

PROJECT M4-DDC10

Creating Better Connectivity — Neighborhood Connectivity, Innovation District, Phases 1 and 2





PREPARED FOR City of Oklahoma City

PREPARED BY Kimley-Horn

THE CITY OF OKLAHOMA CITY

APPROVAL SHEET

Project M4-DDC10
MAPS 4 Innovation District Connectivity Master Plan

Prepared by

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Luke Schmidt, P.E. PTOE



Recommended for Approval

David E. Todd, P.E. Program Manager

Eric J. Wenger, P.E. Director Public Works/City Engineer

APPROVED by the Council of the City of Oklahoma	a City this day of, 2023	
ATTEST:	THE CITY OF OKLAHOMA CITY	
City Clerk	Mayor	

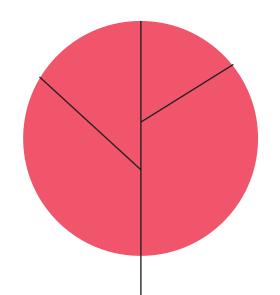
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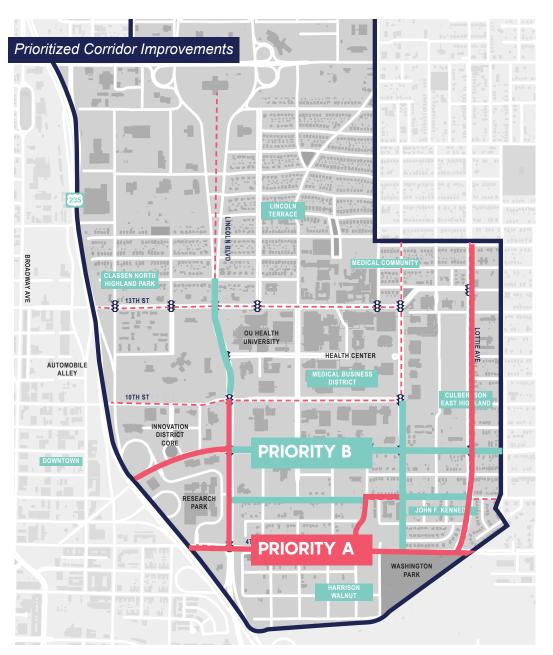
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Executive Summary

The MAPS 4 Innovation District Connectivity Master Plan investigated corridors to improve physical and communal connections in the area. Assessment of existing conditions and gathered feedback from stakeholders and residents were first completed to identify priority areas in need of improvement. Common improvements were new and updated sidewalk, bike lanes, shade trees, pedestrian benches, and updated pedestrian safety improvements. Through the feedback and assessment, the identification of common connection corridors and high-level cost estimates for improvements were completed. Prioritization assignment was then completed according to need and budget. These priority investments will build stronger connections between neighborhoods, and businesses, and provide an increased ease of access within the Innovation District.



Quantities

Impr	ovements	A	В
<u>*</u> - <u>*</u> -	Sidewalks (Square Yards)	10,478	6,873
ø.	Bike Lane Markings (Linear Feet)	4,800	3,746
	Bike Lane Delineators (Each)	192	174
À → T ←	Crosswalk Markings (Linear Feet)	5,408	3,746
●☆	Pedestrian Signal Upgrades (Intersections)	1	1
SPEED LIMIT	Radar Detection Upgrades (Intersections)	3	2
	LED Street Light Upgrades (Each)	110	147

Priority A - Priority B - \$5,000,000 \$4,400,000

Neighborhood Connectivity Budget (Construction): \$10,606,000

Phase 1 - \$5,303,000 Phase 2 - \$5,303,000

Project Introduction and Methodology



Introduction

Since 2015, the Oklahoma City Innovation District has continued to establish itself around the idea of harnessing existing high-tech and medical institutions to create greater collaboration and economic diversification. This project will address specific recommendations from a 2017 Brookings Institute report by creating physical spaces to grow this collaboration and to improve physical and communal connections between the District's existing institutions and surrounding residential area.

The MAPS 4 Innovation District Connectivity Master Plan investigated corridors to improve these physical and communal connections in the area. Through an existing condition assessment, robust feedback from stakeholders and residents, and a high-level cost estimate, corridors were identified and sorted by priority. Improvements such as new and updated sidewalks, bike lanes, shade trees, pedestrian benches, and updated pedestrian safety improvements will build stronger connections between neighborhoods, businesses, and other parts of Oklahoma City specifically within the Innovation District. The images to the right document potential improvement types being identified through this master planning process.







Connectivity Opportunity

The MAPS 4 Innovation District Connectivity Master Plan provides potential improvements to the physical characteristics of the Innovation District to better encourage interaction between institutions, developments, and neighborhoods focusing on both existing and future opportunities in the study area. The plan provides recommendations along the improvement corridors related to:

- » Enhanced pedestrian connection
- » Bicycle linkages
- » Amenities and possible branding opportunities

The connections are being envisioned within the study area, connecting to the neighborhoods, and surrounding areas for the benefit of employees, visitors, and residents of the area.

These critical bike and pedestrian linkages were identified through area stakeholder feedback, survey responses, and the existing condition inventory and evaluation within the study area bound by I-235 to the west, Lottie Avenue to the east, N 23rd Street to the north, and the existing railroad corridor to the south. At the core of the project development and prioritization is an emphasis on community feedback, connectivity needs, and the prepared planning level construction cost estimates to develop an implementation plan.





The connections are being envisioned both within the study area and connections to the surrounding areas for the benefit of employees, visitors, and residents of the area."

-Anonymous Community Survey Response

Build on Current and Past Work







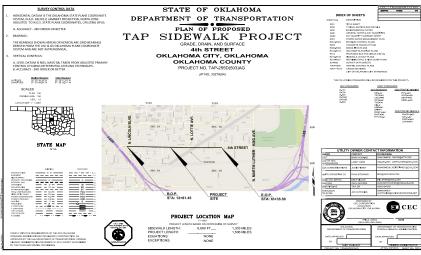
The design plans and studies that were considered in this Master Plan include the South of 8th Study, Innovation District and Capitol Environs Land Use Plan, RTA System Plan, EM-BARK OKC Moves, planokc, bikewalkokc, 4th Street Sidewalk Improvements, and Lottie Avenue Bike Lane Improvements.







