

# Traffic Engineering

## Capital Improvement Plan

Project Summary: Executive

	2023	2024	2025	2026	2027	2028
Citywide LED Conversion	500,000	850,000	150,000	-	-	-
Field Equipment Replacement	-	50,000	25,000	-	-	-
John Nolen Drive Lighting	-	1,000,000	-	-	-	-
Public Safety Radio System	1,100,000	150,000	150,000	150,000	150,000	150,000
Safe Streets for All Federal Grant Program	20,000,000	-	-	-	-	-
Safe Streets Madison	2,050,000	1,550,000	1,564,000	1,582,000	1,603,000	1,603,000
Street Light Installation	615,000	615,000	620,000	620,000	630,000	635,000
Town of Madison Annexation - Signing and Pavement Markings	90,000	60,000	50,000	-	-	-
Town of Madison Annexation - Street Lighting	20,000	20,000	-	-	-	-
Traffic Safety Infrastructure	50,000	75,000	75,000	75,000	75,000	75,000
Traffic Signal Installation	2,030,000	830,000	835,000	835,000	840,000	850,000
	<b>\$ 26,455,000</b>	<b>\$ 5,200,000</b>	<b>\$ 3,469,000</b>	<b>\$ 3,262,000</b>	<b>\$ 3,298,000</b>	<b>\$ 3,313,000</b>

### Changes from 2022 CIP



### Major Changes

- Citywide LED Conversion
  - Project timeline updated to have the 2023 budget broken out across 2023 through 2025 due to staff availability
- John Nolen Drive Lighting
  - Project budget increased by \$1.0m in 2024 to reflect updated project costs and delayed construction
- Safe Streets for All Federal Grant Program
  - \$20m project added to the CIP to leverage federal grant funding to prevent roadway deaths and serious injuries
  - The CIP includes \$16.0m in federal funding and local matching funds of \$4.0m
  - Use of funds within the capital project will be contingent on receiving federal awards
- Town of Madison Annexation - Signing and Pavement Markings
  - \$200k project added to the CIP to bring Town of Madison sign and pavement markings up to national and City standards
- Town of Madison Annexation - Street Lighting
  - \$40k project added to the CIP to install 10 new street lights within the Town of Madison annexation
- Traffic Safety Infrastructure
  - Program budget increased \$25k in each year from 2024 forward to bring sign inventory up to retroreflectivity standards
- Traffic Signal Installation
  - \$200k in General Fund borrowing added for the installation of a traffic signal at Northport Dr. and School Rd.
  - \$800k in potential federal funding from the Strengthening Mobility and Revolutionizing Transportation (SMART) program added to the CIP
  - \$200k in General Fund borrowing has been added for the local match to potential SMART funding

