

Comprehensive Safety Action Plan



2026

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Comprehensive Safety Action Plan



2026



Prepared by:

Nayan Amin, TE

Project Manager,

TJKM Transportation Consultants

Signed for Approval:

LEADERSHIP COMMITMENT

CITY OF CONCORD
1950 Parkside Drive
Concord, CA 94519

May 22, 2026

Dear Members of the Community,

I am writing to affirm the City of Concord's commitment to the goals established in Resolution No. 26-28, adopted by the City Council on May 12, 2026, which adopts the Comprehensive Safety Action Plan (CSAP) and commits the City to a Vision Zero goal of reducing traffic-related fatalities and severe injuries (also referred to as serious injuries under the Safe Streets and Roads for All program) on City streets by fifty (50) percent by the year 2040, with the eventual goal of eliminating all such fatalities and severe injuries on City streets by the year 2050.

The CSAP responds to a documented and significant roadway safety pattern. Between 2021 and 2025, the City of Concord recorded 1,804 injury collisions, including 164 incidents resulting in fatalities or severe injuries, and 19 fatalities. The CSAP provides a data-driven framework grounded in the Safe System Approach to address this pattern. The Plan draws on a five-year collision review using SWITRS and TIMS data, identifies a High Injury Network where the most significant safety needs are concentrated, and selects FHWA Proven Safety Countermeasures appropriate to local roadway conditions.

As City Manager, I am directing City staff to implement the CSAP through a coordinated, multidisciplinary effort that integrates engineering improvements, education and outreach, enforcement coordination, emergency response collaboration with public safety partners, and post-crash care. Implementation will include sustained interagency coordination with regional, State, and Federal partners, including the Contra Costa Transportation Authority, the Metropolitan Transportation Commission, and the California Department of Transportation, as well as coordination with adjacent jurisdictions and roadway owners on shared corridors and facilities within or affecting the City.

The CSAP was developed through a comprehensive public engagement process. The City conducted three multi-agency Steering Committee meetings with representatives from BART, County Connection, the Contra Costa County Fire Protection District, and the Mount Diablo Unified School District; three public community outreach meetings; a citywide online safety survey that generated 651 responses; a web-based map input platform that collected 77 location-specific comments; and a presentation to the Bicycle and Pedestrian Advisory Committee. This process produced a Plan that reflects the safety priorities of the broader Concord community and its institutional partners.

Building on this foundation, the City of Concord intends to pursue Federal funding under the Safe Streets and Roads for All (SS4A) Implementation Grant program to advance the highest-priority projects identified in the CSAP, with non-Federal matching funds committed in accordance with applicable program requirements. To ensure continued accountability, City staff will conduct annual public reporting on progress toward reducing roadway fatalities and severe injuries and will maintain the CSAP publicly accessible online.

I extend my appreciation to the Mayor and City Council for adopting Resolution No. 26-28, to the multi-agency Steering Committee for its substantive contributions, and to the residents and businesses of Concord who participated in the engagement process. This effort reflects a shared commitment to safer streets for everyone who lives, works, learns, and travels in the City of Concord.

Sincerely,



Valerie Barone,
City Manager, City of Concord



CITY OF CONCORD
1950 Parkside Drive
Concord, CA 94519

May 22, 2026

Dear Members of the Community,

On behalf of the City Council of the City of Concord, we reaffirm our commitment to the goals established in Resolution No. 26-28, which adopts the Comprehensive Safety Action Plan (CSAP) and commits the City to a Vision Zero goal of reducing traffic-related fatalities and severe injuries (also referred to as serious injuries under the Safe Streets and Roads for All program) on Concord streets by fifty (50) percent by the year 2040, with the eventual goal of eliminating all such fatalities and severe injuries by 2050. We adopted this resolution at our regular meeting on May 12, 2026.

The safety of every person traveling through Concord remains among the City Council's highest responsibilities. Each fatality and severe injury represents a preventable loss to a family, a neighborhood, and the broader Concord community. Through the CSAP, the City Council has formalized a commitment to address these losses through proactive, data-driven, and coordinated action. The Plan focuses on the safety of all roadway users, including pedestrians, bicyclists, motorcyclists, motorists, transit users, children, older adults, and people with disabilities.

The City Council supports implementation of the CSAP through a Safe System Approach that recognizes that human error is inevitable but the consequences of that error do not have to be fatal. We have directed City staff to implement the strategies, programs, and projects identified in the Plan, and to assess relevant transportation policies, plans, design guidelines, and standards to identify opportunities to prioritize roadway safety in City operations and decision-making.

