



CITY OF PROVIDENCE

MAYOR BRETT P. SMILEY

December 12, 2023

Tina L. Mastroianni
City Clerk
Department of City Clerk

RE: Annual Report to City Council on 2022 Green and Complete Streets Activities

Chapter 23, Article VII, Section 23-173 of the Code of Ordinances states that "A report shall be submitted annually to the City Council and placed on the city's website by the Director of Public Works and the Director of Planning." Additionally, Section 23-171 of the same Article states that "The Advisory Council shall annually provide a written report to the City Council and Administration outlining all suggested changes to such land use policies, zoning ordinances, etc. that will better align with green and complete streets principals."

The attached 2022 report from the Green and Complete Streets Advisory Council to the City Council has been placed on the City's website and contains the requirements of the above Article. Please place it on the next available Council docket at your convenience.

Thank you for your assistance, and please let me know if you have any questions.

Alex Ellis
Staff, Green and Complete Streets Advisory Council
Principal Planner, Department of Planning and Development

IN CITY COUNCIL
JAN 04 2024

READ
WHEREUPON IT IS ORDERED THAT
THE SAME BE RECEIVED.

Tina L. Mastroianni CLERK

DEPARTMENT OF PLANNING & DEVELOPMENT

JOSEPH A. DOORLEY JR. MUNICIPAL BUILDING, 444 WESTMINSTER ST, PROVIDENCE RI 02903
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Green & Complete Streets Annual Status Report

The Providence Code of Ordinances Chapter 23 Section 23-173 states: "A report shall be submitted annually to the City Council and placed on the city's website by the Director of Public Works and the Director of Planning" on various metrics related to Green and Complete Streets detailed in the ordinance and below. Additional updates on the status of Green and Complete Streets improvements are also contained below.

2022 Urban Trail Network improvements

The City installed protected two-way urban trails or shared-use paths on the following streets in 2022:

- **Gotham Greens** shared-use path, between De Soto Street and Atwells Avenue
- **Broad Street** urban trail (partly unprotected bike lanes, partly protected two-way urban trail) between Hayward Street and Hawthorne Street
- **Dean Street** urban trail (partly shared-use path, partly protected two-way urban trail) between Promenade Street and Higgins Ave

