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City of Austin Vision Zero Intersection Daylighting Initiative

2025 Texas Pedestrian Safety Forum

June 17, 2025

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Vision Zero in Austin

- Adopted in 2015
- Based on the Safe Systems approach to traffic safety
- Where we've invested in safety we've seen positive results
  - Major intersection safety projects have seen a 29% decrease in injury + fatal crashes
  - 70% reduction in left turn crashes where protected turns have been implemented
  - 64-70% decrease in high-risk speeding for safety corridors (e.g. Barton Springs Road)
- **Intersection Daylighting** represents a low-cost, impactful systemic safety strategy that can potentially be implemented at scale

What is Intersection Daylighting?

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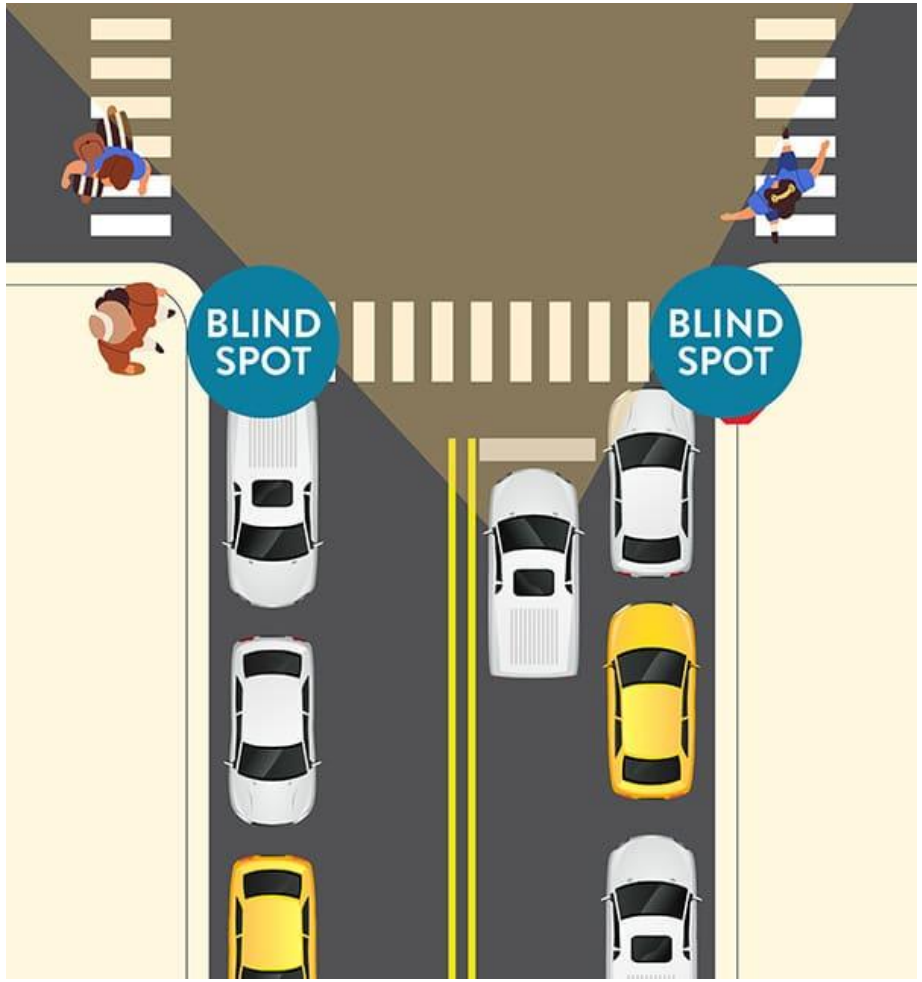
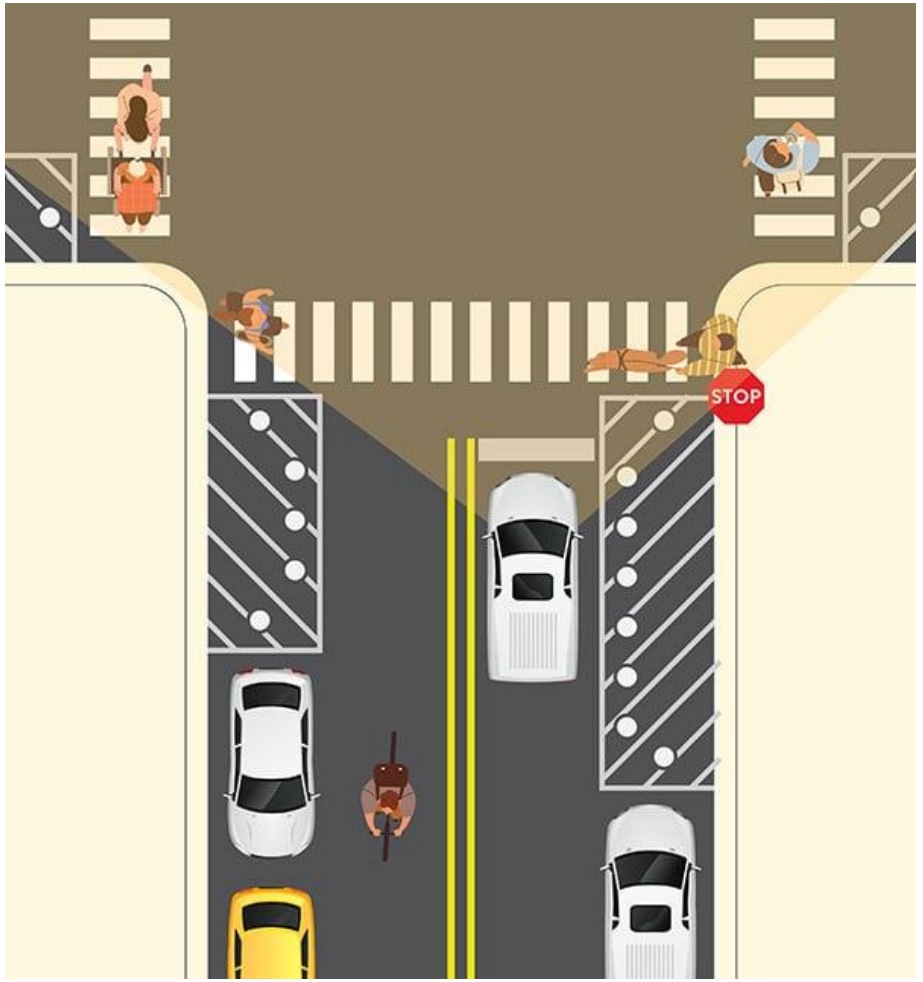