The City Council has authorized the City Manager, or her designee, to submit the adopted Plan to the Federal Highway Administration and the U.S. Department of Transportation, and to apply for, accept, and execute grant agreements under the Safe Streets and Roads for All (SS4A) Implementation Grant program and other Federal and State transportation safety funding to advance implementation of the CSAP. We acknowledge that achieving the Vision Zero goal requires significant and sustained effort, resources, and dedicated safety planning activities, and we are committed to allocating appropriate City resources toward this end.

To ensure ongoing transparency and accountability to the residents we serve, the City Council has directed staff to conduct annual public reporting on progress toward reducing roadway fatalities and severe injuries, to maintain the CSAP publicly accessible online, and to communicate findings to the City Council, partner agencies, and the public. Continued public engagement will remain central to this effort.

We commend the work of City staff, the multi-agency Steering Committee, and the residents, businesses, and stakeholders who contributed to the development of the Comprehensive Safety Action Plan. Their dedication has produced a foundation upon which the City Council, in partnership with our regional, State, and Federal transportation agencies, can advance meaningful safety improvements on the streets of Concord.

Sincerely,



Laura Nakamura,
Mayor, City of Concord

POLICY RESOLUTION

BEFORE THE CITY COUNCIL OF THE CITY OF CONCORD
COUNTY OF CONTRA COSTA, STATE OF CALIFORNIA

Adoption of the City of Concord Comprehensive
Safety Action Plan (CSAP)

Resolution No. 26-28

WHEREAS, the City of Concord is committed to advancing its Vision Zero goals of eliminating traffic fatalities and severe injuries and promoting safe, healthy, and equitable mobility for all road users; and

WHEREAS, traffic fatalities and serious injuries are preventable and represent a significant public safety and public health concern requiring a proactive and coordinated response; and

WHEREAS, the City of Concord recognizes that pedestrians, bicyclists, motorcyclists, children, transit riders, older adults, and people with disabilities are among the most vulnerable roadway users and deserve particular attention and protection in transportation planning and design; and

WHEREAS, a commitment to zero traffic deaths and serious injuries reflects the value of human life and the equitable opportunity for all Concord residents to travel safely; and

WHEREAS, achieving safer streets requires a comprehensive approach that integrates engineering, education, enforcement, and emergency response strategies; and

WHEREAS, the United States Department of Transportation established the Safe Streets and Roads for All (SS4A) program to support local agencies in developing and implementing Comprehensive Safety Action Plans to reduce roadway fatalities and serious injuries; and

WHEREAS, in 2023 the U.S. Department of Transportation awarded the City \$400,000 in Federal SS4A funds, supplemented by \$100,000 in local matching funds from CIP Project 2782, for development of the Comprehensive Safety Action Plan (CSAP); and

WHEREAS, the CSAP includes a five-year collision analysis, identification of a High Injury Network, a Safe Streets Toolkit of FHWA endorsed countermeasures, and a project prioritization framework; and

WHEREAS, the City conducted four multi-agency Steering Committee meetings with

representatives from four agencies (BART, County Connection, Contra Costa Fire Protection District and Mount Diablo School District), three public community outreach meetings, a citywide online safety survey generating 651 responses, a web-based map input platform collecting 77 location-specific comments, and a presentation to the Bicycle and Pedestrian Advisory Committee; and

WHEREAS, safety improvements must be pursued in a data-driven and equitable manner responsive to the needs of all communities within the City, including historically underserved and disadvantaged populations, to ensure that safety benefits are distributed fairly across all neighborhoods; and

WHEREAS, implementation of the CSAP requires ongoing collaboration among City departments, partner agencies, community members, residents, business owners, and other stakeholders; and

WHEREAS, the City recognizes the importance of coordination with regional partners, including the Contra Costa Transportation Authority, Metropolitan Transportation Commission, California Department of Transportation, law enforcement agencies, and community organizations, to improve the safety, comfort, and accessibility of streets throughout the City; and

WHEREAS, adoption of the CSAP positions the City to apply for competitive SS4A Implementation Grants and other Federal and State transportation safety funds; and

WHEREAS, the City of Concord is committed to regular monitoring, reporting, and evaluation of safety outcomes to ensure accountability and measure progress toward achieving the goals of the CSAP; and

WHEREAS, pursuant to CEQA Guidelines Sections 15060(c), 15061(b)(3), 15378, and Public Resources Code Section 21065, adoption of the CSAP is not a project subject to CEQA review and is alternatively exempt; and

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF CONCORD DOES RESOLVE AS FOLLOWS:

Section 1. Pursuant to CEQA Guidelines Sections 15060(c), 15061(b)(3), 15378, and Public Resources Code Section 21065, adoption of the Comprehensive Safety Action Plan is not subject to environmental review under the California Environmental Quality Act (CEQA) of 1970, as amended,

POLICY RESOLUTION

as it does not constitute a “project”, does not commit the City to a definite course of action, does not constitute discretionary approval of a specific project, and will not result in a direct or reasonably foreseeable indirect physical change in the environment, and in the alternative is exempt from CEQA. This determination reflects the City’s independent judgement and analysis. This determination reflects the City’s independent judgement and analysis.

