

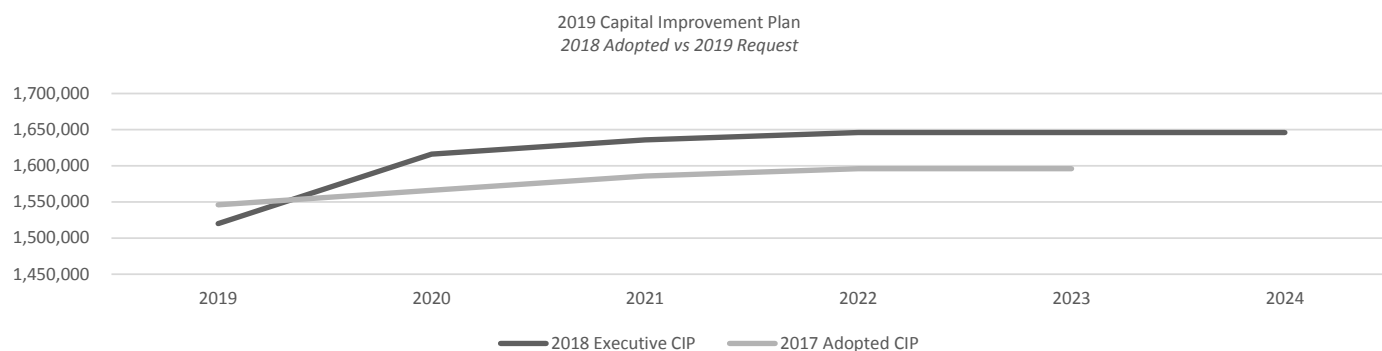
Traffic Engineering

Capital Improvement Plan

Project Summary

	Agency Priority	2019	2020	2021	2022	2023	2024
Public Safety Radio System	3	50,000	50,000	50,000	50,000	50,000	50,000
Street Light Installation	1	505,000	520,000	535,000	540,000	540,000	540,000
Traffic Safety Infrastructure	4	100,000	100,000	100,000	100,000	100,000	100,000
Traffic Signal Installation	2	815,000	820,000	825,000	830,000	830,000	830,000
URD/UCD Install	5	50,000	126,000	126,000	126,000	126,000	126,000
Total		\$ 1,520,000	\$ 1,616,000	\$ 1,636,000	\$ 1,646,000	\$ 1,646,000	\$ 1,646,000

Changes from 2018 CIP



Program Adjustments

- Traffic Safety Infrastructure: Budget increased \$50,000 annually (federal sources)
- URD / UCD Install: Budget decreased in 2019 (\$0.05m)



Department of Transportation

Traffic Engineering and Parking Divisions

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May 8, 2018

To: David Schmiedicke, Finance Department

From: David Dryer, City Traffic Engineer and Parking Manager

Subject: Division of Traffic Engineering 2019 Capital Budget

Traffic Engineering's 2019 capital budget reflects careful consideration of the City's fiscal situation in the face of growing infrastructure needs. The primary goal of our 2019 proposal is to upgrade our existing facilities that result where maintenance and repairs have become too costly to continue.

We have included requests for city funding to install new infrastructure in locations where public safety improvements are vital and where the city could leverage other funding sources: assessment districts; funding from private developers, funding from other municipalities for new signals and lighting.

The list below reflects how we believe that we can best meet this goal in accordance with the budget targets.

1. Street Light Installation
2. Traffic Signals Installation
3. Install Public Safety Radio System
4. Traffic Safety Infrastructure
5. URD/URC

I look forward to further discussing our capital proposal in the coming weeks.

Sincerely,

David Dryer

City Traffic Engineer and Parking Manager

Capital Budget Proposals

Section 1: Identifying Information

Agency

Proposal Name

Project Category

Project Number

Proposal Description

This program provides funding for the purchase of digital emergency communication equipment to ensure compliance with the Dane County Emergency communication system. Funding supports the purchase of routine upgraded digital emergency communication equipment.