Before Daylighting



After Daylighting

Source: https://www.cityoflancasterpa.gov/blog/vision-zero-what-is-intersection-daylighting/

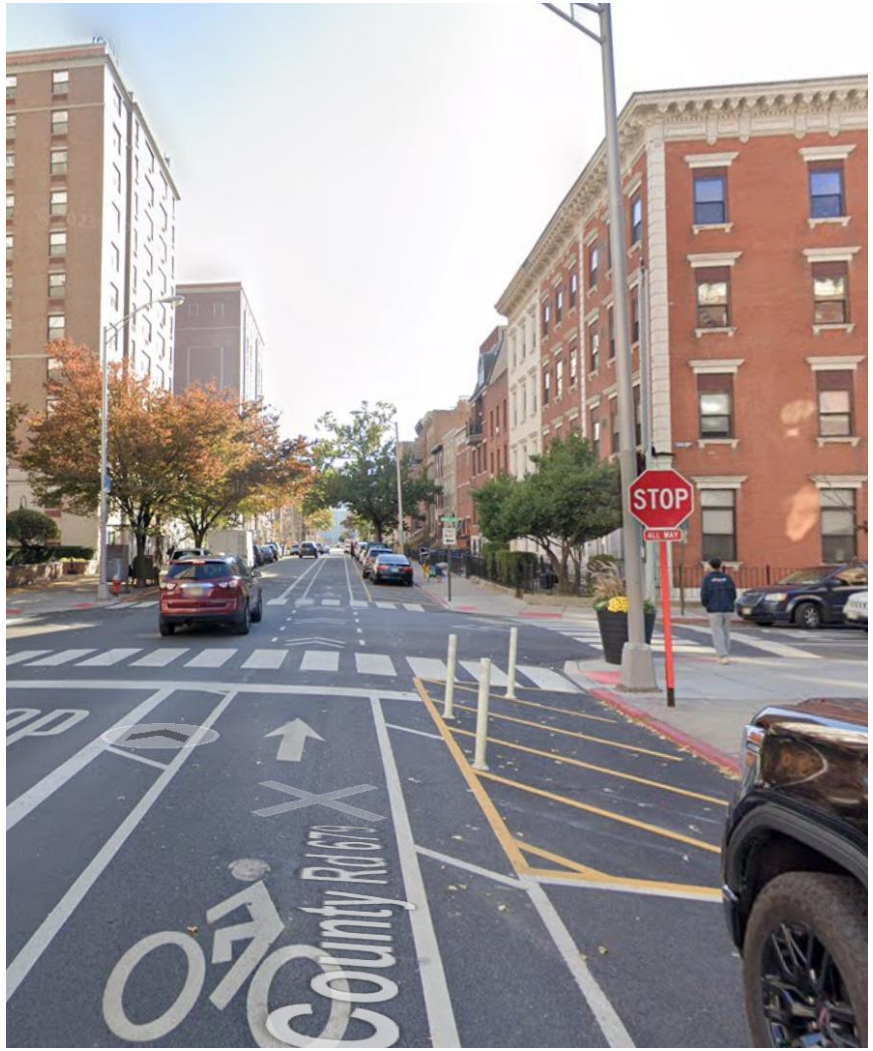
Why Intersection Daylighting?

Intersection daylighting improves safety at intersections:

- Restricting parking near intersections can **reduce pedestrian crashes** by 30% (FHWA)
- **Reduces blind spots** and gives drivers, pedestrians, and cyclists a **better view** of the intersection
- Provides **more time to respond** to other approaching road users
- **Slow turning vehicles** so they're more likely to see and yield to pedestrians in the crosswalk

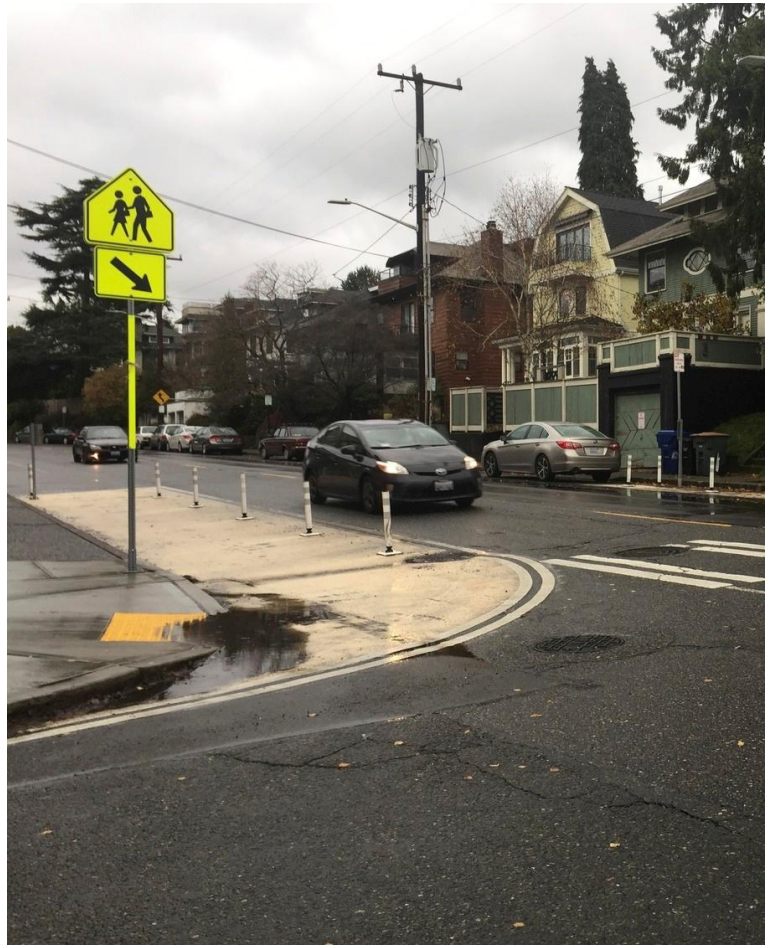
Source: https://www.thomasbardenett.com/blog/2022/6/30/lets-talk-about-intersections