Section 2. The City Council hereby adopts the Comprehensive Safety Action Plan (CSAP).

Section 3. The City Council commits to a Vision Zero goal of reducing traffic-related fatalities and severe injuries (also referred to as serious injuries under the Safe Streets and Roads for All program) on City streets by fifty (50) percent by the year 2040, with the eventual goal of eliminating all such fatalities and severe injuries on City streets by the year 2050, through a holistic and proactive Safe System Approach.

Section 4. The City Council directs City staff to implement the strategies, programs, and projects identified in the CSAP, prioritizing engineering solutions, education initiatives, equitable enforcement, and interagency coordination.

Section 5. The City Council acknowledges that achieving the Vision Zero goal requires significant and sustained effort, resources, and dedicated safety planning activities, and commits to allocating appropriate resources toward this end.

Section 6. The City Council directs that multimodal safety investments be made in a fair and equitable manner, with special consideration given to vulnerable road users and historically underserved communities.

Section 7. The City Council directs City staff to conduct annual monitoring, reporting, and evaluation of CSAP implementation progress, and to communicate findings clearly to the City Council, partner agencies, and the public.

Section 8. The City Manager, or her designee, is authorized to submit the adopted Plan to the FHWA and the U.S. Department of Transportation.

Section 9. This resolution shall become effective immediately upon its passage and adoption.

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PASSED AND ADOPTED by the City Council of the City of Concord on May 12, 2026, by the following vote:

AYES: Councilmembers - D. Aliano, P. Benavente, L. Hoffmeister, C. Obringer, L. Nakamura

NOES: Councilmembers - None

ABSTAIN: Councilmembers - None


ABSENT: Councilmembers - None

I HEREBY CERTIFY that the foregoing Resolution No. 26-28 was duly and regularly adopted at a regular meeting of the City Council of the City of Concord on May 12, 2026.



Monique Robinson
Deputy City Clerk

APPROVED AS TO FORM:



Susanne Meyer Brown
City Attorney

ACKNOWLEDGMENTS

This Comprehensive Safety Action Plan (CSAP) was developed by the City of Concord with funding provided through a Safe Streets and Roads for All (SS4A) grant awarded by the Federal Highway Administration (FHWA), which is a testament to the City's commitment to making its streets safer for every resident and visitor.

The CSAP builds on a strong foundation of prior planning work, including the Concord Bicycle, Pedestrian, and Safe Routes to Transit Plan (2016), the Complete Streets Feasibility Study for Willow Pass Road, Galindo Street, and Cowell Road (2020), and the Safe Trips to BART Action Plan (2025). It is further anchored in the principles of Vision Zero, the global movement committed to eliminating all traffic fatalities and severe injuries from our transportation network.

The City of Concord extends its sincere gratitude to the regional partner agencies and community organizations whose engagement and expertise were indispensable in shaping this plan. The perspectives of stakeholders and community members across Concord ensured that the CSAP reflects the real safety needs and priorities of all residents, whether they travel by foot, bicycle, transit, or car.

The City of Concord is fully committed to implementing the strategies set forth in this CSAP and to working in close partnership with its partner agencies to achieve the ultimate goal: zero traffic fatalities and serious injuries on Concord's streets.

CONCORD CSAP STEERING COMMITTEE

The City of Concord's CSAP was developed with the guidance and oversight of a multidisciplinary Steering Committee representing key municipal, regional, and institutional stakeholders. The committee provided strategic direction throughout the planning process, contributing expertise in public works, transportation, emergency services, transit operations, and school safety to ensure the CSAP reflects the diverse needs of the Concord community.

REPRESENTATIVE	AGENCY
Abhishek Parikh	City of Concord Public Works Department
Virendra Patel	City of Concord Public Works Department, Project Manager
Shawn Phalen	City of Concord Public Works Department
Jesse Crawford	City of Concord
Danielle Thomas	Contra Costa County Fire Protection Department
Pranjal Dixit	Central Contra Costa Transit Authority (CCCTA)
Kamla Parks	Bay Area Rapid Transit (BART)
Melanie Koslow	Mt. Diablo Unified School District



CITY OF CONCORD STAFF

- Abhishek Parikh, Deputy Director, Department of Public Works
- Virendra Patel, TE, Transportation Program Manager, Department of Public Works



CONSULTANT TEAM

- Ruta Jariwala, PE, TE (Principal-in-Charge)
- Nayan Amin, TE (Project Manager)
- Andrew Dickinson

EXECUTIVE SUMMARY

The City of Concord has developed this Comprehensive Safety Action Plan (CSAP) in accordance with the requirements of the Safe Streets and Roads for All (SS4A) grant program administered by the U.S. Department of Transportation. The CSAP is guided by the Safe System Approach and the City's formal commitment to Vision Zero. Through a City Council Resolution adopted in May 2026, Concord has committed to reducing traffic-related fatalities and serious injuries by 50 percent by 2040, with the ultimate goal of eliminating all such outcomes on City streets by 2050.