Proposal Type

Priority

Section 2: Program Budget

Prior Authorization

	Budget	Actual	Difference
2015	907,172	882,835	24,337
2016	6,000,000	2,969,982	3,030,018
2017	5,658,000	7,975,780	-2,317,780
2018	50,000	579,021	-529,021
Total	12,615,172	12,407,618	207,554

Budget by Year

Funding Source	2019	2020	2021	2022	2023	2024
GF GO Borrowing	50,000	50,000	50,000	50,000	50,000	50,000
Total	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000

Expense Type	2019	2020	2021	2022	2023	2024
Machinery and Equipment	50,000	50,000	50,000	50,000	50,000	50,000
Total	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000

Does this program have matching funds?

☐ Yes ☒ No

Section 3: Minor Projects

2019

Planned Projects

Project	Estimated Cost	Street Address
Replace comm conflict monitor	\$50,000	1120 Sayle St.

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description
Machinery and Equipment	1	Emergency radio conflict monitor.

2020

Planned Projects

Project	Estimated Cost	Street Address
Contractor supply and install 100 ft com tower and other antenaes	\$50,000	Nakoosa trail facility

Service Level

What are the end products (asset or infrastructure type) provided by this program?

City of Madison

2019 Capital Improvement Plan

Asset Type	Quantity	Description
Machinery and Equipment	1	The New Radio Shop Tower and antennas will provide our technicians with the tools to properly troubleshoot and maintain the Public Safety Radio System. The tower will be 100' and should provide sufficient coverage for the City, County, and State should we ever need it. The Tower could also serve as an emergency backup tower site in the future.

2021

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2022

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2023

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2024

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

Section 4: Program Justification

What is the program's desired outcome for the customer?

The goal is to be compliant with the Dane County Emergency communication system and improve the satisfaction of 911 users. Progress will be measured by feedback from public safety officials and the public.

How is the outcome currently being measured?

System effectiveness, customer satisfaction.

Notes

Capital Budget Proposals

Section 1: Identifying Information

Agency

Proposal Name

Project Category

Project Number

Proposal Description

This program provides funding to upgrade or replace 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 goal of the program is to provide adequate lighting on streets for motorists, pedestrians and bicyclists. Progress will be measured by the number of street light outages and emergency repairs. The funding in 2018 covers repairs and replacements of knockdowns and fixtures for street reconstruction and new development.

Proposal Type

Priority

Section 2: Program Budget

Prior Authorization

	<i>Budget</i>	<i>Actual</i>	<i>Difference</i>
2015	630,324	6,152	624,171
2016	0	-4,350	4,350
2017	161,918	111,235	50,682
2018	447,400	441	446,959
Total	1,239,641	113,478	1,126,163

Budget by Year

<i>Funding Source</i>	2019	2020	2021	2022	2023	2024
GF GO Borrowing	140,000	155,000	170,000	175,000	175,000	175,000
Developer Capital Funding	300,000	300,000	300,000	300,000	300,000	300,000
State Sources	20,000	20,000	20,000	20,000	20,000	20,000
Other Govt Pmt For Services	30,000	30,000	30,000	30,000	30,000	30,000
County Sources	15,000	15,000	15,000	15,000	15,000	15,000
Total	\$505,000	\$520,000	\$535,000	\$540,000	\$540,000	\$540,000
<i>Expense Type</i>	2019	2020	2021	2022	2023	2024
Streetlighting	505,000	520,000	535,000	540,000	540,000	540,000
Total	\$505,000	\$520,000	\$535,000	\$540,000	\$540,000	\$540,000

Does this program have matching funds?

☐ Yes ☒ No

Section 3: Minor Projects

2019

Planned Projects

<i>Project</i>	<i>Estimated Cost</i>	<i>Street Address</i>
Convert Mineral Point lighting Fixtures to LED	\$44,000	Mineral Point: Grand Canyon to High Point

Service Level

What are the end products (asset or infrastructure type) provided by this program?

<i>Asset Type</i>	<i>Quantity</i>	<i>Description</i>
Streetlighting	160	This is the estimated net amount (added less removed) number of streetlight infrastructure funded by all sources to be added in 2019.

2020

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2021

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2022

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2023

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2024

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

Section 4: Program Justification

What is the program's desired outcome for the customer?

Improved street lighting provides for safer, more efficient streets for motorists, pedestrians and bicyclists.