Status of Great Streets Policy Recommendations

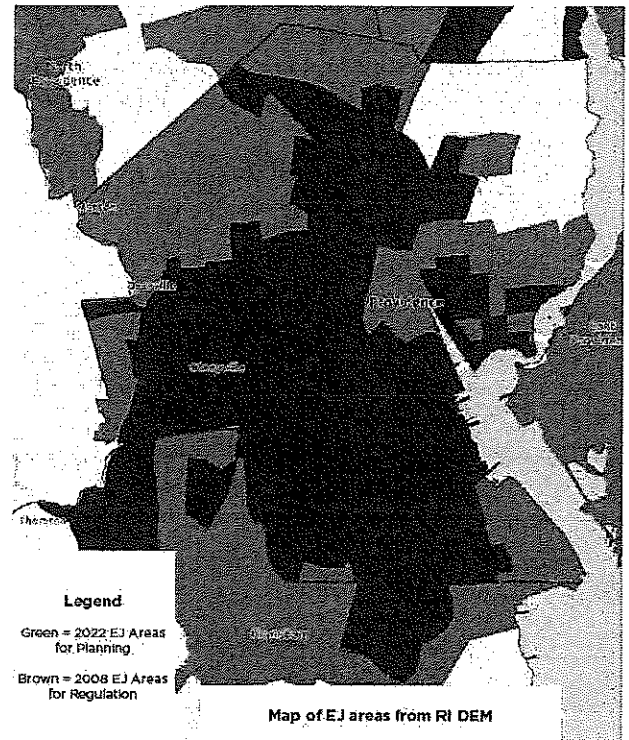
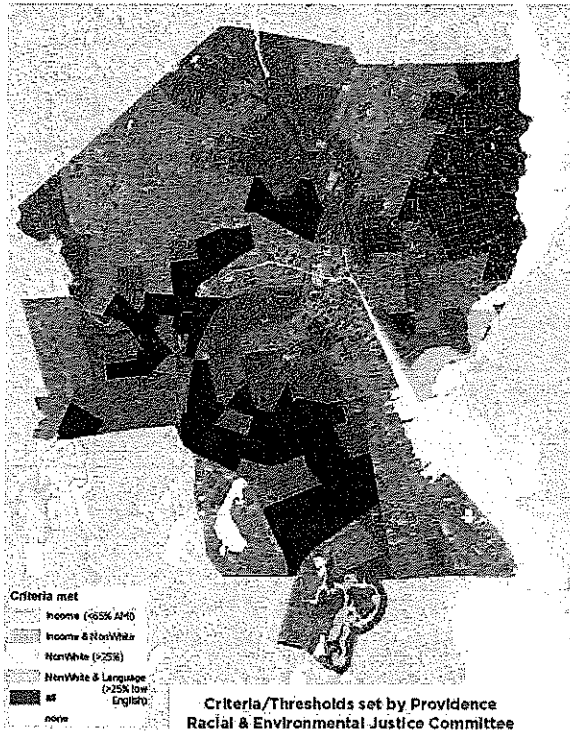
Recommendation	Complete	In process	Not yet started
Create a new Great Streets Ordinance that replaces and strengthens the existing complete streets resolution and formally integrates the Great Streets Initiative into City procedures	2021		
Update ordinance language for operating a bicycle			X
Repeal ordinance prohibiting skateboarding	2020		
Consider zoning ordinance revisions that further lower parking requirements in new developments		X	
Amend the Code of Ordinances to include fines for parking in or blocking bicycle facilities and increase associated enforcement	2021		
Establish transportation impact study requirements and guidelines for specific street types			X
Develop protocols for regularly updating infrastructure projects in the great streets master plan		X	
Modify the city's traffic calming procedures and guidelines	2021		
Improve internal city processes to implement the great streets initiative and develop a program management plan		X	
Establish a great streets project screening system and checklist to ensure coordination			X
Update road and sidewalk opening standards to capitalize on project opportunities for great streets implementation			X
Provide additional resources to the providence parks department			X
Update sidewalk repair standard operating procedures to incorporate great streets and urban trail projects			X
Adopt policies regarding transportation impact assessments			X
Use and price curb space more efficiently and flexibly			X
Coordinate traffic signals citywide			X
Continue to integrate art and cultural planning into mobility investments		X	
Develop a demonstration project strategy and toolkit to test projects before full implementation			X
Develop a program to incentivize business and property owners to install bicycle parking			X
Evaluate overnight resident parking permit program fee structure		X	

Update the city's public utilities agreement to incorporate bicycle-related provisions			X
Deploy leading pedestrian intervals (LPIs) and increase pedestrian signal timing		X	
Implement automatic recall of walk signals		X	
Implement no right turn on red (NTOR) signage where pedestrians regularly cross			X
Increase enforcement to prevent blocking of intersections, crosswalks, bike lanes, bus stops, and sidewalks			X
Increase enforcement of sidewalk snow removal			X
Expand the city's use of new technologies		X	
Work with RIPTA to evaluate all bus routes and stops to ensure they are accessible, properly-sized, properly-spaced, and welcoming		X	
Work with the state legislature to require RIDOT to update highway design manual			X
Work with the state legislature to adopt the "Idaho stop law" to improve safety		X	
Expand youth bicycle education programming to citywide			X
Expand the city's street ambassador approach to public engagement		X	
Establish a "Friends of the Urban Trail Network"		X	
Re-launch safe walking, driving and biking public safety campaign			X
Expand and enhance community rides		X	

Metrics

- Total miles of bike lanes:** At the start of 2022, there were 10.19 miles of shared streets, 17.26 lane-miles of striped bike lanes, 6.21 lane-miles of protected bike lanes, and 9.57 lane-miles of shared-use paths in Providence. 0, 0.41, 1.2, and 0.47 miles were built respectively, resulting in the following at the start of 2023: 10.19 miles of shared streets, 17.67 lane-miles of striped bike lanes, 7.41 lane-miles of protected bike lanes, and 10.04 lane-miles of shared-use paths.
- Total dollar amount spent on green and complete streets activities:** \$1.3 million was obligated for green & complete streets activities in 2022, mostly auxiliary costs such as engineering and construction management for various projects. This is a decrease from 2022, when \$5.3 million was obligated for green & complete streets activities. In addition, two ultimately successful federal grant applications for green & complete streets activities were submitted in 2022 with the expectation of \$8.8 million match which will be obligated in 2023-2024.
- Number of people biking on a representative sample of streets and trails:** In 2021 bike counts were collected at 6 sites via long-duration loop detectors. Best estimates of average daily bike traffic at these sites ranged from 30 to 267, roughly the same as 2021.
- Number of applications and waivers requested and granted, along with the justification for any waivers granted:** 0
- Opportunities for community stakeholders in environmental justice areas to influence how these improvements are prioritized:** During the development of the Great Streets Plan in 2019, there were opportunities to comment on the plan at meetings throughout the city, online, and by engaging with City representatives who attended community events to reach people where they were. These methods prioritized underserved areas and hundreds of comments were submitted. Implementation of the Great Streets Plan in 2020 through 2022 then proceeded according to a prioritization formula which initially weighted metrics of equity, connectivity, safety, and density equally, was adjusted based on input from