The primary objectives of the CSAP are to:

- Conduct a comprehensive, data driven safety analysis of Concord's transportation network for the period January 2021 through December 2025.
- Identify the City's High Injury Network (HIN), comprising the corridors and intersections where fatal and serious injury (KSI) collisions are most heavily concentrated.
- Develop a Safe Streets Toolkit of evidence-based countermeasures organized under the Safe System Approach to address identified collision patterns and systemic risk factors.
- Identify and prioritize a portfolio of actionable safety projects and programs, including both systemic network-wide improvements and targeted interventions at high-injury corridors and intersections.
- Establish a framework for implementation, performance monitoring, and funding to ensure sustained, accountable progress toward the City's Vision Zero goals.

Between January 1, 2021 and December 31, 2025, a total of 1,804 traffic collisions were reported in Concord, of which 164 (approximately nine percent) resulted in KSI, including 19 fatalities and 145 severe injuries. The safety analysis culminates in the identification of the City's HIN, comprising 15 high-priority corridors and 12 high-priority intersections. Clayton Road rank as the highest-priority corridor, followed by Monument Boulevard, Willow Pass Road, Concord Boulevard, and Treat Boulevard. Together, these corridors and intersections account for a disproportionate share of KSI outcomes citywide and form the spatial foundation for the CSAP's safety investment strategy.

The CSAP was informed by an inclusive community engagement process encompassing an interactive map-based public survey, community workshops, and a multidisciplinary Steering Committee representing City departments, law enforcement, EMS, schools, regional transportation partners, and community advocacy organizations. Special efforts were made to reach historically underserved communities and to ensure that safety investments reflect both collision data and the lived experiences of all Concord residents. The resulting safety project portfolio spans systemic improvements that

proactively address risk across the transportation network and targeted design projects at specific HIN locations, each documented with proposed countermeasures and planning-level cost estimates. Project prioritization weighs safety performance, benefit to vulnerable road users, and proximity to schools, disadvantaged population impacts, and ease of implementation.

The CSAP aligns with the Safe System Approach and the SS4A program requirements, and is intended to function as a living document updated every two to five years. Implementation will be coordinated with the City's Capital Improvement Program and supported by partnerships with Caltrans District 4, CCTA, MTC, the Concord Unified School District, and law enforcement. Annual performance monitoring will track reductions in KSI collisions and implementation progress, with findings reported publicly to ensure accountability. Through this commitment, the City of Concord aims to serve as a model for other Bay Area communities in achieving the goal of zero traffic fatalities and serious injuries.

SS4A ACTION PLAN COMPONENTS

ACTION PLAN COMPONENTS	SECTION
Leadership Commitment and Goal Setting	Pg. 4 and Chapter 1 (Pg. 12)
Planning Structure	Pg. 7 and Chapter 4 (Pg. 52)
Safety Analysis	Chapter 3 (Pg. 21-48)
Engagement and Collaboration	Chapter 4 (Pg. 49-56)
Policy and Process Changes	Chapter 2 (Pg. 14-20) and Chapter 7 (Pg. 90-97)
Strategy and Project Selections	Chapter 5 and Chapter 6 (Pg. 57-89)
Progress and Transparency	Chapter 8 (Pg. 98-101) and City of Concord Website
Action Plan Adoption Date	May 12nd, 2026



GLOSSARY

AADT Abbreviation for Average Annual Daily Traffic: A measure of the average volume of vehicle traffic on a roadway segment over a full year, expressed as a daily average.

ATP Abbreviation for Active Transportation Program: A California state grant program administered by Caltrans that funds projects encouraging increased use of active modes, including walking and bicycling.

BART Abbreviation for Bay Area Rapid Transit: The regional heavy-rail transit system serving the San Francisco Bay Area, including two stations within the City of Concord.

CCTA Abbreviation for Contra Costa Transportation Authority: The Congestion Management Agency (CMA) for Contra Costa County, responsible for countywide transportation planning and the administration of Measure J sales tax funds.

CMA Abbreviation for Congestion Management Agency.

Collision Severity The intensity of a traffic collision, typically classified as: fatal, severe injury (serious injury), minor injury, possible injury, or property damage only (PDO).

