

LPI Next Steps

- Leading Pedestrian Interval (LPI) gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green light. **This promotes increased visibility of crossing pedestrians.**
- LPIs are acknowledged to provide pedestrian safety widely supported by transportation safety professionals and have been recommended through previously studies and advocacy groups.
- Staff recommend moving forward with a two-phase strategy to uphold progress while ensuring the implementation is data driven, operationally appropriate and responsive to community input.

Phase 1 – Feasibility Analysis and Pilot Implementation

– Actions:

- Develop LPI best practices, anticipated safety benefits, operational considerations and applicability to existing signalized intersections.
- Identify and prioritize a list of intersections for pilot locations.
- Conduct public information meeting.
- Identify performance measures and criteria to evaluate and define pilot success.
- Conduct public education campaign prior to pilot implementation.

– Deliverables:

- Feasibility Report for approval by City Council.
- Implement LPI pilot project at multiple intersections.

– Timeline:

- Completion by 2026-2027 school year.

Phase 2 – Pilot Evaluation and City Policy Development

– Actions:

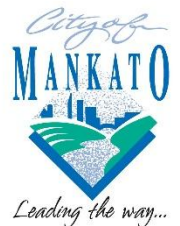
- Prepare an evaluation report assessing the LPI pilot locations.
- Evaluate and summarize public feedback and reaction of the pilot.
- Continue monitoring pilot locations throughout Phase 2.
- Conduct public information meeting prior to development of final policy.
- Present for City Council approval formal LPI policy.

– Deliverables:

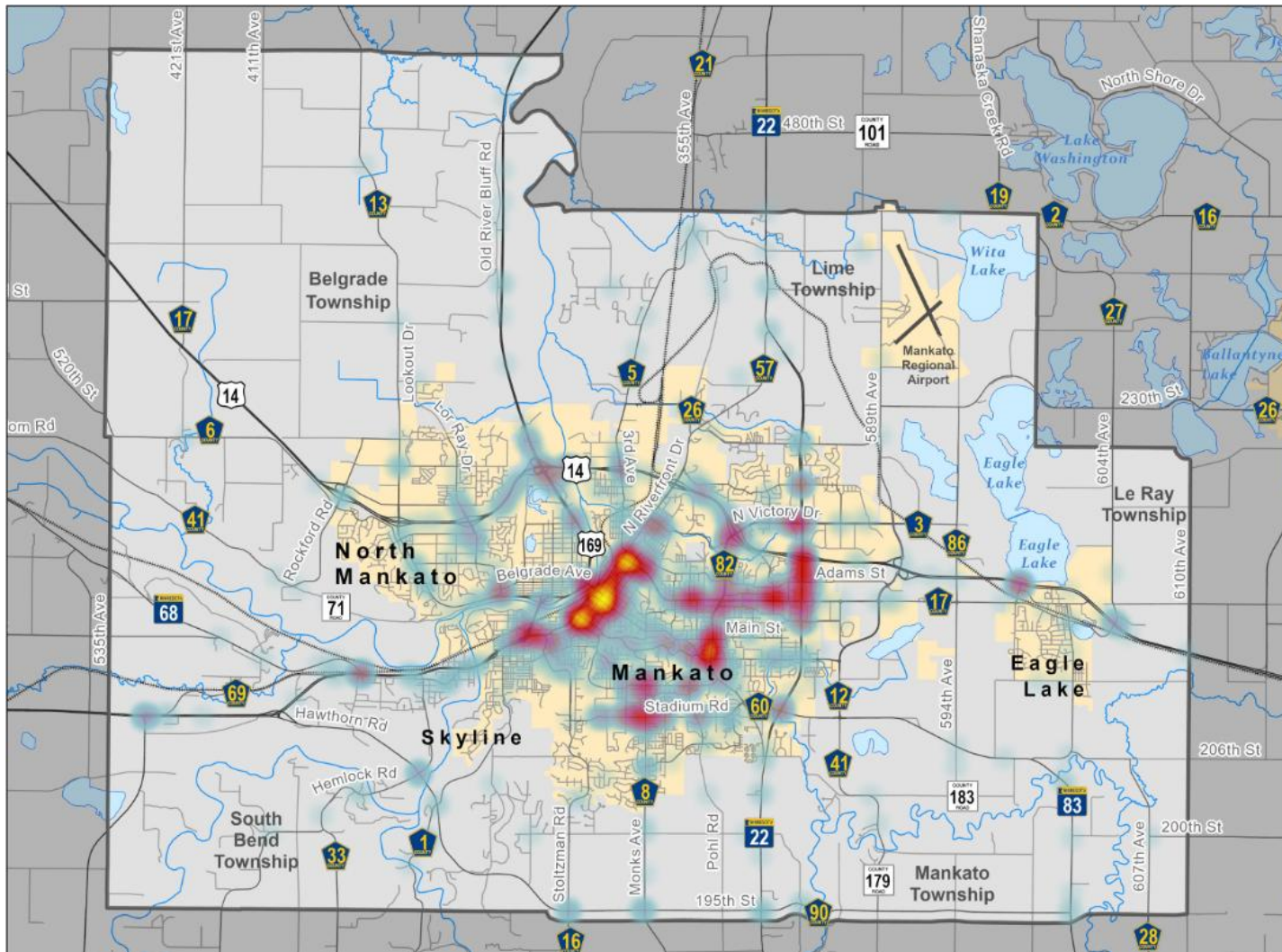
- Feasibility Report for approval by City Council.
- Develop formal City of Mankato Leading Pedestrian Interval Policy.

