



CITY OF PROVIDENCE
MAYOR BRETT P. SMILEY

GREEN AND COMPLETE STREETS ADVISORY COUNCIL

October 24, 2023

The Honorable Rachel Miller
President, Providence City Council

CC: Sue Anderbois, Chair, Special Committee on Environment and Resiliency
Natale D. Urso, Traffic Engineer, Public Works

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

Dear Council President,

In October 2022, the Green and Complete Streets Advisory Council welcomed Mr. Urso to a meeting on the topic of pedestrian accommodations at traffic signals. That December, the Advisory Council provided Mr. Urso with some recommendations for standards used by other cities that the City should consider implementing to increase the ability of Public Works to improve pedestrian safety without the need for costly and time-consuming traffic studies. In recent months, Public Works has begun implementing one of these recommendations, the introduction of Leading Pedestrian Intervals (LPis) at traffic signals beginning in Downtown. In light of the planned conversation about Vision Zero at the Special Committee on Environment and Resiliency, the Advisory Council wished to share with you the other recommendations we made, listed below. Perhaps City Council can work with the Traffic Engineer to formalize standards such as these to make our streets as safe to walk in as residents of other cities enjoy.

If you have any questions about the below recommendations, please feel free to discuss with Advisory Council staff, Alex Ellis.

- Pedestrian and motor vehicle volume should be studied **at the 29 city-owned signals with exclusive pedestrian phasing¹, and some of these should be returned to pedestrian recall²** during peak periods while keeping exclusive phasing, including intersections with very high pedestrian and/or turning traffic, and the intersection of Clifford Street with East Franklin Street where recall is

¹ Exclusive pedestrian phasing: all walk lights at the intersection are active while all cars have a red light

² Pedestrian recall: the walk light comes on every cycle regardless of whether the button is pushed

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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 phasing³ with LPIs.

- **Right Turn On Red** should be prohibited 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 signage. 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;
 - Crossings are used by bicycles approaching from two directions (urban trail crossings); and
 - Leading Pedestrian Intervals are in place.
- **Leading Pedestrian Intervals (LPIs)** of 3-7 seconds should be implemented at signalized intersections with concurrent pedestrian phasing and moderate turning volumes based on 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-traffic⁴ 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. Length and installation date of LPIs should be recorded for use in future evaluations.

³ Concurrent phasing: walk lights occur at the same time as parallel vehicular movements

⁴ Opposing through traffic: in this case, where the one-way street away from the intersection means only 3 directions have traffic entering the intersection

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- Where turning volumes are higher (over 200 per hour) and dedicated turning lanes are available, protected-only⁵ turning movement phases should be considered, and should be 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 phases⁶ are preferred over leading lefts to allow for pedestrians to clear prior to the start of the protected phase.

- Exclusive pedestrian phasing** 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).
- Exclusive bike phases** 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
- 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;

⁵ Protected-only turning movements: turning traffic gets a green arrow, controlled separately from through traffic

⁶ Lagging left turn: Instead of the left arrow occurring before the green light for through traffic, it occurs after

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- Pedestrian phasing should be extended to match the length of the concurrent phases where the minimum pedestrian crossing time is exceeded;
- Auditory feedback should be added whenever a signal is added or modified. A plan should be developed to upgrade all signals with this accessibility feature over time; and
- The City should consider reducing signal cycle lengths from 90 seconds to 60 seconds off-peak where feasible.

Thank you for your consideration,

A handwritten signature in blue ink, appearing to read "Rosie Jaswal".

Rosie Jaswal

Chair, Green and Complete Streets Advisory Council

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