The first step in developing the Innovation District Master Plan was reviewing and documenting past work completed in and around the study area. The intent of this study is to build on past work completed and ensure the plan is consistent with past visions and recommendations in the Innovation District. There are many projects, plans, and studies that have encompassed the study area. These plans focus on transit, bike and pedestrian infrastructure, business growth, and quality of life.





Assessment of Existing Facilities

An assessment of existing conditions along priority corridors within the Innovation District was a key component for identifying priority investments and accurately assessing costs of the investments. The condition assessment was completed using high-resolution aerial photography, street view, and in-person field documentation to inventory the existing:



Sidewalks



Driveways



Crosswalks



Street lights

These assets were inventoried and reviewed for compliance, condition, and measurements of the mobility-related amenities, such as sidewalks, crosswalks, and pedestrian signals. The map to the right documents the findings of the existing conditions assessment.

Missing Sidewalks

12,100 LF

Sidewalk Repair Needed

38,500 LF

Non-Compliant Curb Ramps

500 Each

Pedestrian Signals

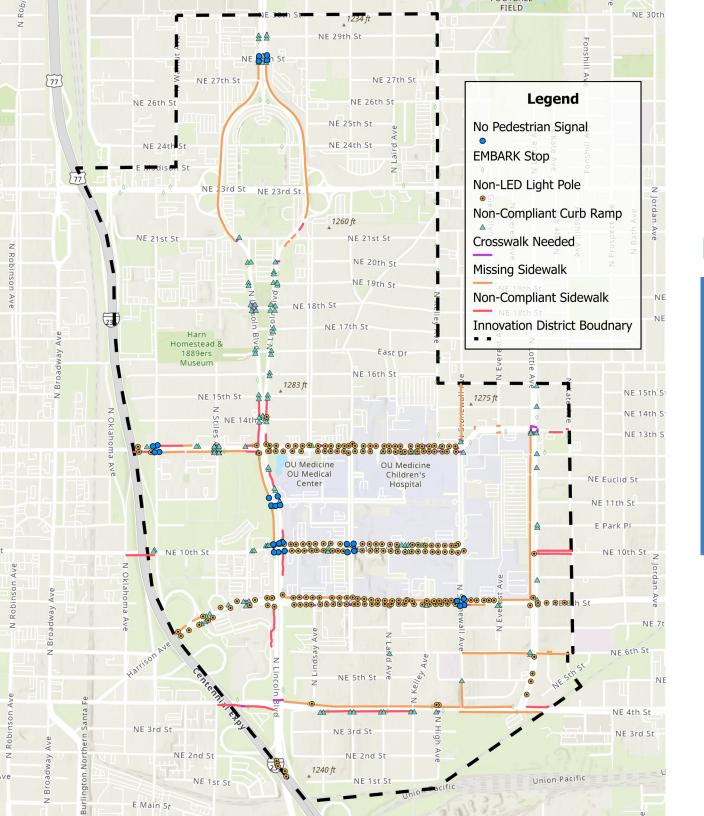
27 Each

EMBARK Stops

32 Each

Crosswalk Repainting
Needed

9,800 LF

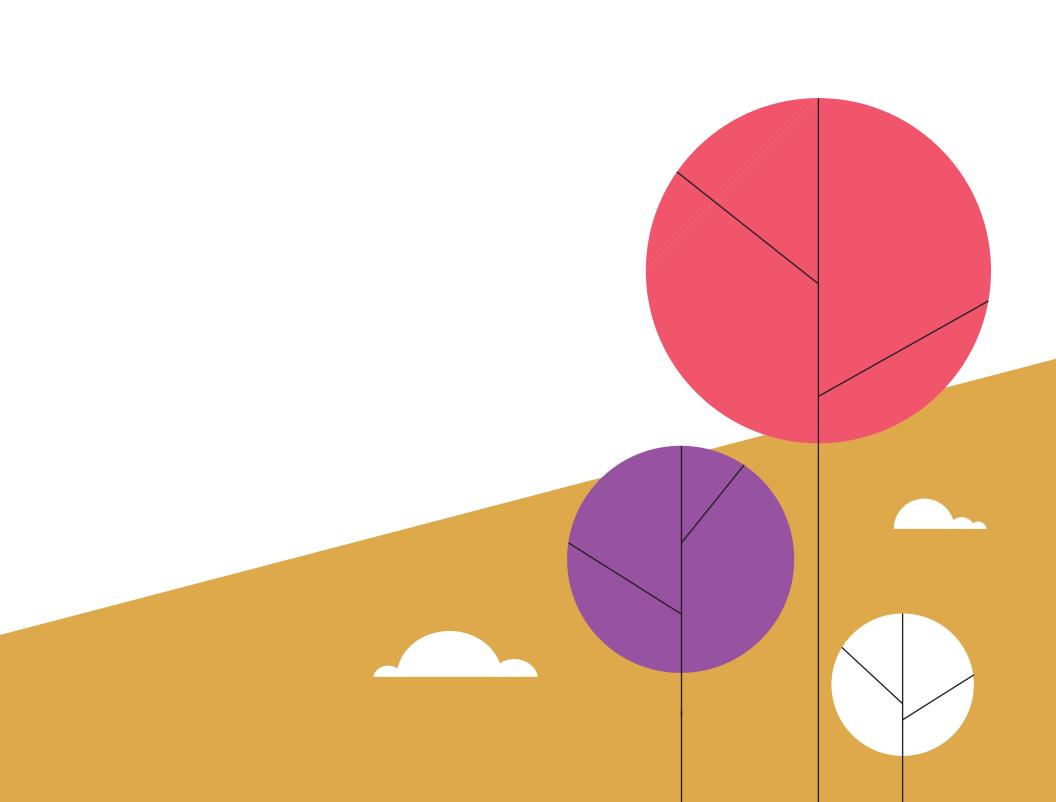




Safety needs to be the first priority, always. This means protected sidewalks and safe intersections."

-Anonymous Community Survey Response

Public Input



Engagement Approach

Public input was a vital component in identifying proposed improvement corridors in the Innovation District. To gather feedback, three different means of public outreach were taken.

First was providing information at community events, such as Juneteenth and Walk Over Wednesday, to inform attendees about the goals of the project and gather initial input about the corridor.



Second was meeting with community stakeholders, such as the OKC Black Chamber and NEOKC Neighborhood Coalition, to identify areas within

the Innovation District that would benefit the most from connectivity investments.





