthetically.

SIDEWALKS: As sidewalks are replaced and/or added where none exist currently, consider permeable concrete or permeable pavers enabling rain water and runoff to infiltrate the ground. This reduces the overall burden on aged stormwater infrastructure. Priority should be given to areas that would provide the greatest benefit in runoff reduction from a constructability and hydrologic standpoint.

CURB ADJUSTMENTS: Integrate linear stormwater BMPs adjacent to curbs as the existing roadway is narrowed or as lanes are shifted and the curbs are realigned. Benefits include intercepted stormwater volumes, improved water quality with infiltration, opportunity for increased biodiversity, tree canopy, and placemaking.

LOCALIZED STORMWATER BMPs

As land uses transform and community gathering spaces are identified, these social spaces can also fulfill a critical green infrastructure role. Larger rain gardens, preserved open space, increased permeability and tree canopy coverage are some of the tactics to integrate environmental performance within the public realm.

RAIN GARDENS: Larger, more localized stormwater management practices enable a higher volume of runoff to be intercepted and filtered. These features can also perform as neighborhood amenities providing park-like experiences and interpretive opportunities.

Rain Garden Plantings
Native plant species cleanse stormwater and provide habitat for birds and pollinators.

Drain System
Prevent flooding and conveys excessive runoff to adjacent storm sewer system

Soils
Specialty soil mixes to enable stormwater infiltration and filter sediments and pollutants

Community Goals & Vision| Alternatives & Design Guidelines

SUSTAINABLE DEVELOPMENT PRACTICES

The following sustainable practices are recommended to guide new development as it occurs.

ALTERNATIVE ENERGY SOURCES: Though local utilities have not yet embraced solar and wind energy as an offered consumable product, private investment can play a role in reducing energy consumption and lowering utility costs by use of solar panels, wind spires, gray water reuse, etc.

VEGETATED ROOFS: Vegetated roofs protect and extend the life of a typical roof, provide better insulation, reduce heat-island effects, and can provide a productive food source. A fantastic, existing example within the corrider is the FOOD ROOF Farm. Atop the U-Haul building at the corner of Delmar and N. 14th Street, the FOOD ROOF Farm offers expansive views of Downtown and North St. Louis while connecting city residents to an organic-based food system right in their neighborhood. The FOOD ROOF Farm provides healthy food to the community, enhances biodiversity in the city, and inspires people to grow their own food and contribute to a more resilient local food system. Vegetated roofs also mitigate stormwater runoff. The FOOD ROOF intercepts up to 17,000 gallons of stormwater per storm event enabling an estimated 50% reduction in their irrigation use.

Implementation Recommendations | Priority, Phasing and Costs

As illustrated throughout this report, improvements to environmental infrastructure will need to occur with specific intent as other physical transformations occur. Prioritization of utility corridors and coordination of those alignments is critical.

SHORT TERM STRATEGIES (0-5 years)

(1) As an interim GRG Bike/Ped Facility is implemented, infill sidewalk gaps and consider using pervious matierals and/or underground stormwater storage systems. (2) In conjunction with the planned Preservation Square Renovation, consider implementing streetscape improvements adjacent to the 14th Street frontage as a prime example of ideal character and stormwater infrastructure amenities. Preserve appropriate utility banks as more extensive infrastructural upgrades may, and are likely to, occur. (3) As design for a new community Center/YMCA develops further, be sure to embrace the 14th Street frontage and public realm, acknowleding potential for a future transit station, and greatly strengthened bicycle/pedestrian facilities.

Implementation Recommendations | Priority, Phasing and Costs

All costs illustrated are magnitude of scale and provided to indicate a range of potential public infrastructure expenditures. All costs are exclusive of design and engineering fees, contingincies, maintenance costs, and premiums associated with utility upgrades.

SHORT-TERM COSTS

Environmental infrastructure components recommended in the short term strategy are listed with associated unit costs below. Assuming the three block section of Preservation Square (Cass to O'Fallon) are renovated to widen the sidewalk and integrate permeable paving, street trees, pedestrian lighting and additional landscape enhancement, the magnitude public infrastructure cost is anticipated around $194,000.00. This does not include any utility relocations or additional potential improvements associated with the Preservation Square renovation or adjacent properties.