How is the outcome currently being measured?

Alders, citizens, City committees, public safety groups and residents are regularly offering input to TE regarding the location and characteristic of streetlighting.

Notes

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Capital Budget Proposals

Section 1: Identifying Information

Agency

Proposal Name

Project Category

Project Number

Proposal Description

This program funds traffic control devices and the design of the local share of the State Highway Hazard Elimination program, signs, and traffic safety studies. The goal of the program is to improve traffic safety and accessibility for pedestrians, bicyclists, motorists and transit users. Progress is measured by analyzing crash and traffic data using federal standards and professional expertise to determine if improvements are successful and/or if other improvements are required. Specific projects for 2018 have not yet been identified. Funding in 2018 from State Sources was added by Finance Committee Capital Budget Amendment #22, no specific source of state funding has been identified.

Proposal Type

Priority

Section 2: Program Budget

Prior Authorization

	<i>Budget</i>	<i>Actual</i>	<i>Difference</i>
2015	151,192	12,405	138,787
2016	177,804	67,045	110,759
2017	27,844	47,875	-20,030
2018	100,000	0	100,000
Total	456,840	127,324	329,516

Budget by Year

<i>Funding Source</i>	2019	2020	2021	2022	2023	2024
GF GO Borrowing	50,000	50,000	50,000	50,000	50,000	50,000
Federal Sources	50,000	50,000	50,000	50,000	50,000	50,000
Total	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
<i>Expense Type</i>	2019	2020	2021	2022	2023	2024
Land Improvements	100,000	100,000	100,000	100,000	100,000	100,000
Total	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000

Does this program have matching funds?

☐ Yes ☒ No

Section 3: Minor Projects

2019

Planned Projects

<i>Project</i>	<i>Estimated Cost</i>	<i>Street Address</i>

Service Level

What are the end products (asset or infrastructure type) provided by this program?

<i>Asset Type</i>	<i>Quantity</i>	<i>Description</i>

2020

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2021

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2022

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2023

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2024

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

Section 4: Program Justification

What is the program's desired outcome for the customer?

The outcome is increased public safety for drivers, bicyclists and pedestrians.

How is the outcome currently being measured?

Traffic Engineering specialists regularly analyze crash and traffic data using federal standards and professional expertise to determine if improvements are successful and/or other improvements are required. successful and/or other improvements are required. re required. successful and/or other improvements are required. re required. successful and/or other improvements are required are required. successful and/or other improvements are required.

Notes

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Capital Budget Proposals

Section 1: Identifying Information

Agency

Proposal Name

Project Category

Project Number

Proposal Description

This program is for replacing and modernizing the City's traffic signal network. The goal of the program is to provide energy efficient dynamic traffic signals that are readily adaptable to provide for safe, efficient traffic flow for vehicles, bicycles, and pedestrians. Progress is measured by analyzing traffic and crash data using industry standards and best practices. In 2018, the funding is for: repairs for signal knockdowns, new signals at Acewood and Cottage Grove Road, new signals at Atlas and Cottage Grove Road, upgrades to pedestrian and traffic signals, and an adaptive signal at University Avenue.

Proposal Type

Priority

Section 2: Program Budget

Prior Authorization

	<i>Budget</i>	<i>Actual</i>	<i>Difference</i>
2015	1,069,037	607,608	461,429
2016	242,503	81,377	161,126
2017	328,684	315,709	12,975
2018	798,868	-4,997	803,865
Total	2,439,093	999,698	1,439,395

Budget by Year

<i>Funding Source</i>	2019	2020	2021	2022	2023	2024
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
GF GO Borrowing	345,000	350,000	355,000	360,000	360,000	360,000
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
Total	\$815,000	\$820,000	\$825,000	\$830,000	\$830,000	\$830,000
<i>Expense Type</i>	2019	2020	2021	2022	2023	2024
Machinery and Equipment	815,000	820,000	825,000	830,000	830,000	830,000
Total	\$815,000	\$820,000	\$825,000	\$830,000	\$830,000	\$830,000

Does this program have matching funds?