Welcome to the home page of the MAPS 4 DDC-10 Innovation District Study. We're glad you're here!

This online project hub was created to provide information on upcoming events for the project, as well as hosting online public engagement activities. For more information on the MAPS 4 Innovation District Neighborhood Connectivity project, see the information below.



MAP54

Third was utilizing a website containing project information, a written survey, and a map survey to gather specific feedback from those with a relationship to the Innovation District.

These three engagement strategies informed residents and gathered critical feedback about the study corridors to determine where the MAPS 4 investment best meets the needs of the study area.

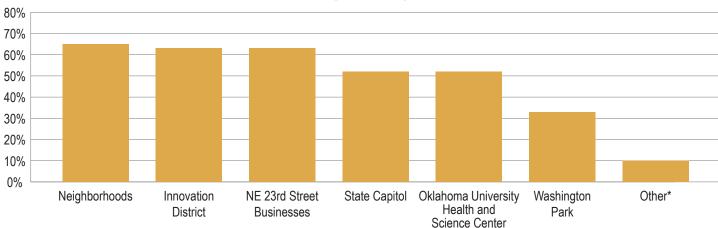
Key Engagement Findings

The study area inventory identified where improvements are needed, and the public engagement strategy determined both priority locations and corridors for initial implementation. These connections identified through public input developed key priority connections to building connectivity in the Innovation District to the:

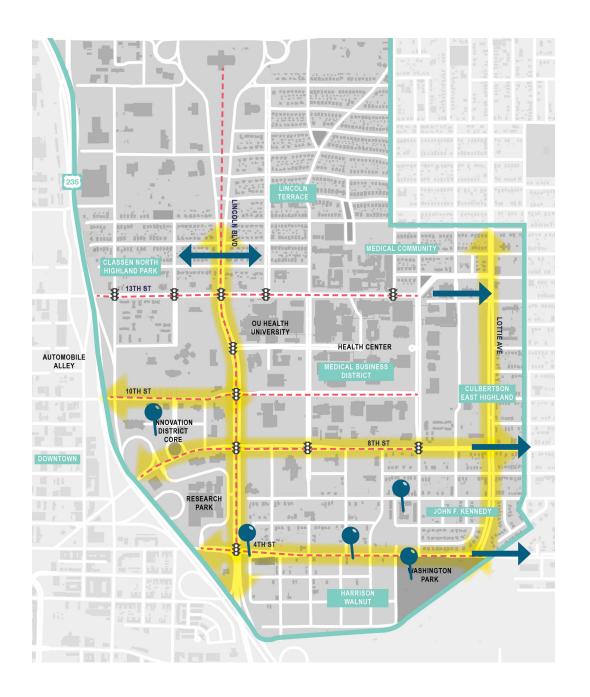
- » Neighborhoods
- » 4th Street Corridor
- » 8th and 10th Street near the Innovation District Core
- » Lincoln Boulevard
- » Lottie Avenue

The survey question below and map to the right document one specific survey question and mapping for the prioritized locations.

Q10: Areas for Improved Walking/Biking Connections



*NW 23rd, Downtown/Automobile Alley Connections





I would love if
OKC is focused on
developing districts
to not only be
walkable, but fully
developed to give
people a reason
to walk through."

-Anonymous Community Survey Response After identifying priority connections within the Innovation District, the public engagement was used to determine key destinations along the priority corridors for this plan. The following connections were deemed a top priority from stakeholders and residents based on the survey below:

- » The Innovation District Hub
- » Neighborhoods
- » Bridges Crossing I-235

To build meaningful connections, specific investment needs are recommended along the study corridors. Residents deemed the following streetscape elements as their high priority connectivity investments:

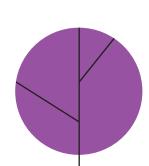
- » Constructing continuous and wide sidewalks where feasible
- Increasing shade for pedestrians
- » Upgrading street lights
- » Updating landscaping elements

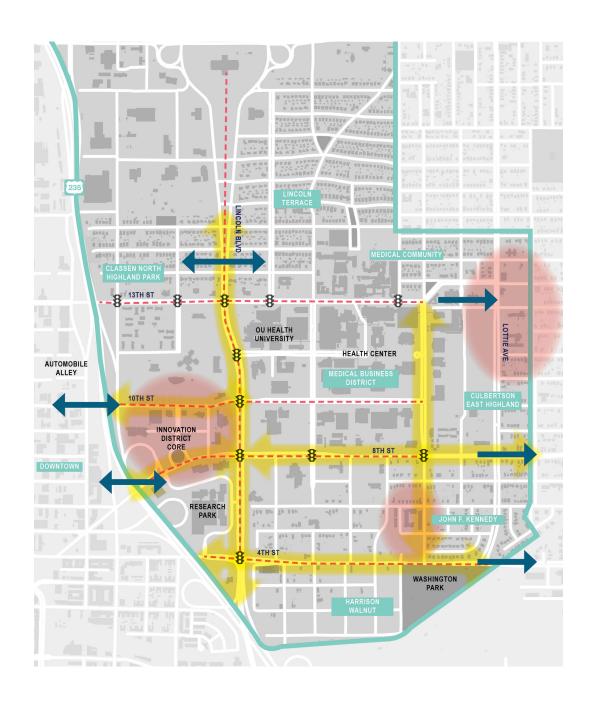


- 1. Continuous Sidewalks
- * 2. Wide Sidewalks
 - 3. Shade/Shade Trees
- 4. Streetlights

- 🎺 5. Landscaping
- 6. Other (e.g. Protected Bike Lanes)
- 7. Benches
- 8. Unique Branding Elements









The need for continuous sidewalks in the neighborhoods between OUHSC and the Capitol is huge!"