the community to weight connectivity highest.



- **Number of Green and Complete Streets improvements made in environmental justice areas:** 2 of the above listed urban trail improvements were almost entirely in areas meeting all 3 REJC criteria (Gotham Greens and Broad Street).
- **Number of traffic calming devices installed, as well as those evaluated and approved for installation:** In 2022, 9 streets received permanent traffic calming, 13 streets received temporary speed lumps, and permanent speed lumps on 5 streets were reconstructed to a lower profile. Traffic calming was preliminarily approved on 39 streets at the end of 2022.

	2020	2021	2022
Permanent TC installed	76		9
Temporary TC installed			13
Preliminary approval		11	5
TC reconstructed lower	0	0	39

- **Metrics unavailable at this time:**
 - Number of street trees
 - Number and severity of traffic violations and crashes by mode
 - Assessment of linear feet of sidewalk in need of repair or construction to be performed on an annual basis
 - Number of new stormwater management improvements in the city
 - Replacement of non-ADA compliant curb ramps
 - Number of intersection legs without crosswalks
 - Maintenance activities of existing green and complete streets facilities
 - Number of traffic complaints and calming requests by street name
 - Number of crosswalk and intersection improvements installed
 - Number of people riding Rhode Island Public Transit Authority buses within the City

Changes suggested by Advisory Council

Chapter 23, Article VII, Section 23-171 states "The Advisory Council shall annually provide a written report to the City Council and Administration outlining all suggested changes to such land use policies, zoning ordinances, etc. that will better align with green and complete streets principals."

- The Advisory Council provided suggested changes to the Traffic Engineer on 12/12/22 on pedestrian safety standards to be implemented throughout the city, attached to this report.



Providence Green and Complete Streets Advisory Council

Jorge O. Elorza, Mayor

December 12, 2022

Natale D. Urso, PE, PTOE
Traffic Engineer, Public Works
700 Allens Ave. Providence, RI 02905

CC: Jessica Lance, Acting Director of Special Projects, Department of Planning and Development
Emily Crowell, Chief of Staff

RE: Policy and procedure recommendations for pedestrian accommodation at traffic signals

Dear Mr. Urso,

Thank you for attending the meeting of the Green and Complete Streets Advisory Council on October 17 to answer questions about the City's policies and procedures related to pedestrian accommodations at traffic signals. The conversation was very illuminating, and the Advisory Council discussed further at its November 21 meeting. The subsequent conversation included input from multiple engineers and other street design professionals, and the below resulting recommendations to the City were assembled through research into industry best practices and policies in other cities.

The Advisory Council respectfully requests a plan to be developed in the first half of 2023 to provide a sense of when these improvements could be made. Rather than assembling a timeline based on existing available resources, we recommend you consider what a realistic aspirational amount of funding might be required to implement these improvements and present a timeline based on that.

If you have any questions about the below recommendations, please feel free to discuss with Advisory Council staff, Alex Ellis, and he can connect you with me as necessary.

- Pedestrian and motor **vehicle volume should be studied at the 29 city-owned signals with exclusive pedestrian phasing**, and some of these should be returned to pedestrian recall during peak periods including intersections with very high pedestrian and/or turning traffic, and the intersection of Clifford Street with East Franklin Street where recall is important to the safe operation of the urban trail. Intersections with lower turning volumes (see thresholds below) should be evaluated for a change to concurrent phasing with LPIs.
- **No Right Turn On Red (NRTOR)ⁱ** should be implemented citywide by ordinance as recommended in the Great Streets Plan. Until such time as a restriction on Right Turn On Red is codified in citywide ordinance, the City should put a plan in writing for increasing the implementation of No Turn On Red restrictions. Locations should be prioritized where:
 - There is a moderate or high pedestrian/bicycle-volume or a significant volume of vulnerable crossers (e.g., children or older adults);
 - The crosswalk location is such that drivers turning right block the crosswalk while waiting for a gap or there are high conflicting volumes for right turns to merge into; and
 - Crossings are used by bicycles approaching from two directions (urban trail crossings).



