

City of Fort Lauderdale Lighting Master Plan



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City Commission Meeting
April 19, 2022
1:30 p.m.



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Lighting Master Plan Goals

Goal	Need	Benefit
Establish Light Level Standards	Set standards for replacement of existing lights and installation of new lights	Provide uniform lighting levels based on street context
Standardize Light Assembly Styles	Select the right light for neighborhood character and street context	Provide a consistent look and feel throughout the City Reduce maintenance costs
Increase Energy Efficiency	Replace existing fixtures with energy efficient LED fixtures	Reduce energy costs, minimize glare Avoid light spillage on private property
Improve Safety for All Street Users	Improve light levels to reduce crashes	Safer low-light and nighttime conditions for people walking, biking, and driving along City streets



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Establish Light Level Standards

Methods

- Appropriate light level for roadway classification
- Replacement of existing lighting
- Installation of new lighting

Benefits

- Provide uniform lighting levels
- Light pole spacing that achieves acceptable light levels



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Standardize Lighting Styles

Method

- Select the right light for each application

Benefits

- Provides a consistent look and feel throughout the City
- Provides enhanced maintenance efficiency



CAM 22-0024
Exhibit 2

Increase Energy Efficiency



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Method

- Replacing existing fixtures with LED
- Appropriate fixture selection



Benefits

- Reduce Energy Costs
- Minimize Glare
- Avoid Light Spillage on Private Property



Meet future street lighting needs



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Benefits

- Improve safety for motorists and pedestrians
- Minimizes Impacts to sensitive wildlife areas
- Address maintenance needs