Examples - Hoboken, NJ



Source: https://www.bloomberg.com/news/features/2023-11-28/the-case-for-daylighting-the-cheap-traffic-safety-fix-that-cities-need

Examples – Seattle, WA



Examples - Baltimore, NY

Source: https://www.strongtowns.org/journal/2023/6/27/tactical-urbanism-in-baltimore-yields-safer-streets-inspiring-art

Examples – New York, NY

Daylighting intersections for increased visibility also opens up space for bike racks, curb extensions, and bioswales that diversify the use of the curb space.

Sources: https://www.nyc.gov/office-of-the-mayor/news/914-23/mayor-adams-launches-new-effort-make-thousands-nyc-intersections-safer-of-broad-new; https://nacto.org/publication/urban-street-design-guide/intersection-design-elements/visibility-sight-distance/

Literature and State of Practice Review

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Existing Daylighting Programs

- **Initiatives in Other Cities**
  - City of Hoboken, NJ
  - City of San Francisco, CA
  - City of Lancaster, PA
  - City of Baltimore, GA
  - City of Orlando, FL
  - New York City, NY
- **Initiatives in the City of Austin**
  - Vision Zero

State of Practice

- **Design Guidance**
  - NACTO (2013) Urban Street Design Guide
  - Portland Bureau of Transportation (2018) Vision Clearance Guidelines
  - Hoboken Street Design Guide
- **Different Treatments and Materials Used**
- **Intersection Prioritization**
- **Review of Safety Performance**
- **Maintenance Considerations**
- **Goals and Performance Measures**

Lit Review and Peer City Findings

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- **Daylighting treatments** enhance safety, are low-cost, quick to implement, and require minimal approvals or maintenance.
- **Permanent features** (e.g., curb extensions) offer durable, low-maintenance, and effective safety improvements.
- **High-risk intersections**, especially on the High Injury Network (HIN) or near schools, are often prioritized.
- **Alignment with Vision Zero** and adherence to local/state regulations support consistent, effective implementation.
- **Data collection** is critical for tracking performance and evaluating impact.

Systemic Daylighting Needs Analysis

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Data Consolidation and Processing

- Identify intersection-related crashes
- Filter for “Potential Sightline Crashes” that could be mitigated by daylighting
- Narrow to intersections with on-street parking

Systemic Daylighting Needs Analysis

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Identify Systemic Screening Factors

- Functional Class Combination
- Highest Lane Count
- Maximum Speed
- Maximum AADT
- AADT Ratio
- High Pedestrian Trip Potential
- Austin Equity Analysis Zone (EAZ) Vulnerability
- Off Street Leg
- Turn Lanes
- Traffic Control
- Protected Bike Intersection
- Street Lighting Presence
- Near Transit Stop
- Near Education Center
- Near Park
- Sidewalks Present
- Driveways Present
- Intersection Traffic Calming
- Segment Traffic Calming

Systemic Daylighting Needs Analysis

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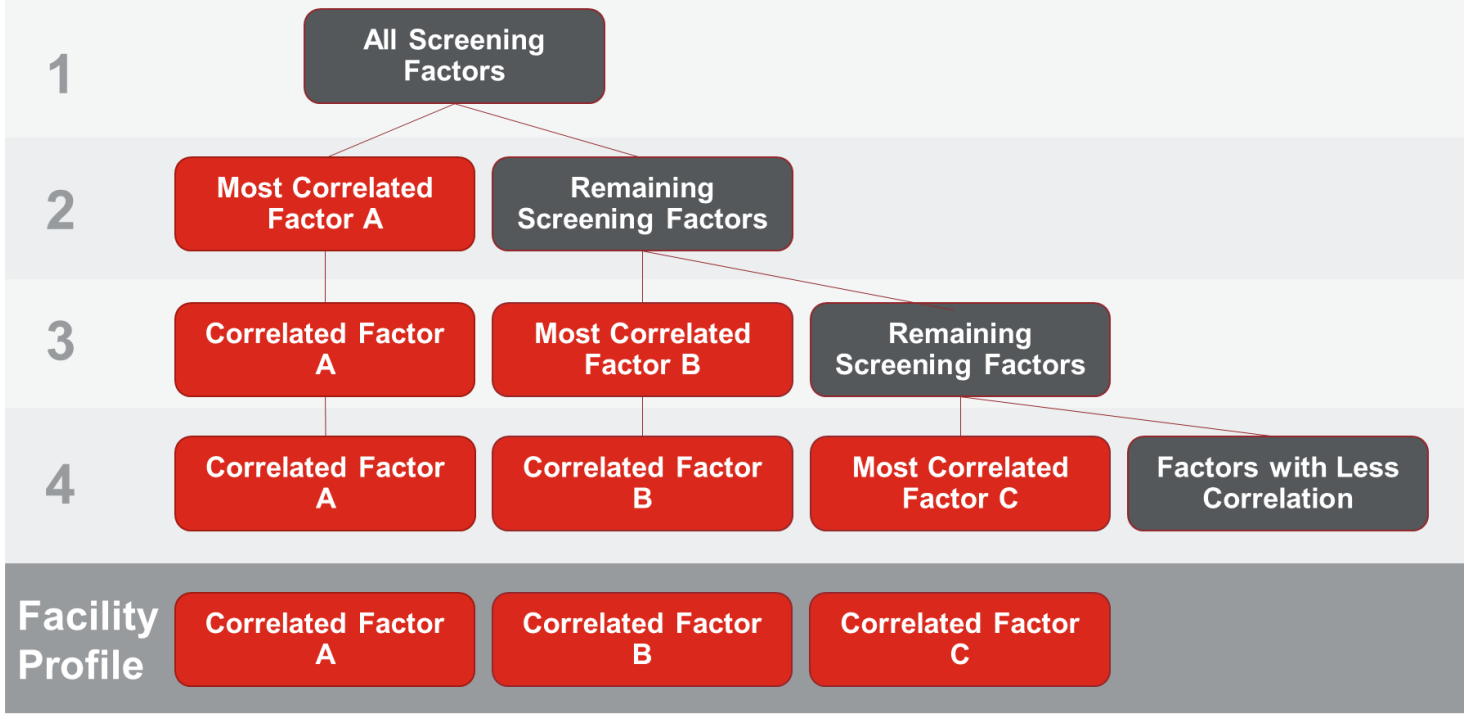
Systemic Screening Process