# Traffic Engineering

## Budget Overview

### 2023 CIP by Expenditure Type

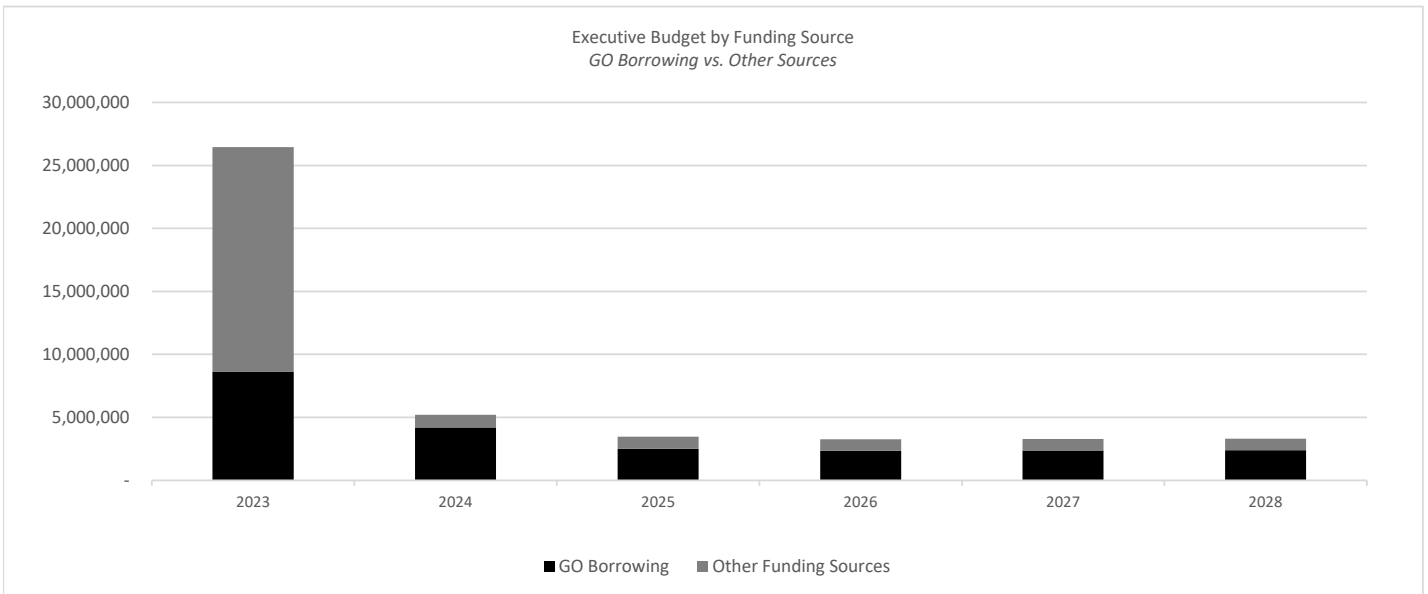
	2023	2024	2025	2026	2027	2028
Land Improvements	50,000	75,000	75,000	75,000	75,000	75,000
Machinery and Equipment	3,130,000	1,030,000	1,010,000	985,000	990,000	1,000,000
Other	-	1,000,000	-	-	-	-
Street	22,140,000	1,610,000	1,614,000	1,582,000	1,603,000	1,603,000
Streetlighting	1,135,000	1,485,000	770,000	620,000	630,000	635,000
<b>Total Expenditures</b>	<b>\$ 26,455,000</b>	<b>\$ 5,200,000</b>	<b>\$ 3,469,000</b>	<b>\$ 3,262,000</b>	<b>\$ 3,298,000</b>	<b>\$ 3,313,000</b>

### 2023 CIP by Funding Source

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	8,635,000	4,210,000	2,509,000	2,352,000	2,383,000	2,398,000
County Sources	45,000	45,000	45,000	45,000	45,000	45,000
Developer Capital Funding	410,000	410,000	410,000	410,000	415,000	415,000
Federal Sources	16,800,000	-	-	-	-	-
Other Govt Pmt For Services	80,000	80,000	80,000	80,000	80,000	80,000
Special Assessment	275,000	275,000	275,000	275,000	275,000	275,000
State Sources	100,000	100,000	100,000	100,000	100,000	100,000
TIF Increment	110,000	80,000	50,000	-	-	-
<b>Total Funding</b>	<b>\$ 26,455,000</b>	<b>\$ 5,200,000</b>	<b>\$ 3,469,000</b>	<b>\$ 3,262,000</b>	<b>\$ 3,298,000</b>	<b>\$ 3,313,000</b>

### Borrowing Summary

	2023	2024	2025	2026	2027	2028
<b>Borrowing Schedule</b>						
General Fund GO Borrowing	8,635,000	4,210,000	2,509,000	2,352,000	2,383,000	2,398,000
Non-General Fund GO Borrowing	-	-	-	-	-	-
<b>Total GO Borrowing</b>	<b>\$ 8,635,000</b>	<b>\$ 4,210,000</b>	<b>\$ 2,509,000</b>	<b>\$ 2,352,000</b>	<b>\$ 2,383,000</b>	<b>\$ 2,398,000</b>
<b>Annual Debt Service</b>						
General Fund GO Borrowing	1,122,550	547,300	326,170	305,760	309,790	311,740
Non-General Fund GO Borrowing	-	-	-	-	-	-