– Timeline:

- Completion by Fall 2027.



MAPO – High Crash Locations



High Crash Locations

Figure 2-31

Crashes 2019-2023

Sparse

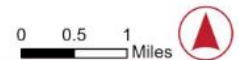
Dense

MAPO Planning Area/Study Area

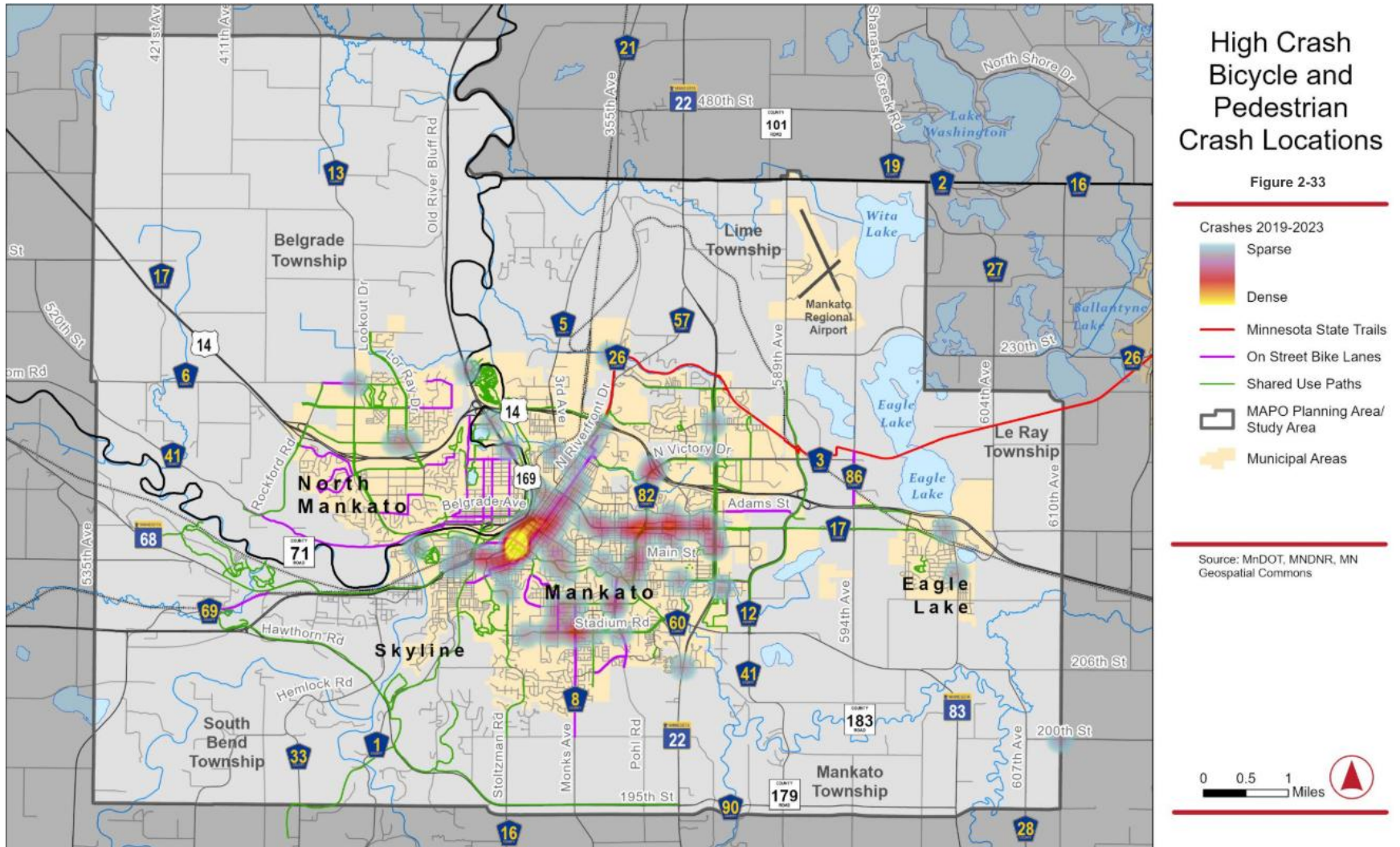
Municipal Areas

Source: MnDOT, MNDNR, MN Geospatial Commons

Note: Excludes Property Damage Only Crashes



MAPO – High Crash Bicycle and Pedestrian Locations



Summary

- LPIs are most beneficial at intersections with high pedestrian activity, high vehicle turning volumes, and high accident history specifically bicycle and pedestrian crashes.
- LPIs can contribute to additional delay for vehicles, so application is recommended based on policy guidelines for justification for safety and operation.
- Staff believes following the completion of these two phases the city will be well positioned to determine whether and how LPIs should be expanded more broadly across the entire signal system.



Safety Benefits:

13%

reduction in pedestrian-vehicle crashes at intersections.²

For more information on this and other FHWA Proven Safety Countermeasures, please visit <https://highways.dot.gov/safety/proven-safety-countermeasures> and <https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa19040.pdf>.

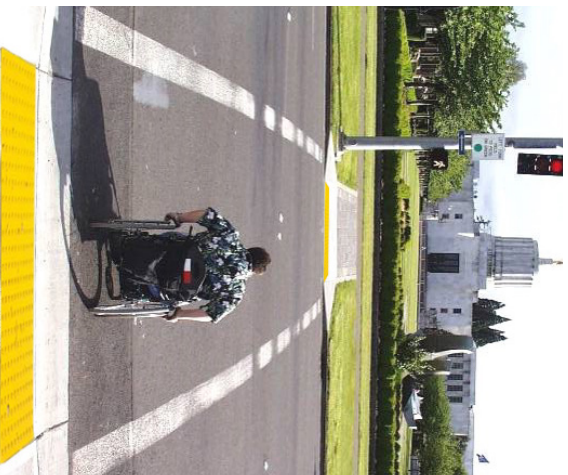
OFFICE OF SAFETY Proven Safety Countermeasures

Leading Pedestrian Interval