A decision tree machine learning algorithm screens all factors recursively to identify the most correlated factor and continues until a set of factors is identified as a facility profile.



Systemic Daylighting Needs Analysis

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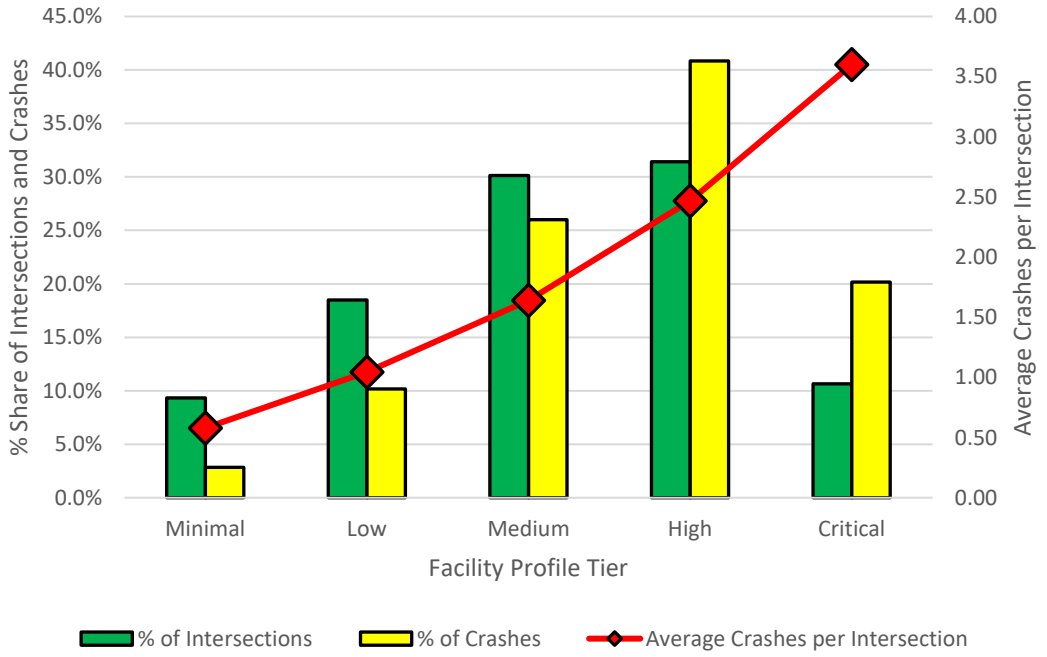
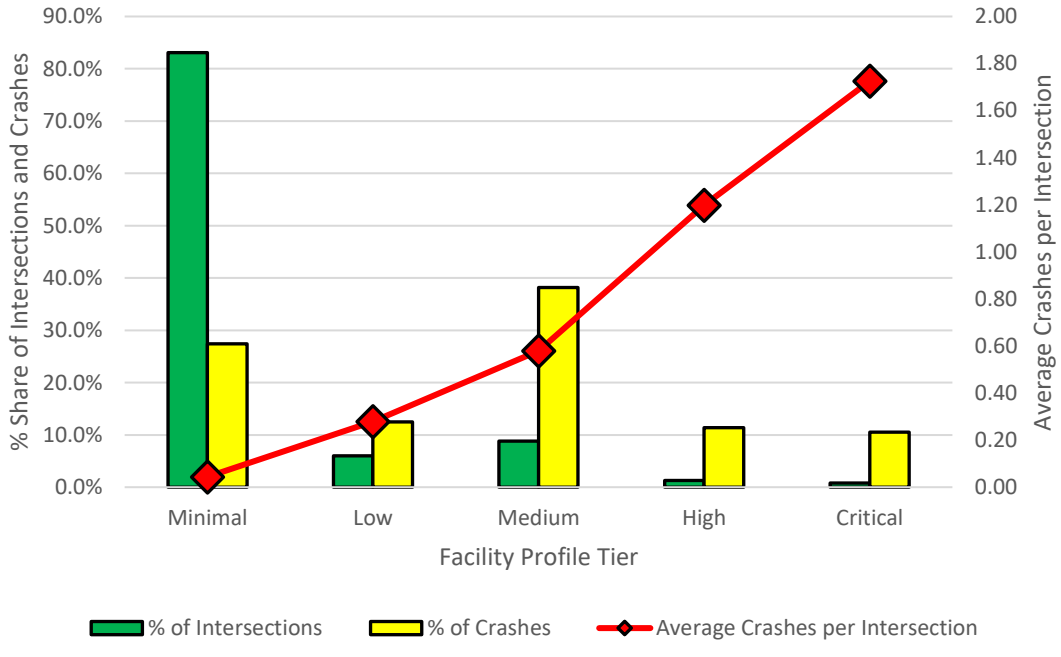
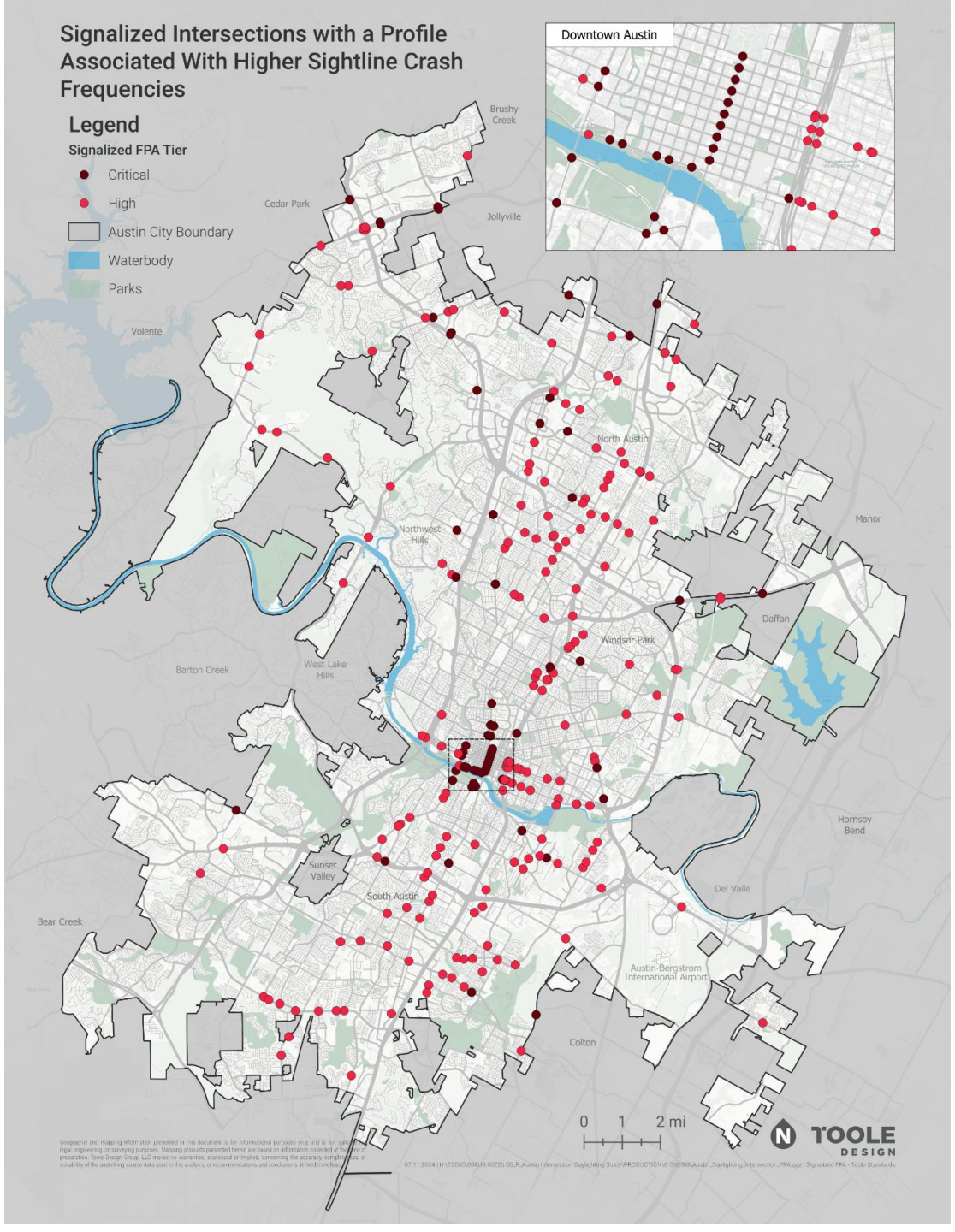
Systemic Screening Results