# Traffic Engineering

## Budget Overview

Carry Forward GO Borrowing

	Unused Appropriation Authority	Reauthorized GO Borrowing
12477 BLACKHAWK WATER TOWER RELOCATION	25,300	-
13065 CITYWIDE LED LIGHTING CONVERSION	792,443	1,100,000
13835 CTH M	339	-
12348 E. WASH.AVE ADAPTIVE TRAFFIC SIGNAL	164,057	-
13779 Field Equipment Replacement	219,391	-
10245 MCKEE RD (CTH PD) IMPROVEMENTS	902	-
12730 MONONA TERRACE/JOHN NOLEN DR LIGHT	2,032,648	2,055,000
10420 PUBLIC SAFETY RADIO SYSTEM	93,370	-
13119 SNOW EMERGENCY ZONE EXP/CSCL	127,297	-
10418 STREET LIGHT INSTALLATION	1,483,020	174,112
13778 Safe Streets Madison	2,146,291	1,049,998
13067 TEMP TRAFF CONT EQUIP AND LIGHTING	14,089	-
10767 TRAFFIC ENGINEERING INVENTORY	(990,643)	-
10428 TRAFFIC SAFETY INFRASTRUCTURE	129,603	-
10427 TRAFFIC SIGNAL INFRASTRUCTURE	2,447,615	640,000
13573 TWENTY IS PLENTY	613,026	613,026
12733 VISION ZERO TRAFFIC SAFETY INFRASTR	154,638	-
17071 WAYFINDING SIGNAGE	76,808	-
13066 ZERO VISION PROGRAM	190,709	4,889
	<b>\$ 9,720,902</b>	<b>\$ 5,637,025</b>

# Traffic Engineering

## Project Overview

Project	<b>Citywide LED Conversion</b>	Project #	<b>13065</b>
Citywide Element	<b>Green and Resilient</b>	Project Type	<b>Project</b>

### Project Description

This project is to convert all remaining City streetlights to LED. The goal of this project is to replace street light fixtures with more energy efficient LED fixtures, reducing energy usage and costs. The project’s scope includes equipment costs for the replacement of all non-LED streetlight fixtures. Completion of the project is estimated to save \$390,000 in electricity costs annually. These projected savings do not include debt service costs.

### Project Budget by Funding Source

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	500,000	850,000	150,000	-	-	-
<b>TOTAL</b>	<b>\$ 500,000</b>	<b>\$ 850,000</b>	<b>\$ 150,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Project	<b>Field Equipment Replacement</b>	Project #	<b>13779</b>
Citywide Element	<b>Effective Government</b>	Project Type	<b>Program</b>

### Project Description

This program is for the purchase and replacement of equipment used to support Traffic Engineering field operations including the City’s fiber optic network, signing, streetlighting and signal operations. The goal of this program is to improve efficiency and reduce delays in providing or restoring services to City agencies and partners. Funding in 2024 and 2025 will support pavement marking removal equipment and the replacement of a large format digital printer.

### Project Budget by Funding Source

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	-	50,000	25,000	-	-	-
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 50,000</b>	<b>\$ 25,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Project	<b>John Nolen Drive Lighting</b>	Project #	<b>12730</b>
Citywide Element	<b>Land Use and Transportation</b>	Project Type	<b>Project</b>

### Project Description

This project funds replacing the current tunnel lighting on John Nolen Drive under Monona Terrace. The goal of the project is to improve safety along the existing roadway by replacing the existing lighting that has been damaged by snow and stormwater runoff. The scope of the project includes the updated lighting infrastructure and installation costs, as well as review of emergency ventilation fan equipment. Funding to study this project was included in the 2020 capital budget. Construction of the project is scheduled for 2024 due to coordination with other projects in the area.