A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn right or left.

LPIs provide the following benefits:

- Increased visibility of crossing pedestrians.
 - Reduced conflicts between pedestrians and vehicles.
 - Increased likelihood of motorists yielding to pedestrians.
 - Enhanced safety for pedestrians who may be slower to start into the intersection.
- FHWA's Handbook for *Designing Roadways for the Aging Population* recommends the use of the LPI at intersections with high turning vehicle volumes. Transportation agencies should refer to the *Manual on Uniform Traffic Control Devices* for guidance on LPI timing and ensure that pedestrian signals are accessible for all users.¹ Costs for implementing LPIs are very low when only signal timing alteration is required.



An LPI allows a pedestrian to establish a presence in the crosswalk before vehicles are given a green indication. Source: FHWA



LPIs reduce potential conflicts between pedestrians and turning vehicles. Source: FHWA

¹ Manual on Uniform Traffic Control Devices (MUTCD), Section 4I.06, FHWA, (2023).

² (CMF ID: 9218) Goughnour, E., D. Carter, C. Lyon, B. Persaud, B. Lan, P. Chun, J. Hamilton, and K. Signor, "Safety Evaluation of Protected Left-Turn Phasing and Leading Pedestrian Intervals on Pedestrian Safety," Report No. FHWA-HRT-18-044, Federal Highway Administration, (October 2018)