INFRASTRUCTURE COMPONENTS	COST
Permeable Concrete Sidewalk	$ 10 / square foot
Pedestrian Lighting (approx. 60' on center)	$ 65 / linear foot
Street Trees (aprox. 40' on center)	$ 15 / linear foot
Understory Planting	$7.50 / square foot
Silva Cells / Underground Storage	$ 10 / linear foot
PRESERVATION SQUARE FRONTAGE IMPROVEMENT (approx. 850 linear feet)	$ 194,000.00

Implementation Recommendations | Priority, Phasing and Costs

MID-TERM STRATEGIES (5-15 years)

(1) As improved connections are made at N. 14th Street and N. Florissant Avenue for all modes of transportation and new development is spurred along re-established street grids, reserve open areas for localized stormwater management, habitat restoration, and communtiy space. The existing youth garden to the north (14th and Cass), planned public node at Biddle, frontage of Loretta-Hall Park and the southern node interescting with downtown are optimum locations geographically. (2) As streets are extended to restore a walkable street grid and eliminate existing superblocks. (3) Also use this opportunity to separate aged and combined storm and sanitary sewer lines where impacted and integrate energy-efficient lighting systems such as solar or LED to provide safe and sufficient lighting distrubution.

Implementation Recommendations | Priority, Phasing and Costs

MID-TERM COSTS

A magnitude cost per square foot of constructed rain garden is provided below. This unit cost provided is based off the Old North neighborhood scale MSD Pilot Project Rain Garden at Clinton and 14th Street. This rain garden is approximately 1/3-acre in size and similar scale to those recommended along the N. 14th Street Corridor.

INFRASTRUCTURE COMPONENTS	COST
Rain Garden	$ 22/ square foot
Includes: Excavation, Pipe and Drain System, Overflow and Inlet Structures, Special Soils, Plant Materials, Viewing Area, Interpretive Signage, Utility Protection and Relocation	

Implementation Recommendations | Priority, Phasing and Costs

LONG-TERM STRATEGIES (15+ years)

Though multiple transit options are recommended for further consideration, the public realm and infrastructure adjacent to the traffic and transit lanes remains fairly consistent. Significant roadway reconstruction would need to occur to facilitate longer-term transit implementation. These more invasive and costly environmental infrastructure improvements are recommended to be implemented at the same time.

1 To the west side of N. 14th Street, a widened sidewalk, more generous planting strip and consistent cadence of street trees and pedestrian lighting is recommended.

2 On the east side of the street, an upgraded GRG bicycle and pedestrian facility is suggested to be implemented in coordination with the complete renovation of traffic lanes and added transit. This multi-modal public realm supports two-way protected cyclist lanes buffered on both sides by planting and BMP treatments and parallels a generous sidewalk fronting new development. In the long-term, the trends of green infrastructure and stormwater management integrated into the streetscape can hopefully continue as the neighborhood street grid is stitched back together and pedestrian linkages reach further to connect with NGA and the North Riverfront redevelopment.

LONG-TERM COSTS

INFRASTRUCTURE COMPONENT	COST
Green Infrastructure Street Section Renovation	$ 1,300.00 /linear foot
Includes: New Curbs, Depressed Planting Beds, Special Soils, Plant Materials, New Separated Storm and Sanitary Infrastructure, Permeable Paving, Lighting, Signage	
Utility Relocations / Upgrades	$ 2,200.00 /linear foot
Includes: Electric, Natural Gas, Communications, Water	

The unit costs provided are in comparison to Duncan Avenue in the Cortex Innovation Community. Duncan Avenue environmental infrastructure improvements were approximately $3,300.00 / linear foot. The above costs do not account for full street renovation. Please refer to the transporation consultant's estimates.

14th Street (LRT Center Running) 104' ROW

14th Street (LRT Center Running) 135' ROW

14th Street (BRT) 104' ROW

14th Street (LRT Side Running) 135' ROW @ Station

In order to implement the recommended short-term, mid-term, and long-term strategies, funding sources must be identified. Potential federal, state, and local funding sources are listed below along with a link to access additional information.