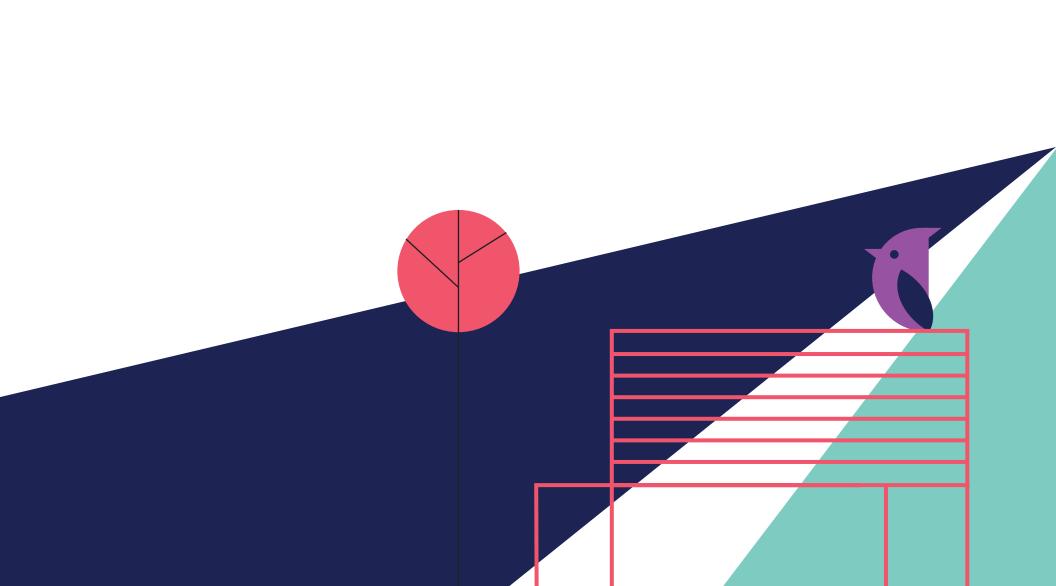
-Anonymous Community Survey Response



We want and need better access to downtown, with pleasant shady walks into downtown."

-Anonymous Community Survey Response

Priority Corridors and Recommendations



PRIORITY CORRIDOR OVERVIEW

The following priority corridors were developed from the robust public engagement strategy, past studies performed in the area, and inventory of existing infrastructure. This Master Plan is based on a current and future implementation budget provided by MAPS 4. The following priority areas were determined during the master plan development.

Priority A corridors were selected due to being the highest traveled routes in the corridor, connectivity to priority destinations (e.g. neighborhoods, 4th St Corridor, Lottie Ave Corridor), and containing the highest priority improvements heard among residents, stakeholders, and improvements in the area.

Priority B corridors were selected to further build on connections developed from the Priority A improvements. These important connections were determined to be a second priority to build on connectivity in the study area along other priority corridors not identified in Priority A corridors.

Priority A -\$5,000,000

N Lincoln Boulevard (South of 10th Street)

N Lottie Avenue

NE 8th Street (West of Lincoln Boulevard)

NE 4th Street



Priority B -\$4,400,000

NE 6th St

N Stonewall Avenue (South of 10th Street)

NE 8th Street (East of Lincoln Boulevard)

> N Lincoln Blvd (North of 10th Street, South of 14th Street)



Neighborhood Connectivity **Budget** (Construction) -\$10,606,000

Phase 1 - \$5,303,000

Phase 2 - \$5,303,000

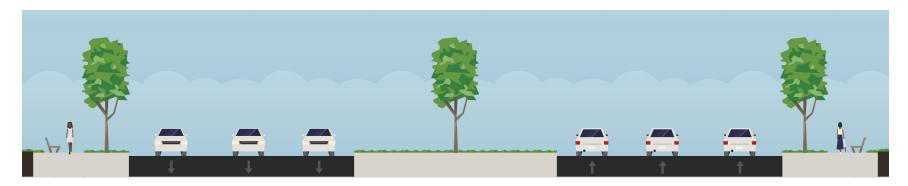


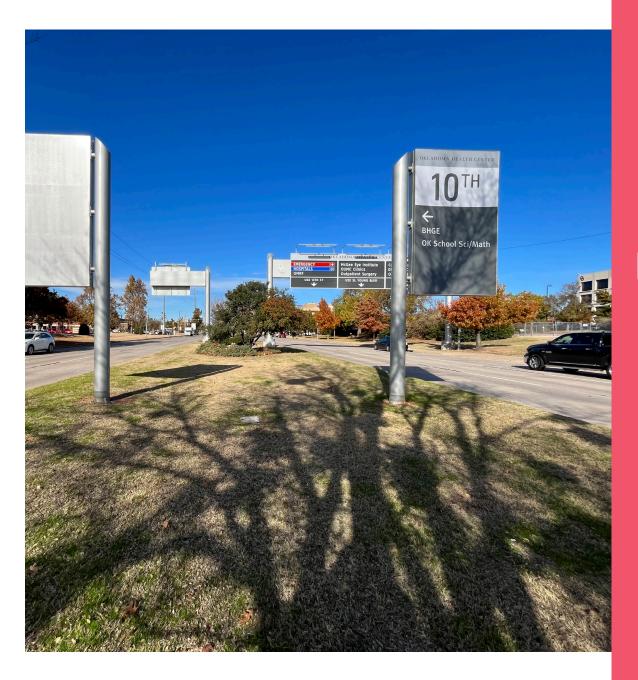
PRIORITY A CORRIDORS \$5,000,000



N LINCOLN BOULEVARD — SOUTH OF **10TH STREET**

Pedestrian safety and beautification is the focus on Lincoln Boulevard between N 4th Street and N 10th St. Existing and missing sidewalks will be replaced with ADA compliant sidewalks. New shade trees and pedestrian benches will be installed. Existing street lights will be upgraded to LED luminaires, where necessary. Pedestrian traffic signal elements will be upgraded to the latest APS standards. Traffic signal detection will be upgraded to a radar detection system.







Sidewalks 810 Linear Feet



Trees



Benches



Pedestrian Signal Upgrade
1 Intersection



Radar Detection
Upgrade
2 Intersections



LED Street Light
Upgrades
32 Each

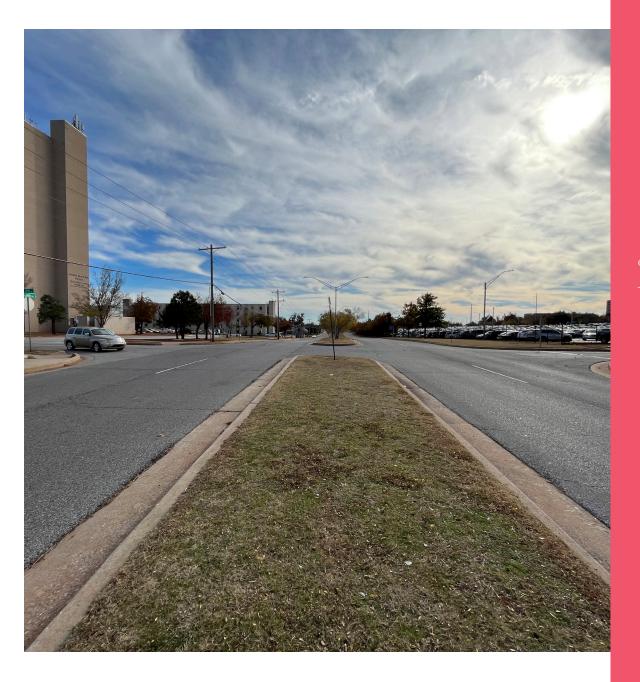
Cost: \$800,000



N LOTTIE AVENUE

With an Oklahoma City Public Works project implementing protected bike lanes along a portion of the Lottie Avenue corridor, the focus will be improving pedestrian connection with new, and ADA compliant sidewalks, shade trees, and benches. Safety improvements will include updating and installing pedestrian crosswalks and upgrading street lights to LED luminaires for maximum light emittance.