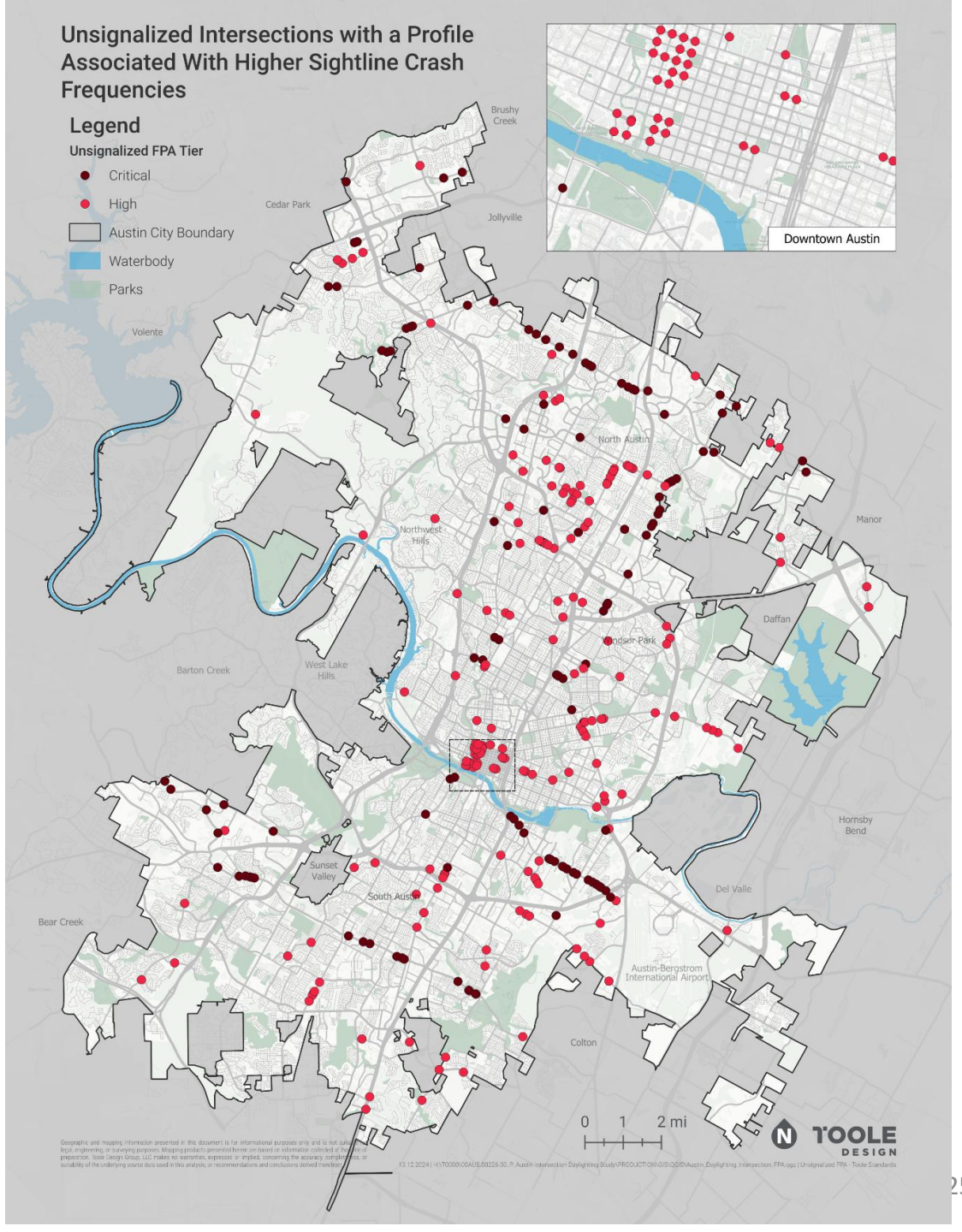


The Critical and High tiers intersections carry about 60% of potential sightline crashes but represent only about 40% of the studied **signalized intersections**



The Critical and High tiers intersections carry about 22% of potential sightline crashes but represent only about 2% of the studied **unsignalized intersections**


Signalized Intersections with a Profile Associated With Higher Sightline Crash Frequencies
Legend
Signalized FPA Tier
Critical
High
Austin City Boundary
Waterbody
Parks
Downtown Austin
Brushy Creek
Cedar Park
Jollyville
Volente
North Austin
Northwest Hills
Manor
Daffan
Windsor Park
Barton Creek
West Lake Hills
Hornsby Bend
Sunset Valley
South Austin
Del Valle
Bear Creek
Austin-Bergstrom International Airport
Colton
0 1 2 mi
TOOLE DESIGN


Unsignalized Intersections with a Profile Associated With Higher Sightline Crash Frequencies
Legend
Unsignalized FPA Tier
Critical
High
Austin City Boundary
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Parks
Downtown Austin
Brushy Creek
Cedar Park
Jollyville
Volente
North Austin
Northwest Hills
Manor
Daffan
Windsor Park
Barton Creek
West Lake Hills
Hornsby Bend
Sunset Valley
South Austin
Del Valle
Bear Creek
Austin-Bergstrom International Airport
Colton
0 1 2 mi
TOOLE DESIGN