Metropolitan St. Louis Sewer District Rainscaping Program Cost Share offered cost share funding through the MSD Project Clear Rainscaping Small Grants Program for rainscaping improvements including rain gardens and permeable pavement. This funding source could be used for green infrastructure improvements on private property.
More information is available at:
http://www.projectclearstl.org/get-the-rain-out/rainscaping-small-grants-program/

Missouri Department of Natural Resources' 319 Nonpoint Source Subgrants are authorized by Section 319 of the Clean Water Act to address nonpoint source water pollution, such as polluted runoff from unregulated or unpermitted sources and in waters needing improvements or protection from further degradation. The funding is provided by EPA through the Missouri Department of Natural Resources and is available for organizations to implement best management practices as detailed in a watershed management plan. If a watershed management plan has been completed for any of the project watersheds, this funding could be used to implement private property green infrastructure improvements.
More information is available at: dnr.mo.gov/env/wpp/nps

Great Rivers Greenway District (GRG) is a regional parks and trails district created in 2000 that connects the St. Louis region with greenways. It is funded by a special sales tax. GRG's plans to connect the Iron Horse Trestle to downtown is a strong partnering opportunity to incorporate environmental infrastructure and benefits into the design of this facility.

Energy Equity Funding, LLC is the program administrator for the Set the PACE St. Louis program described in the local funding section of this report. This organization could provide residents and developers with information about energy efficiency property upgrades and renewal energy deployment opportunities to enhance the neighborhood's environmental performance. Set The PACE St. Louis Financing provides low-interest, long-term financing for energy efficiency, renewable energy, and water conservation systems for private property owners. This funding could be used for private property energy efficiency and renewable energy improvements. *More information is available at: www.setthepacestlouis.com*

Local TIFs (Tax Increment Financing) permits the use of a portion of local property and sales taxes to assist funding the redevelopment of certain designated areas within communities. The use of TIF is helping dozens of Missouri communities thrive by creating new and better jobs while increasing tax revenue streams from formerly non-productive, unattractive and substandard areas. TIF benefits redevelopment in the urban core areas of large metropolitan cities, as well as in smaller communities, wherever the need exists.

EPA's Clean Water State Revolving Fund provides low-cost loans for projects that address states' highest-priority water quality needs. This program is managed by the Missouri Department of Natural Resources. Funding could be used for green infrastructure, water reuse and conservation projects.
More information is available at: dnr.mo.gov/env/wpp/srf/wastewater-assistance

EPA's Urban Water Program funds projects that address urban runoff pollution through diverse partnerships that produce multiple community benefits, with emphasis on underserved communities. This funding could be used to support the green infrastructure and tree planting activities recommended.
More information is available at: www.epa.gov/urbanwaters

U.S. Department of Agriculture's Farmers Market and Local Food Promotion Program is intended to support projects that will encourage the development, promotion, and expansion of various direct-marketing opportunities, such as farmers markets, roadside stands, community- supported agriculture programs, and agritourism. *More information is available at: www.ams.usda.gov/services/grants/fmpp*

EPA Brownfields Revolving Loan Fund Grants provide funding for a grant recipient to capitalize a revolving loan fund and to provide subgrants to carry out cleanup activities at brownfield sites. This funding could be used to clean up contaminated sites in the neighborhood.
More information is available at: www.epa.gov/brownfields/types-brownfields-grant-funding#tab-2

EPA Brownfield Assessment Grants provide funding for a grant recipient to inventory, characterize, assess, and conduct planning and community involvement related to brownfields sites. This funding could be used to identify contaminated sites in the neighborhood for future infill and reuse efforts.
More information is available at: www2.epa.gov/brownfields/types-brownfields-grant-funding

EPA's Targeted Brownfield Assessment Program is designed to help minimize the uncertainties of contamination often associated with brownfields—especially for those entities without EPA Brownfields Assessment grants. It is not a grant program, but a service provided through an EPA contract in which EPA directs a contractor to conduct environmental assessment activities to address the requester's needs. This funding could be used to evaluate sites for redevelopment suitability and prioritize areas for cleanup.
More information is available at: www.epa.gov/brownfields/targeted-brownfields-assessments-tba

Utility partners (Laclede Gas, Charter Communications, MSD, Ameren) may offer grant programs or assistance programs that could benefit neighborhood residents, businesses, or public infrastructure upgrades.

Addition initiatives within the region that support the environmental infrastructure strategies recommended include the City of St. Louis' Sustainability Plan, OneSTL and Missouri Botanical Garden's BiodiverCity to name a few.

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