CRF Abbreviation for Crash Reduction Factor: The estimated percentage reduction in collision frequency expected from the application of a specific countermeasure or safety treatment.

CSAP Abbreviation for Comprehensive Safety Action Plan.

Disadvantaged Communities Census tracts identified as experiencing transportation disadvantage using screening tools such as CalEnviroScreen or MTC's Communities of Concern framework. These communities face cumulative burdens including low income, high pollution exposure, social vulnerability, and limited transportation access.

FHWA Abbreviation for Federal Highway Administration: The federal agency within the U.S. Department of Transportation

responsible for managing the national highway system and administering federal-aid highway programs, including HSIP and SS4A.

HIN Abbreviation for High Injury Network: A subset of streets within a jurisdiction typically a small percentage of total lane miles that accounts for a disproportionately large share of KSI collisions. Prioritizing the HIN allows targeted safety investment for maximum impact.

HSIP Abbreviation for Highway Safety Improvement Program: A federal-aid funding program administered by Caltrans in California that provides funding for projects that demonstrably reduce traffic fatalities and serious injuries on public roads.

KSI Abbreviation for fatal and severe injury collisions (Killed and Severely Injured). KSI collisions are the primary focus of safety action planning as they represent the most critical outcomes of traffic violence.

LPI Abbreviation for Leading Pedestrian Interval: A signal timing strategy that gives pedestrians a head start before vehicles receive a green indication, increasing pedestrian visibility and reducing conflict with turning vehicles.

MOE Abbreviation for Measure of Effectiveness: A quantitative metric used to evaluate the performance of a transportation project or safety countermeasure relative to stated goals.

MTC Abbreviation for Metropolitan Transportation Commission: The transportation planning, financing, and coordinating agency for the nine-county San Francisco Bay Area.

PDO Abbreviation for Property Damage Only: A collision in which no persons were injured or killed, resulting only in damage to vehicles or property.

RAISE Grant Abbreviation for Rebuilding American

Infrastructure with Sustainability and Equity grant program: A U.S. DOT discretionary grant program that funds state and local transportation projects of significant regional or national impact.

Safe System Approach (SSA) A transportation safety philosophy that acknowledges human error as inevitable and designs the transportation system (roads, speeds, vehicles, and road users) to absorb those errors without resulting in death or serious injury. Adopted by FHWA as the overarching framework for the National Roadway Safety Strategy.

SS4A Abbreviation for Safe Streets and Roads for All: A federal grant program providing \$5 billion nationally over five years (2022–2026) to help metropolitan areas, localities, and tribes develop and implement comprehensive safety action plans to reduce roadway fatalities and serious injuries.

SWITRS Abbreviation for Statewide Integrated Traffic Records System: The California Highway Patrol's statewide database of traffic collision records, used as the primary crash data source for the Concord CSAP safety analysis.

TDM Abbreviation for Transportation Demand Management: Strategies and programs that reduce single-occupancy vehicle travel demand through incentives, information, and land use coordination.

Type of Collision A classification of how the vehicles or road users involved in a collision came into contact with each other or with other objects (e.g., broadside, rear-end, head-on, sideswipe, pedestrian).

Vision Zero A national and international transportation safety movement, originating in Sweden, with the goal of eliminating all traffic fatalities and serious injuries. Vision Zero holds that deaths and severe injuries in the transportation system are preventable and unacceptable, and that system design (rather than individual behavior alone) is the primary lever for change.

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CONCORD

Comprehensive Safety Action Plan



CHAPTER ONE

Introduction

The City of Concord is the largest City in Contra Costa County and a major regional hub within the San Francisco Bay Area. Incorporated in 1905 as an agricultural community, Concord experienced substantial residential and commercial growth following the launch of Bay Area Rapid Transit (BART) service in 1973. With a 2020 U.S. Census population of approximately 125,410 residents and a total area of approximately 30.5 square miles in central Contra Costa County, Concord has developed into a significant regional center for commerce, employment, and transit.

As a general law city under California state law, Concord's transportation responsibilities encompass planning and maintaining the local street network, delivering capital improvement projects, and ensuring compliance with federal and state requirements related to transportation planning and environmental justice. The City maintains close coordination with the Contra Costa Transportation Authority (CCTA) which is the county's Congestion Management Agency as well as with the Metropolitan Transportation Commission (MTC), Caltrans District 4, and BART on the full range of regional transportation priorities.