Providence Green and Complete Streets Advisory Council

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- **Leading Pedestrian Intervals (LPIs)**ⁱⁱ of 3-7 seconds should be implemented at signalized intersections with concurrent pedestrian phasing and moderate turning volumes based meeting any of the following thresholds:

Warrant	Turning Vehicle Volume	Pedestrian Volume
Vehicle Peak Hour	≥ 130 per hour	≥ 25 per hour
Pedestrian Peak Hour	≥ 100 per hour	≥ 50 per hour
4-hour vehicle/ped volume	≥ 105 per hour	≥ 30 per hour
8-hour vehicle/ped volume	≥ 100 per hour	≥ 25 per hour
School Crossing	≥ 50 per hour	

LPI should also be implemented where there are T-junctions or junctions with one-way streets that have no opposing through traffic to shield pedestrians from left turns during the early part of the pedestrian phase. An LPI can be considered as a means of partial protection from left turns in these cases; however, a longer LPI may be required.

- **Protected-only turning movement phases**ⁱⁱⁱ should be considered where turning volumes are higher (over 200 per hour) and dedicated turning lanes are available. Protected turning phases should be considered mandatory for bike lane or urban trail crossings that meet the following thresholds:

Separated Bike Lane Operation	Motor Vehicles per Hour turning across Separated Bike Lane			
	Two-way Street			One-way Street
	Right Turn	Left Turn across One Lane	Left Turn across Two Lanes	Right or Left Turn
One-way	150	100	50	150
Two-way	100	50	0	100

Where protected-only left phasing is implemented, lagging left turn phases preferred over leading lefts to allow for pedestrians to clear prior to the start of the protected phase.

- **Exclusive pedestrian phasing**ⁱ should be considered if any of the following conditions are met:
 - The intersection experiences a high volume of pedestrians (over 800 per day).
 - There is a combination of a moderate volume of pedestrians with high turning-vehicle volumes (over 200 per hour), where a dedicated turning lane is not available and protected turn phasing cannot be implemented.
 - There is moderate pedestrian volume with high pedestrian-vehicle collisions (three collisions over the past 3 years).
 - There is moderate pedestrian volume, and at least 25% of pedestrians desire to cross diagonally.
 - The intersection geometry is unusual (e.g., highly skewed; five or six legs).

DEPARTMENT OF PLANNING AND DEVELOPMENT

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Providence Green and Complete Streets Advisory Council

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- **Exclusive bike phasesⁱ** should be provided at transition points such as when a bicycle path switches from one side of the road to another, or from two-way to one-way operations. These can be paired with pedestrian phases where practical.
- **General Recommendations for Signalized Intersections**
 - Curb ramps and crosswalks should be added where they are missing. If a crosswalk was omitted due to turning traffic volume, protected phasing should be implemented
 - Pedestrian phasing should be extended to match the length of the concurrent phases where the minimum pedestrian crossing time is exceeded (peds rest in walk)
 - Free operation can reduce pedestrian delays significantly and may be best suited for intersections where either the major- and minor-street volumes are similar, or it could be applied selectively based on time of day^{iv}
 - Auditory feedback should be added whenever a signal is added or modified. A plan should be developed to upgrade all signalized crossings with this accessibility feature over time.
 - The City should consider reducing signal cycle lengths from 90s to 60s off-peak where feasible.

Thank you again for your openness to making these safety improvements to traffic signals across the city. The Advisory Council would welcome your presence at future meetings to discuss further this or other traffic engineering issues pertinent to our purview.

Rosie Daswal, P.Eng.

Chair, Green and Complete Streets Advisory Council

ⁱ NCHRP Report 969: *Traffic Signal Control Strategies for Pedestrians and Bicyclists*, 2022

ⁱⁱ Pei-Sung et. al, *Development of Statewide Guidelines for Implementing Leading Pedestrian Intervals in Florida*, 2017

ⁱⁱⁱ MassDOT *Separated Bike Lane Planning & Design Guide*, 2015

^{iv} NITC *Improving Walkability Through Control Strategies at Signalized Intersections*, 2017