Daylighting Prioritization

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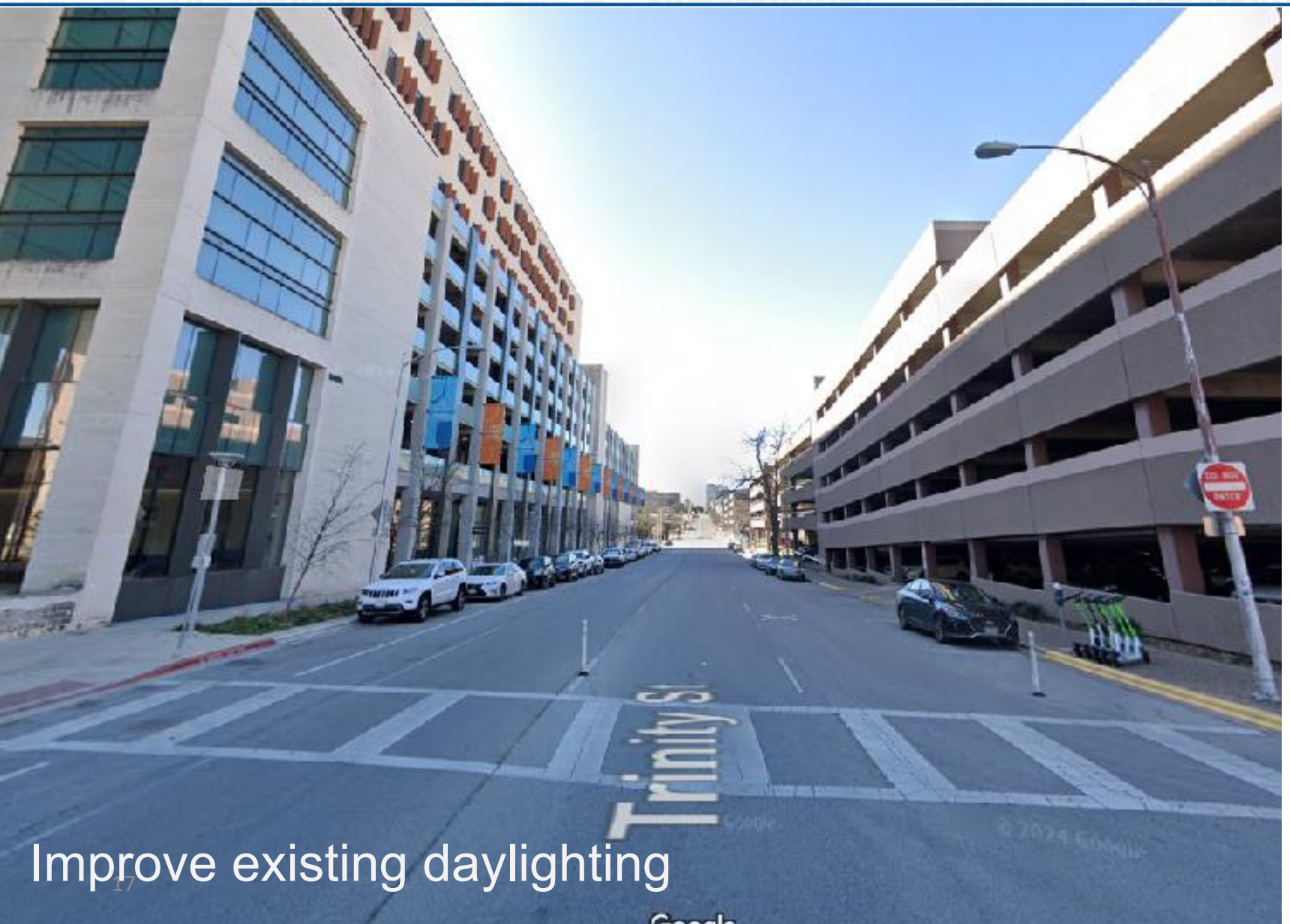
Category	Metric	Description	Weight	Score
Crash History	Overlap with HIN	Located along the City's HIN	20%	5 pts – If the intersection is on Ped HIN 3 pts – if the intersection is on the overall HIN 0 pts – not on HIN
	Crash Severity	Number of KSI "potential sightline crashes"	10%	5 pts – 3 KSI crashes 3 pts – 2 KSI crashes 1 pts – 1 KSI crashes
	Systemic Crash Risk	Risk level from the systemic safety analysis	5%	5 pts - Critical 3 pts - High
Intersection Characteristics	Connecting bike/ped facilities	Intersections with a shared-use path/trail or protected bike lane approach	15%	5 pts - Yes 0 pts - No
	Intersection Control Type	Signalized vs four-way vs two-way controlled	15%	5 pts – signalized intersections 3 pts – 2-way stop controlled intersection