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Lighting Master Plan Tasks

We
are
here

Existing Conditions
Review & Analysis

Goal
Understand Existing
Needs

Streetlight
Infrastructure Options
& Recommendations

Goal
Understand Future
Needs and Develop
Recommendations
to Meet Them

Prioritization
Methodology,
Implementation
& Funding
Recommendations

Goal
Develop a Phased
Strategy to Guide
Implementation and
Decision-Making

Prepare Final Master
Plan

Goal
Document the
Recommendations

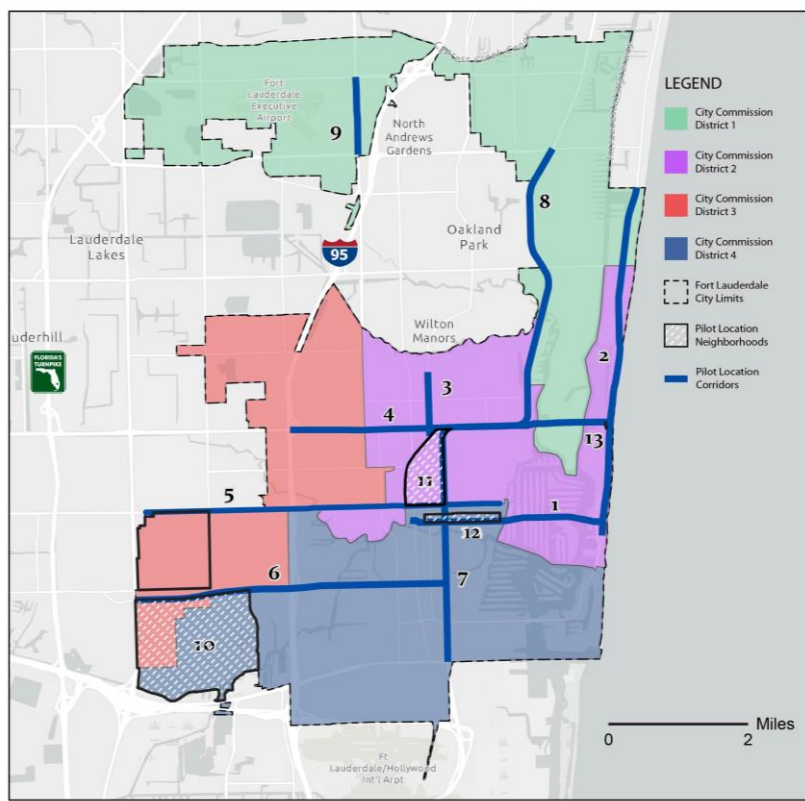
Implementing
Improvements

Goal
On-Going
Implementation of
Recommendations
After Plan Adoption



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Existing Conditions Review



Identify pilot locations



Model existing light levels



Field verify light levels

Existing Conditions and Analysis							
Study Area	Boundary	Luminaire Type	Wattage (W)	Average (fc)	Uniformity Ratio (AVG/MIN, max/min)	Meets FDOT Standard ?	Meets FL Greenbook Standard?
Las Olas Blvd.	Brickell Ave. to SE 6 th Ave.	FP&L light poles, Post Top	150, 200	WB 1.03 EB 1.94	WB 5.15, 23.50 EB 4.83, 11.25	N/A	●
	SE 6 th Ave. to SE 16 th Ave.	Metal Halide	400	WB 3.52 EB 3.52	WB 5.03, 10.57 EB 7.12, 15.60	N/A	●
	SE 16 th Ave. to S Birch Rd.	Double Post Top HPS	100	WB 0.51 EB 0.63	WB 51.00, 107.00 EB 2.33, 3.81	●	N/A
	S. Birch Rd. to S Fort Lauderdale Beach Blvd.	Pedestrian	61	WB 1.85 EB 1.98	WB 2.83, 9.57 EB 2.64, 9.00	●	N/A

Summarize Results

CAM 22-0024

Exhibit 2

Page 8 of 16

Existing Conditions Review



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City Policies

- Existing street lighting is replaced during ongoing maintenance operations
- New street lighting is typically installed as part of roadway construction or private development

SEE THE LIGHT
HELP US REPORT STREETLIGHT OUTAGES
(954) 828-8000

The City of Fort Lauderdale, Broward County, and FPL share responsibility for our streetlight system. The City of Fort Lauderdale is requesting your help in maintaining the streetlight system by reporting outages to our 24-Hour Neighbor Call Center.

TWO EASY STEPS TO REPORT STREETLIGHT OUTAGES

- 1 Identify the address and/or pole number.
 CITY  COUNTY  FPL
- 2 Call (954) 828-8000 or visit www.fortlauderdale.gov/lauderserv

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Exhibit 2

Page 9 of 16



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Findings

- Various lighting types used throughout the City
- Various light sources throughout the City
- Existing electrical system can support future upgrades
- Most of the evaluation corridors need some level of improvement
- Lighting improvements need to be added to the Capital Improvement Plan



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Key Policy Recommendations

- Establish standardized light levels based on street and land use context
- Establish light assembly standards based on street and land use context
- Establish guidelines to integrate “SMART” city technology into streetlight infrastructure

Action Plan



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Policy Actions

Fort Lauderdale Lighting Matrix

Policy Connection	Land Use Context	Street Classification	Average Maintenance Illuminance Ratio	Maximum Illuminance Uniformity Ratio	Veiling Luminance Ratio
Fast Forward Fort Lauderdale Design and Construction Manual Street Typologies	City Center	Boulevards	1.6	3:1	0.3:1
		Avenues	1.1 - 1.4	4:1	0.3:1 - 0.4:1
		Streets	0.8	6:1	0.4:1
	Commercial	Boulevard	1.2	3:1	0.3:1
		Avenues	0.8 - 1.0	4:1	0.3:1 - 0.4:1
		Streets	0.7	6:1	0.4:1
	Residential	Boulevard	0.8	3:1	0.3:1
		Avenues	0.6 - 0.7	4:1	0.3:1 - 0.4:1
		Streets	0.4	6:1	0.4:1
	Special Designations	Beach Thoroughfares	0.8 - 1.0	4:1	0.3:1 - 0.4:1
		Industrial Thoroughfare	0.8 - 1.0	4:1	0.3:1 - 0.4:1
		Shared Street	0.8 - 1.0	4:1	0.3:1 - 0.4:1
		Green Alley	0.4	6:1	0.4:1



Include Lighting Criteria in Land Development Code

Include preferred streetlight assemblies into Land Development Code

CAM 22-0024

Exhibit 2

Page 12 of 16

Action Plan



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November 19, 2019

Fort Lauderdale Lighting Matrix

Policy Connection	Land Use Context	Street Classification	Average Maintenance Illuminance Ratio	Maximum Illuminance Uniformity Ratio	Veiling Luminance Ratio
Fast Forward Fort Lauderdale Design and Construction Manual Street Typologies	City Center	Boulevards	1.6	3:1	0.3:1
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Action Plan



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Program Actions

- Maintain and grow streetlight crew
- Invest in Public Outreach
- Continue Light Outage program (Lauderserv)
- Coordinate with FPL and FDOT
- Create Streetlight Asset Management program

Project Actions

- Program pilot locations to CIP
- Work with FPL on neighborhood lighting requests
- Create dedicated funding source for maintenance

Key Investment Recommendations



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20%

energy cost savings with
new light standards
compared to existing
conditions

34%

savings in annual capital
costs by switching to LED
light fixtures

\$9.1 million

needed to bring the **13 pilot
locations** up to lighting standards
established in this master plan



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Questions?