### Project Budget by Funding Source

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	-	1,000,000	-	-	-	-
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 1,000,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Project **Public Safety Radio System** Project # **10420**  
 Citywide Element **Health and Safety** Project Type **Program**

*Project Description*

This program is for digital emergency communication equipment. The program’s goal is to build redundancy to ensure the continuation of operations in case of major disruptions. The program’s scope is focused on purchasing equipment and the corresponding software to operate the equipment. Funding in 2023 will be used to purchase a backup system to safeguard against system interruptions.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	1,100,000	150,000	150,000	150,000	150,000	150,000
<b>TOTAL</b>	<b>\$ 1,100,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>	<b>\$ 150,000</b>

Project **Safe Streets for All Federal Grant Program** Project # **14149**  
 Citywide Element **Land Use and Transportation** Project Type **Program**

*Project Description*

The federal Bipartisan Infrastructure Law (BIL) established a new Safe Streets and Roads for All program to provide funding to regional, local and Tribal projects focused on preventing roadway deaths and serious injuries. Cities that have developed a Vision Zero or other Safety Action Plan will be eligible to apply for funding to carry out projects and strategies identified in their action plan. This funding would be used to match any projects awarded through this new program and would only be used if City of Madison projects are selected for funding.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	4,000,000	-	-	-	-	-
Federal Sources	16,000,000	-	-	-	-	-
<b>TOTAL</b>	<b>\$ 20,000,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Project **Safe Streets Madison** Project # **13778**  
 Citywide Element **Land Use and Transportation** Project Type **Program**

*Project Description*

This program funds projects focused on eliminating serious and fatal crashes as well as filling gaps in the pedestrian and bicycle network. The program uses the recently approved Safe Streets prioritization metric to select projects and focuses on elimination of disparate traffic safety outcomes. Project elements include proven safety countermeasures such as Rectangular Rapid Flashing Beacons, pedestrian islands, bike lanes, markings, signs and other infrastructure changes. This program funds other strategies from the Vision Zero Action Plan including public information campaigns, education, engagement, planning and safety focused enforcement.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	2,050,000	1,550,000	1,564,000	1,582,000	1,603,000	1,603,000
<b>TOTAL</b>	<b>\$ 2,050,000</b>	<b>\$ 1,550,000</b>	<b>\$ 1,564,000</b>	<b>\$ 1,582,000</b>	<b>\$ 1,603,000</b>	<b>\$ 1,603,000</b>

Project **Street Light Installation** Project # **10418**  
 Citywide Element **Health and Safety** Project Type **Program**

*Project Description*

This program is for improvements to outdated street lighting systems, including computer support; replacement or painting/refurbishing of older poles, fixtures, cable and other major street light equipment; and installation of new street lights. The program’s goal is to provide adequate lighting on streets for motorists, pedestrians, and bicyclists. Projects planned in 2023 include replacement of poles on State Street and Bassett Street.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	175,000	175,000	180,000	180,000	185,000	190,000
County Sources	15,000	15,000	15,000	15,000	15,000	15,000
Developer Capital Funding	300,000	300,000	300,000	300,000	305,000	305,000
Other Govt Pmt For Services	30,000	30,000	30,000	30,000	30,000	30,000
Special Assessment	75,000	75,000	75,000	75,000	75,000	75,000
State Sources	20,000	20,000	20,000	20,000	20,000	20,000
<b>TOTAL</b>	<b>\$ 615,000</b>	<b>\$ 615,000</b>	<b>\$ 620,000</b>	<b>\$ 620,000</b>	<b>\$ 630,000</b>	<b>\$ 635,000</b>

Project **Town of Madison Annexation - Signing and Pavement** Project # **14162**  
 Citywide Element **Markings** Project Type **Project**  
**Health and Safety**

*Project Description*

The City of Madison is taking over a portion of the Town of Madison in an annexation that will be effective in October 2022. Traffic Engineering (TE) has reviewed the existing Town of Madison roadway signs and pavement markings in the annexation areas. The majority of the signs and pavement markings will need to be updated to meet current Manual on Uniform Traffic Control Devices (MUTCD) standards and/or City of Madison standards and expectations. Additional signing and pavement markings will also be required to meet current standards and needs of the community. TE has divided the annexation areas in to sub areas. A three year phased approach (2023 – 2025) is being proposed to update existing, and add new signing and pavement marking infrastructure to meet current standards.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
TIF Increment	90,000	60,000	50,000	-	-	-
<b>TOTAL</b>	<b>\$ 90,000</b>	<b>\$ 60,000</b>	<b>\$ 50,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Project **Town of Madison Annexation - Street Lighting** Project # **14163**  
 Citywide Element **Land Use and Transportation** Project Type **Project**