	Intersection geometry	Intersections with more than 4 legs or skewed angles	10%	5 pts – with more than 4 legs or skewed angles larger than 60 degrees 3 pts – with skewed angles larger than 45 degrees 1 pts – with skewed angles larger than 30 degrees
Land Use Context	High Pedestrian Trip Potential	Whether there is a high trip potential at the intersection based on the "walk trip potential" analysis from Austin Walk Bike Roll.	25%	5 pts - Yes 0 pts - No
		Total	100%	

Example Location for Daylighting



Improve existing daylighting

- Enforce existing No Parking areas
- Shorten crosswalk
- Improve visibility for pedestrians and vehicles

Example Location for Daylighting

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Improve sight lines

- Improve sight lines blocked by existing fence
- Shorten crosswalk
- Improve visibility for pedestrians and vehicles

Example Location for Other Safety Improvement

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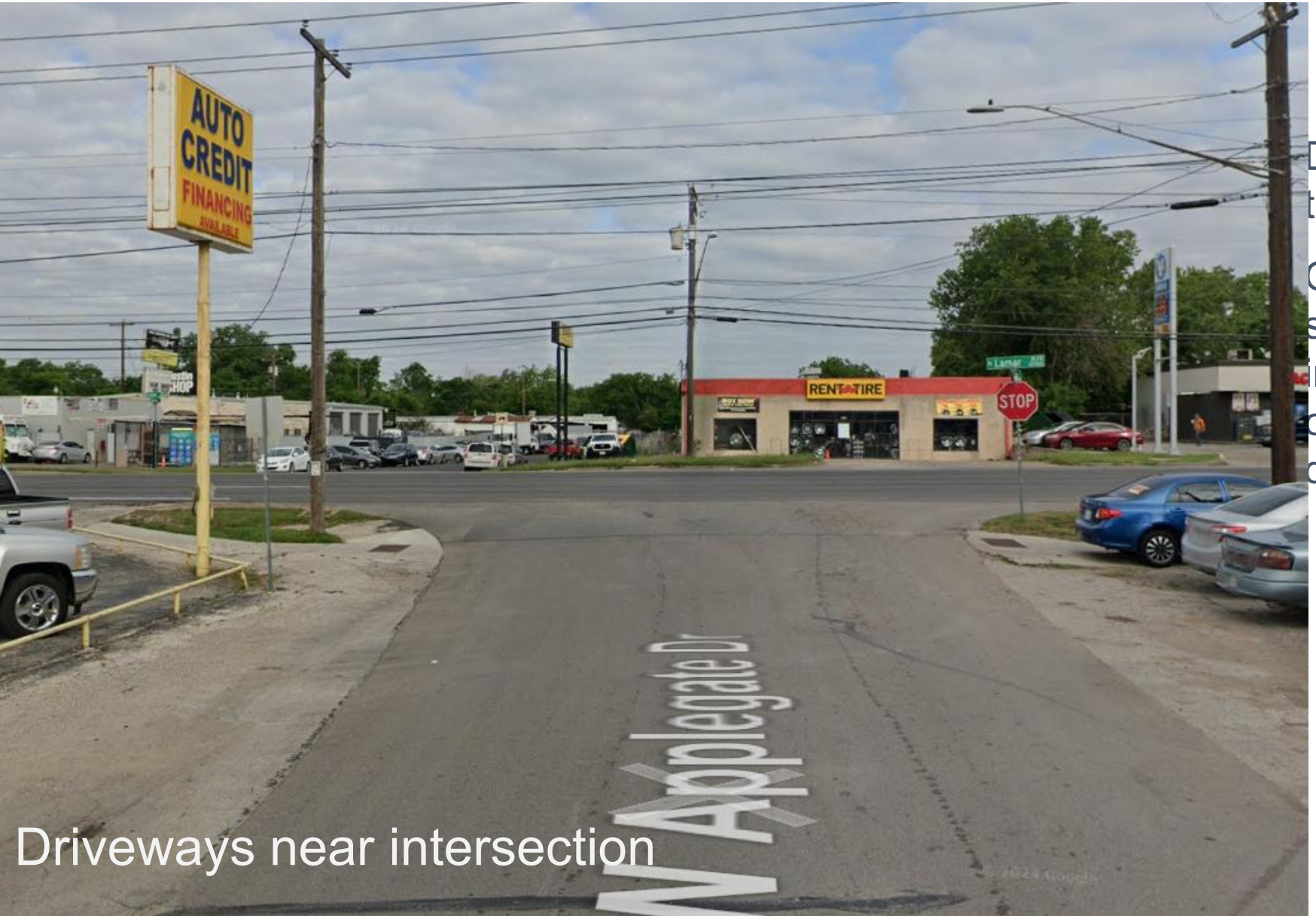