Concord's transportation network is shaped by its predominantly suburban land use pattern, where more than 70 percent of parcels are devoted to single-family residential uses and commercial activity is concentrated along principal arterials. The City's most travelled corridors, namely Monument Boulevard, Clayton Road, Willow Pass Road, Galindo Street, Salvio Street, and Concord Boulevard form the backbone of daily movement for tens of thousands of residents. Two BART stations anchor the multimodal network: the Concord Station adjacent to the historic downtown, and the North Concord/Martinez Station along Port Chicago Highway, both of which serve as critical destinations and transfer points for commuters and residents alike.

IMPORTANCE OF TRANSPORTATION SAFETY

Traffic safety is not an abstract policy objective, but it is a direct expression of a community's values. Every fatality on a public road represents a preventable loss; every severe injury carries consequences that ripple through families and communities for years. Despite sustained investment at the federal, state, and local levels, traffic-related collisions continue to exact an enormous toll in human suffering, economic cost, and diminished quality of life across California and the nation.

The consequences of traffic-related incidents are not borne equally across the community. Pedestrians, cyclists, older adults, children, and individuals with disabilities face a disproportionate share of fatal and serious injuries, and these impacts are most concentrated in communities that have experienced historic underinvestment in transportation infrastructure. In Concord, as in many Bay Area cities, these disparities are most pronounced along high-volume arterial corridors and in lower-income neighborhoods where residents depend most heavily on walking, cycling, and transit for their daily travel needs.

Improving transportation safety is both a civic responsibility and a practical foundation for building livable, sustainable, and inclusive communities. The Safe System Approach provides a proven framework for achieving this goal by shifting primary responsibility from individual road users to the design of the transportation system itself, ensuring that the network is forgiving of human error and that mistakes do not routinely result in death or severe injury. By embracing this approach, the City of Concord can achieve meaningful, lasting reductions in traffic-related fatalities and serious injuries while creating an environment that supports walking, cycling, and transit as safe and viable modes of travel.

The City of Concord recognizes that safe streets are fundamental to the health and vitality of its community. Through this CSAP, the City commits to a proactive, data-driven strategy for eliminating traffic fatalities and serious injuries that is grounded in evidence, guided by community need, and built for lasting impact.

LEADERSHIP COMMITMENT AND GOAL SETTING

The City of Concord is committed to improving safety across its entire transportation network, in alignment with the statewide goals established under California's Strategic Highway Safety Plan and the principles of Vision Zero. With a clear recognition of the urgent need to reduce traffic fatalities and serious injuries, the City has set an ambitious but achievable goal: the reduction of traffic related fatalities and severe injuries on City streets by 50 percent by the year 2040, with the eventual goal of eliminating all traffic related fatalities and severe injuries on City streets by the year 2050.

The Concord City Council has formally adopted a Resolution committing to Vision Zero and endorsing this Comprehensive Safety Action Plan as the City's roadmap for achieving that goal. The full text of the Resolution, together with the City's Vision Zero policy commitment, is included in [Appendix A](#). In adopting this resolution, the City affirms its resolve to serve as a regional leader in roadway safety, leveraging engineering solutions, sound policy, and sustained investment to fundamentally improve the safety of its streets.

This commitment reflects the City's core value of prioritizing the safety and wellbeing of all Concord residents, regardless of how they choose to travel. To achieve its Vision Zero goal, the City will pursue a comprehensive, data-driven approach that addresses the full range of factors contributing to traffic collisions from engineering improvements at high-risk locations to education initiatives that promote safe road-user behavior and enforcement efforts that uphold traffic safety laws.

City leadership is fully committed to this vision and has dedicated the resources and institutional will necessary to drive meaningful, measurable progress. Ongoing performance monitoring, rigorous data analysis, and sustained stakeholder engagement will ensure that Concord remains on track toward its safety targets. Through this commitment, the City aims to serve as a model for other communities across the Bay Area and California in achieving the goal of zero traffic fatalities and serious injuries.

ORGANIZATION OF CSAP

CHAPTER 1: INTRODUCTION

This chapter establishes the purpose, need, and scope of the Comprehensive Safety Action Plan (CSAP) in accordance with Safe Streets and Roads for All (SS4A) program requirements. It introduces the City of Concord's commitment to the Safe System Approach and Vision Zero, sets forth the City's safety goals and objectives, and describes the policy context in which the CSAP is situated, including alignment with federal, state, and regional safety priorities.

CHAPTER 2: EXISTING PLANS, POLICIES AND PROCESSES

Consistent with SS4A guidance, this chapter inventories the local and regional plans, policies, and processes that shape roadway safety in Concord. It assesses prior planning efforts, including the Local Roadway Safety Plan, General Plan Transportation Element, Multimodal Corridor Plans, Downtown Specific Plan, Complete Streets Feasibility Study, and Bicycle and Pedestrian Plan, alongside relevant regional initiatives. The review identifies gaps and opportunities, ensuring the CSAP reinforces and integrates with the City's established planning frameworks rather than duplicating them.