Sidewalks 1,350 Linear Feet



Trees



Benches



Crosswalk Markings 2,300 Linear Feet



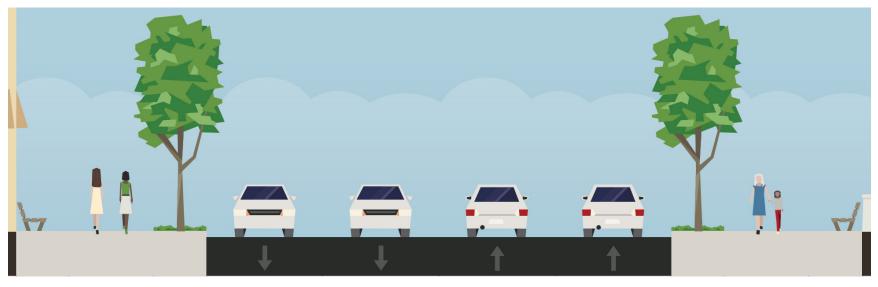
LED Street Light Upgrades 17 Each

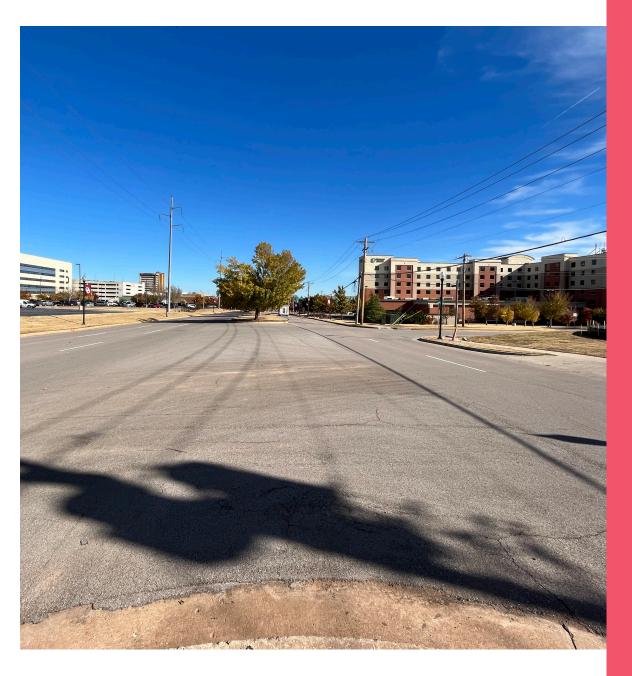
Cost: \$900,000



NE 8TH STREET — WEST OF LINCOLN BOULEVARD

Improving pedestrian connections between the Innovation District Hub and I-235 bridge was a priority among both stakeholders and residents of the study area. A new wide sidewalk, trees, benches, and enhanced crosswalks will provide for an enhanced pedestrian environment. Upgrading traffic signal detection and LED street light upgrades will also provide for a safer pedestrian-vehicle interaction along this corridor.







Sidewalks 1,850 Linear Feet



Trees



Benches



Crosswalk
Markings
1,150 Linear Feet



Radar Detection
Upgrade
1 Intersection



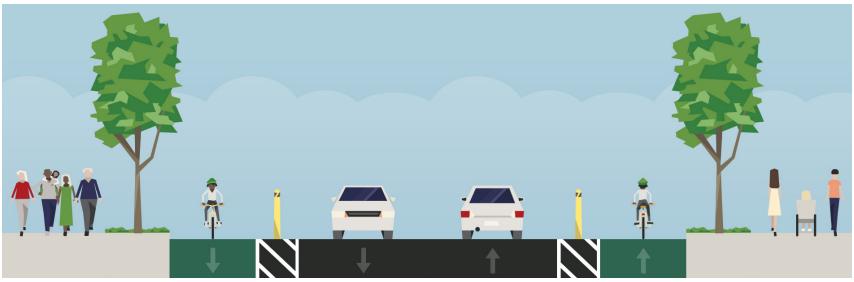
LED Street Light Upgrades 24 Each

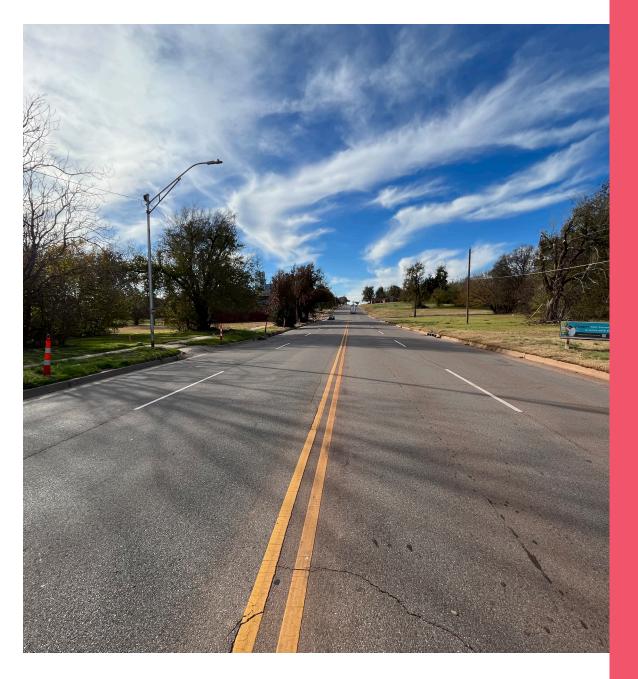
Cost: \$900,000



NE 4TH STREET

With a NE 4th Street sidewalk already under design, installing a protected bike lane, beautification, and enhancing the proposed sidewalk is the priority along this corridor. A protected bike lane along NE 4th Street allows for cyclists to have a safe and comfortable route from downtown Oklahoma City to many neighborhoods and Lottie Avenue. Paired with new shade trees, pedestrian benches, and LED luminaire upgrades, this will provide an accessible and welcoming corridor for all modes of transportation.