*Project Description*

The City of Madison is taking over a portion of the Town of Madison in an annexation that will be effective in October 2022. Traffic Engineering (TE) has reviewed the existing Town of Madison street lighting in the annexation areas. It is estimated that the City of Madison will need to install 10 new street lights to meet current City standards and expectations.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
TIF Increment	20,000	20,000	-	-	-	-
<b>TOTAL</b>	<b>\$ 20,000</b>	<b>\$ 20,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

Project  
Citywide Element

**Traffic Safety Infrastructure**  
**Health and Safety**

Project # **10428**  
Project Type **Program**

*Project Description*

This program is for traffic control devices used in the design for the local share of the State Highway Hazard Elimination program, signs, and traffic safety studies. The goal of this program is to improve traffic safety and accessibility for pedestrians, bicyclists, motorists, and transit users. Funding is increased starting in 2024 to augment replacement of signs that show retroreflectivity degradation due to wear over time. The Federal Manual on Uniform Traffic Control Devices for streets and highways provides retroreflectivity standards and this funding will help bring sign inventory to these standards and enhance public safety.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	50,000	75,000	75,000	75,000	75,000	75,000
<b>TOTAL</b>	<b>\$ 50,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>	<b>\$ 75,000</b>

Project  
Citywide Element

**Traffic Signal Installation**  
**Land Use and Transportation**

Project # **10427**  
Project Type **Program**

*Project Description*

This program is for replacing and modernizing the City's traffic signal network. The goal of the program is to provide energy efficient and dynamic traffic signals that are readily adaptable to provide for safe, efficient traffic flow for pedestrians, bicycles and vehicles. Projects planned for 2023 include the installation of new traffic signals at the intersection of Northport Dr & School Rd.

*Project Budget by Funding Source*

	2023	2024	2025	2026	2027	2028
GF GO Borrowing	760,000	360,000	365,000	365,000	370,000	380,000
County Sources	30,000	30,000	30,000	30,000	30,000	30,000
Developer Capital Funding	110,000	110,000	110,000	110,000	110,000	110,000
Federal Sources	800,000	-	-	-	-	-
Other Govt Pmt For Services	50,000	50,000	50,000	50,000	50,000	50,000
Special Assessment	200,000	200,000	200,000	200,000	200,000	200,000
State Sources	80,000	80,000	80,000	80,000	80,000	80,000
<b>TOTAL</b>	<b>\$ 2,030,000</b>	<b>\$ 830,000</b>	<b>\$ 835,000</b>	<b>\$ 835,000</b>	<b>\$ 840,000</b>	<b>\$ 850,000</b>

# Traffic Engineering

## 2023 Appropriation Schedule

### 2023 Appropriation

### Executive Budget

	Request	GO Borrowing	Other	Total
Citywide LED Conversion	500,000	500,000	-	500,000
Public Safety Radio System	1,100,000	1,100,000	-	1,100,000
Safe Streets for All Federal Grant Program	11,200,000	4,000,000	16,000,000	20,000,000
Safe Streets Madison	2,050,000	2,050,000	-	2,050,000
Street Light Installation	615,000	175,000	440,000	615,000
Town of Madison Annexation - Signing and Pavement Markings	90,000	-	90,000	90,000
Town of Madison Annexation - Street Lighting	20,000	-	20,000	20,000
Traffic Safety Infrastructure	50,000	50,000	-	50,000
Traffic Signal Installation	2,030,000	760,000	1,270,000	2,030,000
	<b>\$ 17,655,000</b>	<b>\$ 8,635,000</b>	<b>\$ 17,820,000</b>	<b>\$ 26,455,000</b>