☐ Yes ☒ No

Section 3: Minor Projects

2019

Planned Projects

<i>Project</i>	<i>Estimated Cost</i>	<i>Street Address</i>
Atlas Ave and Cottage Grove Rd: Traffic Signal uprade	\$40,000	Atlas and Cottage Grove Rd. traffic signal
Upgrade Ped Signals: Add Countdown Pedestrian Timers	\$50,000	Citywide
Centracs Traffic Signal upgrade	\$175,000	Citywide

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description
Machinery and Equipment	9	This is the estimated net amount (added less removed) number of traffic signal infrastructure funded by all sources to be added in 2019.

2020

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2021

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2022

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2023

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2024

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

<i>Asset Type</i>	<i>Quantity</i>	<i>Description</i>

Section 4: Program Justification

What is the program's desired outcome for the customer?

The desired outcome of this program is to provide energy efficient dynamic traffic signals that are readily adaptable to provide for safe, efficient traffic flow for vehicles, bicycles, and pedestrians. The department maintains a list of prioritized list of intersections that have been determined meet national standards that warrant a new signal. This list is utilized in help to determine new signal locations.

How is the outcome currently being measured?

Some signal system modifications such as signal interconnect and left turn arrows will cause a slight increase in energy use; however, the increased computerization of signal control and communication capability to intersection controllers from office and maintenance shop sites reduces the maintenance time necessary and associated costs. The equipment purchases will allow our labor force to operate more efficiently and result in less reliance on outside contractors. Replacing incandescent lamps with LED signals reduces energy use by 80% to 90%, with lamp life increasing from 1 year to 58 years.

Notes

Notes:

Capital Budget Proposals

Section 1: Identifying Information

Agency

Proposal Name

Project Category

Project Number

Proposal Description

This program funds the installation of street lighting in Underground Residential Districts (URD) and Underground Commercial Districts (UCD), which are newly developed and reconstructed areas where electrical power lines are under ground. The goals of this program are to provide greater safety through adequate lighting in residential and business areas and to improve the aesthetics of the area, thereby helping to maintain property values. Progress is measured by monitoring customer satisfaction of street lighting installed in new neighborhoods. Costs are assessed directly to the property owners and recouped through special assessments. This program is fully funded by Special Assessments.

Proposal Type

Priority

Section 2: Program Budget

Prior Authorization

	<i>Budget</i>	<i>Actual</i>	<i>Difference</i>
2015	98,487	5,934	92,553
2016	82,980	0	82,980
2017	116,700	0	116,700
2018	126,000	0	126,000
Total	424,167	5,934	418,233

Budget by Year

<i>Funding Source</i>	2019	2020	2021	2022	2023	2024
Special Assessment	50,000	126,000	126,000	126,000	126,000	126,000
Total	\$50,000	\$126,000	\$126,000	\$126,000	\$126,000	\$126,000

<i>Expense Type</i>	2019	2020	2021	2022	2023	2024
Streetlighting	50,000	126,000	126,000	126,000	126,000	126,000
Total	\$50,000	\$126,000	\$126,000	\$126,000	\$126,000	\$126,000

Does this program have matching funds?

☐ Yes ☒ No

Section 3: Minor Projects

2019

Planned Projects

<i>Project</i>	<i>Estimated Cost</i>	<i>Street Address</i>

Service Level

What are the end products (asset or infrastructure type) provided by this program?

<i>Asset Type</i>	<i>Quantity</i>	<i>Description</i>

2020

Planned Projects

<i>Project</i>	<i>Estimated Cost</i>	<i>Street Address</i>

Project	Estimated Cost	Street Address
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Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2021

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2022

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2023

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

2024

Planned Projects

Project	Estimated Cost	Street Address

Service Level

What are the end products (asset or infrastructure type) provided by this program?

Asset Type	Quantity	Description

Section 4: Program Justification

What is the program's desired outcome for the customer?

This program supports the creation of new livable neighborhoods and adds to their aesthetics by burying wires underground. Residents feel safer with adequate street lighting and property values are maintained. Businesses desire locations where adequate street lighting is provided. The funding for this program is provided by direct assessments to benefitting property owners.

How is the outcome currently being measured?

Utility and electrical maintenance costs have been increasing with the addition of new URD/URC streetlighting.