CHAPTER 3: SAFETY ANALYSIS AND HIGH-INJURY NETWORK IDENTIFICATION

This chapter presents a comprehensive, data-driven safety analysis of collision patterns across the City of Concord for the period January 2021 through December 2025. Collisions are examined by severity, roadway type, user category, temporal patterns, and primary contributing factors. Consistent with SS4A best practices, the analysis culminates in the identification of the City's High-Injury Network (HIN), comprising the corridors and intersections where fatal and serious injury collisions are disproportionately concentrated, providing the analytical foundation for targeted safety investment.

CHAPTER 4: ENGAGEMENT AND COLLABORATION

This chapter describes the community engagement process conducted to inform the CSAP, consistent with SS4A requirements. It details outreach methods, including an interactive map-based survey, community workshops, and a multidisciplinary Steering Committee, and highlights efforts to reach historically underserved communities alongside key institutional stakeholders such as public agencies, law enforcement, schools, and advocacy groups. The input gathered through this process directly informed the development of safety priorities and project recommendations.

CHAPTER 5: SELECTION OF SAFETY STRATEGIES (SAFE STREETS TOOLKIT)

This chapter presents a comprehensive suite of safety strategies organized under the Safe System

Approach, spanning engineering, education, enforcement, and emerging technology. The Safe Streets Toolkit assembles evidence-based countermeasures drawn from Federal Highway Administration (FHWA) resources, national best practices, and California state guidance. Each strategy is tailored to the risk factors identified in the safety analysis and organized to guide implementation across varied roadway contexts and user groups.

CHAPTER 6: SAFETY PROJECTS

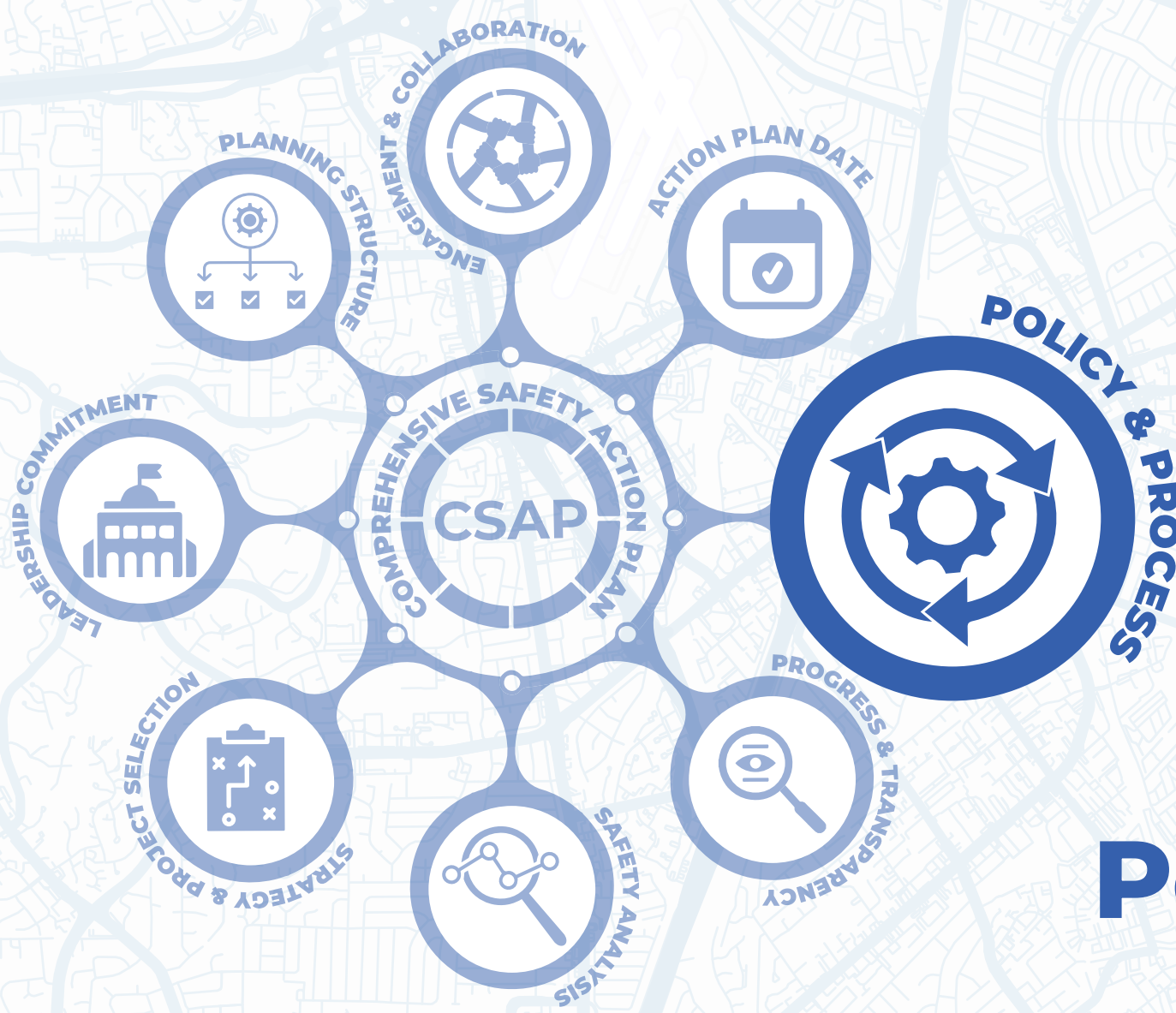
This chapter identifies and prioritizes a portfolio of actionable safety projects and programs consistent with SS4A Action Plan requirements. The project list spans systemic improvements, targeted corridor and intersection treatments, and dedicated enhancements for pedestrians and bicyclists. Each project is documented with a description, location, proposed countermeasures, and planning-level cost estimate. Prioritization reflects a multi-factor methodology that weighs safety performance data, disadvantaged and vulnerable road user considerations, risk exposure, project readiness, and community input.