Driveways near intersection

- Daylighting will not work due to existing driveways
- Other safety improvements should be considered to improve safety for pedestrian crossing without blocking driveways

Daylighting Not Recommended

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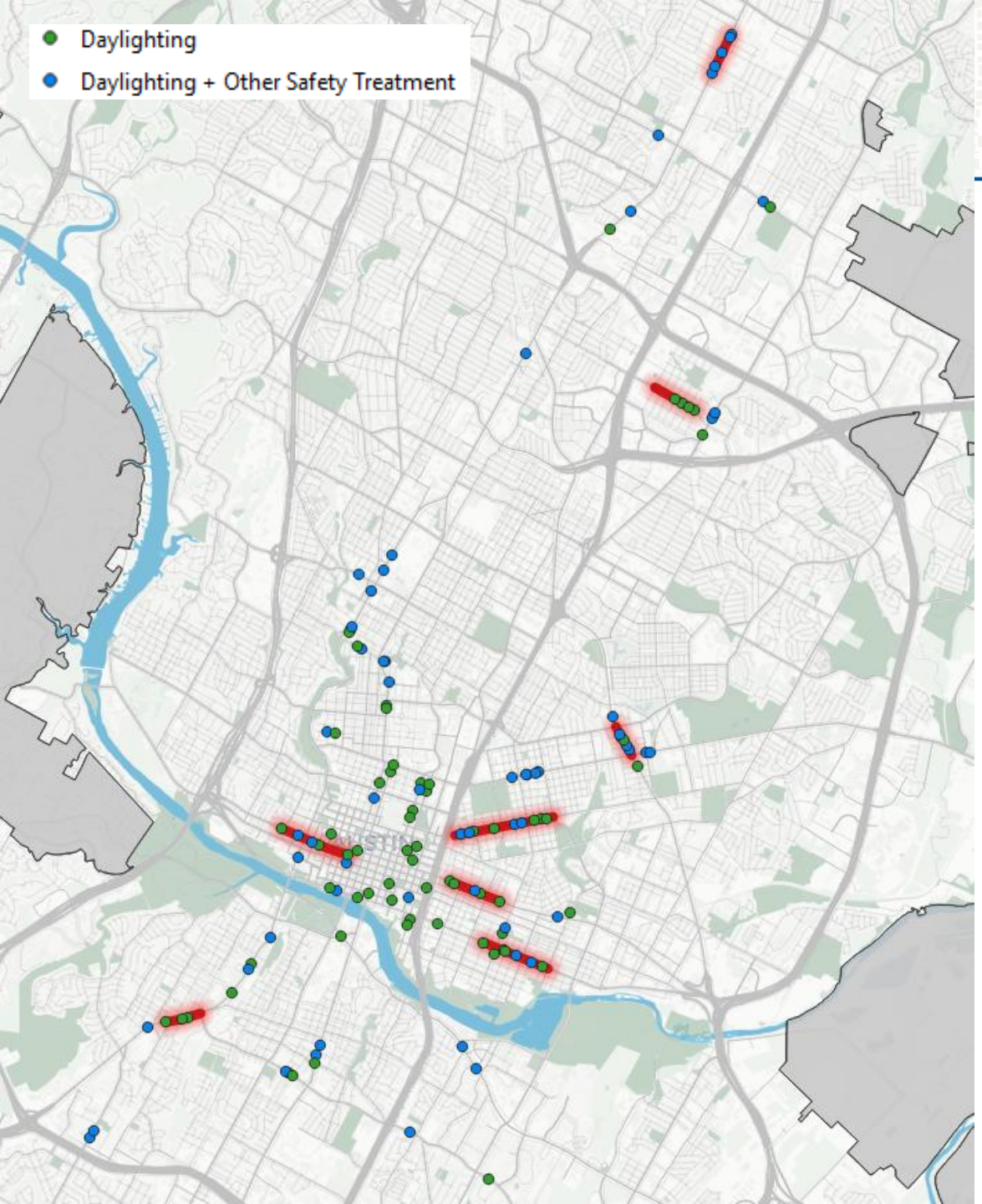
Daylighting exists

No parking lanes on all intersection legs



Implementation Considerations

- Other planned projects
- Clusters of intersections
- Coordination with other agencies such as TxDOT, Cap Metro
- Maintenance considerations
- Evaluation

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