Bike Lane Markings 4,800 Linear Feet



Bike Lane Delineators 192 Each



Trees



Benches



Crosswalk
Markings
1,500 Linear Feet



LED Street Light Upgrades 37 Each

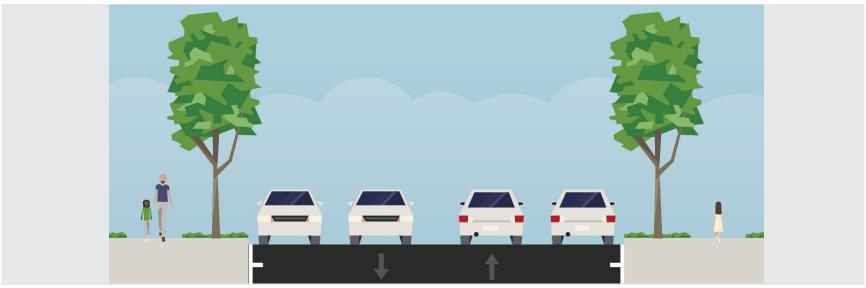
Cost: \$2,400,000

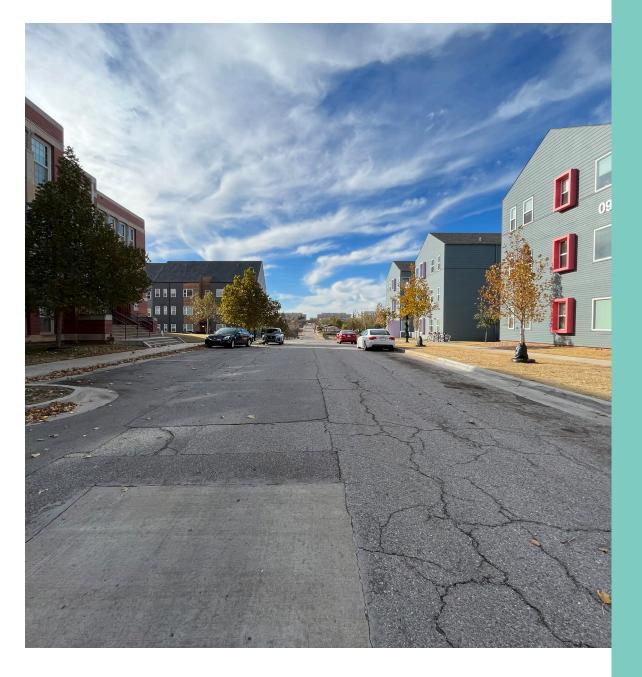
PRIORITY B CORRIDORS \$4,400,000



NE 6TH STREET

Neighborhood connections were a consistent focus heard during the public engagement and one of the main priorities of residents in the study area. Improving sidewalks, adding benches and trees, and upgrading street lights to LED luminaires will provide a better connection for residents accessing from the neighborhoods along the NE 6th Street corridor.







Sidewalks
2.050 Linear Feet



Trees

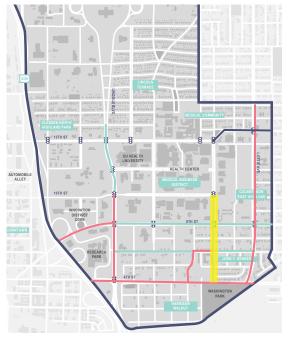


Benches



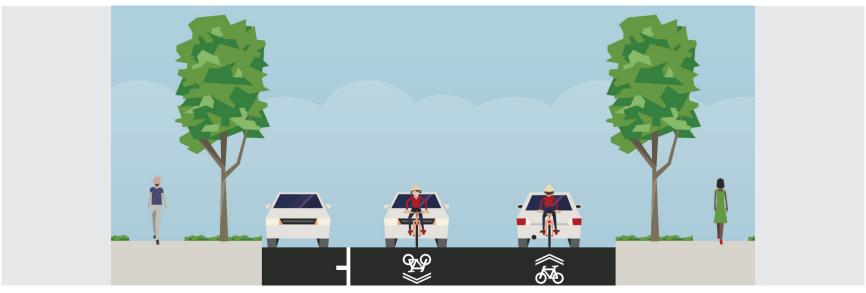
LED Street Light Upgrades 20 Each

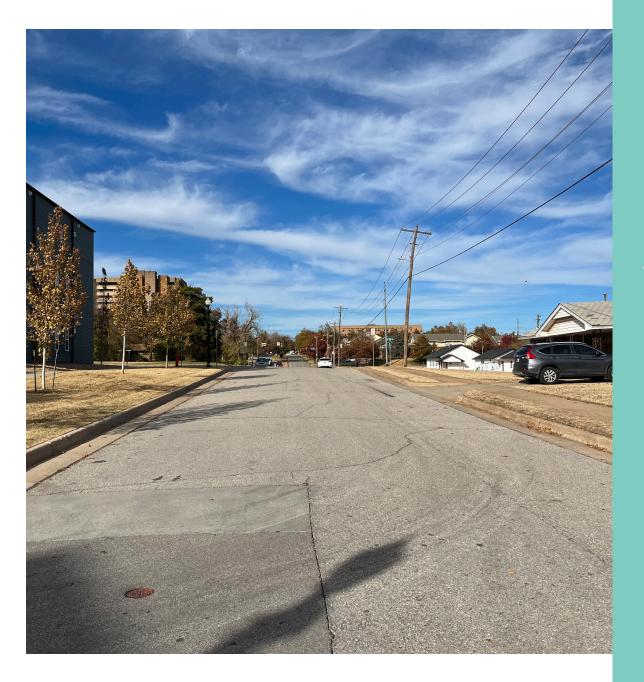
Cost: \$1,000,000



N STONEWALL AVENUE — SOUTH OF **10TH STREET**

Improving pedestrian accessibility between N 4th Street and the OU Health Science Center, a high-use corridor, will benefit from pedestrian upgrades. Sidewalk upgrades, tree and bench installations, crosswalk markings, and LED street light upgrades will provide for a better pedestrian experience. Adding shared lane markings along the corridor as well will alert drivers that the roadway is a shared facility.







Sidewalks
750 Linear Feet



Sharrow Symbols 24 Each



Trees



Benches



Crosswalk Markings 350 Linear Feet



LED Street Light Upgrades 52 Each

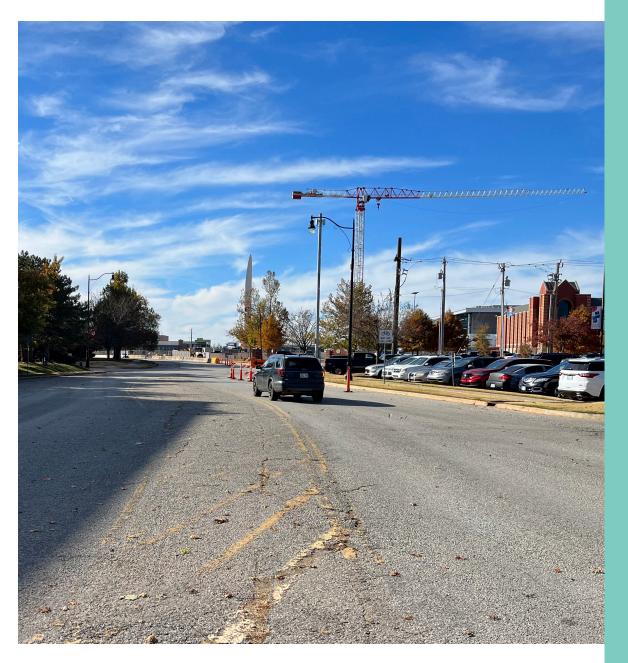
Cost: \$600,000



NE 8TH STREET — EAST OF LINCOLN BOULEVARD

A continuous connection across I-235 through the OU Medical Center and neighborhoods is another high-priority connection corridor. New pedestrian upgrades, a new protected bike lane, and beautification will bolster transportation connectivity while also improving the corridor's appearance.







Bike Lane Markings 4,300 Linear Feet



Bike Lane Delineators



174 Each



Sidewalks 2,500 Linear Feet



Trees



Benches



Pedestrian Signal Upgrade



Crosswalk Markings 1,750 Linear Feet

Cost: \$2,200,000



N LINCOLN BOULEVARD — NORTH OF 10TH STREET, SOUTH OF 14TH STREET

Continued pedestrian safety upgrades and beautification is a focus along the North portion of Lincoln Boulevard. Updated sidewalks, pedestrian signal upgrades, refreshed crosswalk markings at pedestrian crosswalks, shade trees and benches, and street light upgrades with LED luminaires will provide for a more comfortable and inviting corridor for pedestrians.







Sidewalks 1,500 Linear feet



Trees



Benches



Pedestrian Signal Upgrade



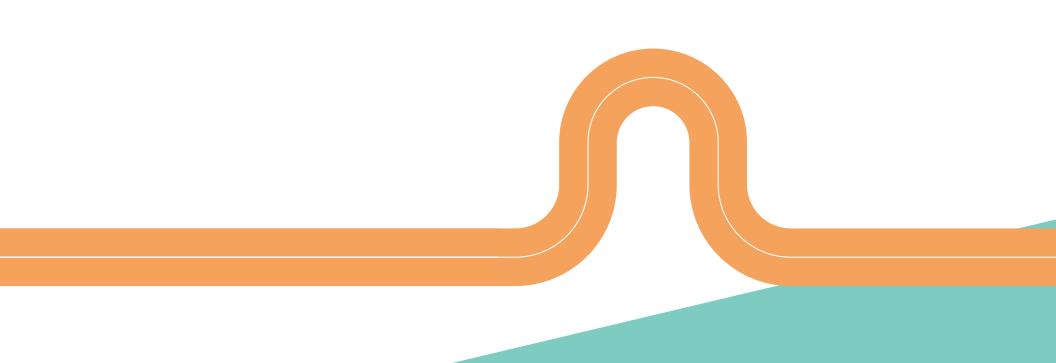
Crosswalk
Markings
280 Linear Feet

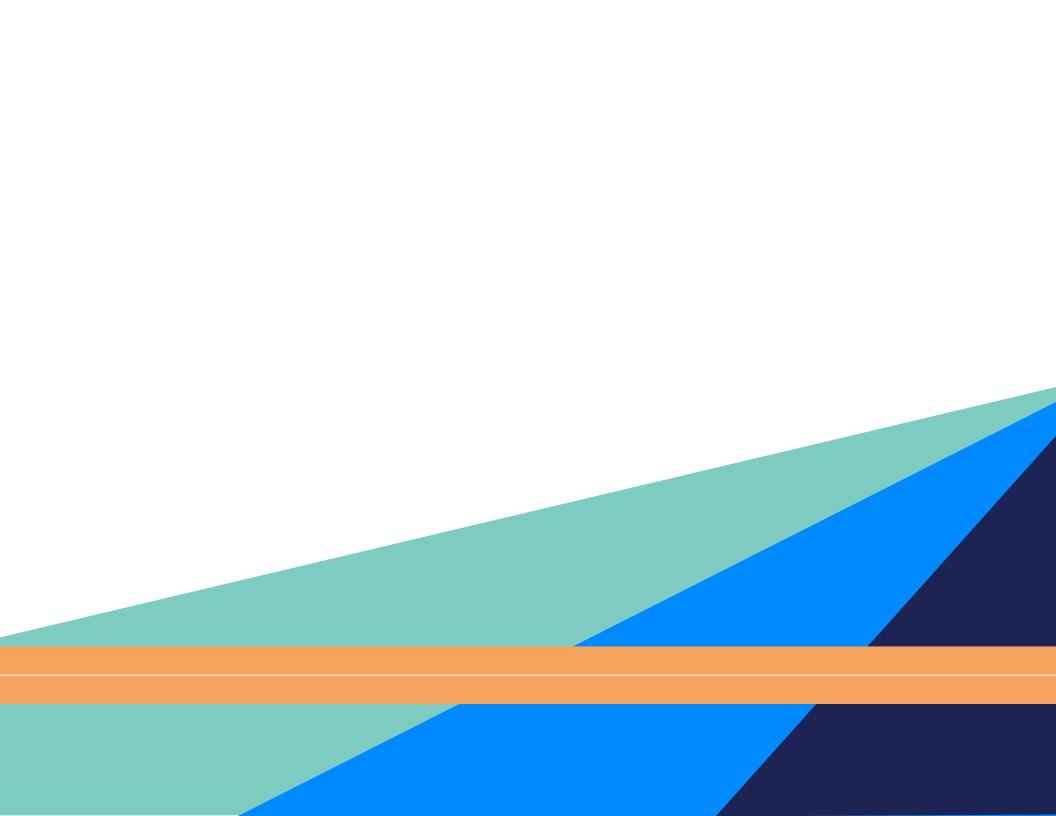


LED Street Light Upgrades 10 Each

Cost: \$600,000

Appendix





A. Opinion of Probable Construction Cost



Kimley-Horn and Associates, Inc.

 Prepared for:
 City of Oklahoma City
 Date:
 11/30/2022

 Project:
 M4-DDC10 - Neighborhood Connectivity Master Plan - Priority A Corridors
 Prepared By:
 DCM

 Checked By:
 LAS

Item Description	N Lincoln Blvd - South of 10th St	N Lottie Ave	NE 8th St - West of Lincoln Blvd	NE 4th St	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION							
Clearing and Grubbing	1	1	1	1	LS	\$30,000.00	\$120,000
Mobilization	1	1	1	1	LS	\$50,000.00	\$200,000
Construction Staking Survey	1	1	1	1	LS	\$30,000.00	\$120,000
Remove Traffic Stripe (4" Equivalent)	705	11678	6282	11747	LF	\$3.00	\$91,236
Remove Sidewalk	808	726	542	1284	SY	\$20.00	\$67,200
Remove Curb and Gutter	1453	699	1306	4217.5	LF	\$14.00	\$107,457
Water Valve and Meter Relocation	4	15	15	10	EA	\$2,500.00	\$110,000
Removal of Traffic Signal Equipment	1	0	2	1	INT	\$10,000.00	\$40,000
PROPOSED IMPROVEMENTS							
4" Concrete Sidewalk	808	1325	1834	6511	SY	\$75.00	\$785,850
6" Driveway Replacement	100	700	0	1500	SY	\$95.00	\$218,500
Curb and Gutter	1453	2384	2063	7324	LF	\$30.00	\$396,720
Traffic Striping	225	600	2715	4800	LF	\$10.00	\$83,400
Crosswalk Marking	480	2304	1152	1472	LF	\$14.00	\$75,712
Bike Lane Delineators	0	0	0	192	EA	\$125.00	\$24,000
Bike Lane Striping	0	0	0	4800	LF	\$100.00	\$480,000
Sodding	2517	4875	2684	5334	SY	\$5.00	\$77,050
Trees	114	220	121	240	EA	\$700.00	\$486,500
Tree Wells	0	0	121	240	EA	\$500.00	\$180,500
Irrigation System	1	1	1	1	LS	\$70,000.00	\$280,000
Benches	10	18	10	20	EA	\$1,500.00	\$87,000
Pedestrian Signal Upgrade	1	0	0	0	INT	\$40,000.00	\$40,000
Radar Detection System	2	0	1	0	INT	\$85,000.00	\$255,000
Street Light Luminaire Upgrades	32	17	24	37	EA	\$1,500.00	\$165,000
Basis for Cost Projection:							\$4,491,125
✓ No Design Completed Preliminary Design				Project + Inflation Co	onting (%,+/-)	10	\$508,875
Final Design						Total	\$5,000,000

Kimley-Horn and Associates, Inc.

 Prepared for:
 City of Oklahoma City
 Date:
 11/30/2022

 Project:
 M4-DDC10 - Neighborhood Connectivity Master Plan - Priority B Corridors
 Prepared By:
 DCM

 Checked By:
 LAS

Item Description	N Lincoln Blvd - 10th St to 14th St	N Stonewall Ave - South of 10th St	NE 8th St - East of Lincoln Blvd	NE 6th St	Unit	Unit Price	Cost
DEMOLITION AND MOBILIZATION							
Clearing and Grubbing	1	1	1	1	LS	\$30,000.00	\$120,000
Mobilization	1	1	1	1	LS	\$50,000.00	\$200,000
Construction Staking Survey	1	1	1	1	LS	\$30,000.00	\$120,000
Remove Traffic Stripe (4" Equivalent)	4120	5000	10788	525	LF	\$3.00	\$61,299
Remove Sidewalk	1708	734	1210	1477	SY	\$20.00	\$102,580
Remove Curb and Gutter	3073	1320	2176.5	2657.5	LF	\$14.00	\$129,178
Water Valve and Meter Relocation	4	8	15	8	EA	\$2,500.00	\$87,500
Removal of Traffic Signal Equipment	0	0	3	0	INT	\$10,000.00	\$30,000
PROPOSED IMPROVEMENTS						,	
4" Concrete Sidewalk	1708	646	2479	2040	SY	\$75.00	\$515,475
6" Driveway Replacement	400	400	2200	100	SY	\$95.00	\$294,500
Curb and Gutter	3073	1162	4460.5	3670.5	LF	\$30.00	\$370,980
Traffic Striping	900	0	4305	3785	LF	\$10.00	\$89,900
Crosswalk Marking	2018	0	1728	0	LF	\$14.00	\$52,444
Bike Lane Delineators	0	0	174	0	EA	\$125.00	\$21,750
Bike Lane Striping	0	0	4305	0	LF	\$100.00	\$430,500
Sharrow Symbols	0	25	0	0	EA	\$300.00	\$7,500
Sodding	4200	2778	4784	4206	SY	\$5.00	\$79,840
Trees	189	125	216	190	EA	\$700.00	\$504,000
Irrigation System	1	1	1	1	LS	\$70,000.00	\$280,000
Benches	16	10	18	16	EA	\$1,500.00	\$90,000
Pedestrian Signal Upgrade	0	0	1	0	INT	\$40,000.00	\$40,000
Radar Detection System	1	0	1	0	INT	\$85,000.00	\$170,000
Street Light Luminaire Upgrades	25	26	76	20	EA	\$1,500.00	\$220,500
Basis for Cost Projection:							\$4,017,946
✓ No Design Completed ☐ Preliminary Design	Project + Inflation Conting (%,+/-) 10					\$382,054	
Final Design						Total	\$4,400,000

B. Existing Condition Maps