CHAPTER 7: POLICY AND PLANNING CHANGES

This chapter presents recommended planning and policy initiatives that address identified gaps in Concord's current regulatory and operational framework. The initiatives span speed management, street design standards, active transportation planning, traffic impact analysis, and safety performance monitoring. Each initiative is grounded in existing municipal authority, advanced through mechanisms such as Council resolutions, Municipal Code amendments, and departmental policies, and is structured to strengthen the City's competitiveness for state and federal safety grant programs including SS4A, HSIP, and ATP. Together, these initiatives form the institutional foundation upon which the capital improvements and programs described throughout the CSAP can be delivered, sustained, and evaluated over time.

CHAPTER 8: IMPLEMENTATION, EVALUATION AND FUNDING STRATEGY

This chapter establishes the framework for implementing, monitoring, and evaluating the CSAP over time. It defines performance measures aligned with SS4A safety outcomes, including measurable reductions in fatalities and serious injuries, and sets out procedures for tracking progress, reporting results, and updating the plan as conditions evolve. The chapter also identifies a range of potential funding sources, including SS4A grants and complementary federal, state, regional, and local programs, to support project delivery. Throughout, the chapter reinforces the continuous improvement ethos at the core of the Safe System Approach.



CONCORD
Comprehensive
Safety Action Plan



CHAPTER TWO

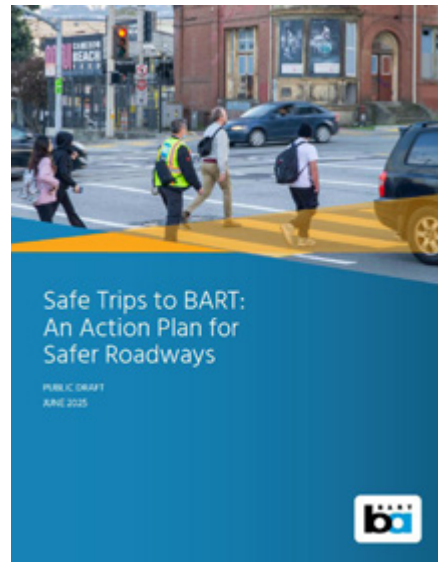
Existing Plans, Policies & Processes

Existing Plans, Policies & Processes

This chapter inventories the existing plans, policies, projects, and programs reviewed in the development of the City of Concord Comprehensive Safety Action Plan (CSAP). The review ensures that the CSAP's vision, goals, and Safe System strategies are aligned with prior planning efforts, planned transportation projects, and established community safety programs. The documents reviewed are as follows:

1. Safe Trips to BART: An Action Plan for Safer Roadways (2025)
2. Five-Year Capital Improvement Plan FY2025-FY2029 (2024)
3. Contra Costa County Complete Streets Safety Assessment (2024)
4. Pine Hollow Road Complete Streets Feasibility Study (2023)
5. Concord Local Roadway Safety Plan (2022)
6. City of Concord Complete Streets Feasibility Study: Willow Pass Road, Galindo Street & Cowell Road (2020)
7. Monument Corridor Community-Based Transportation Plan (2019)
8. Bicycle, Pedestrian & Safe Routes to Transit Plan (2016)
9. Downtown Corridors Plan (2016)
10. Concord 2030 General Plan - Transportation Element (2015)
11. Concord Complete Streets Study (2014)
12. Downtown Specific Plan (2014)
13. Citywide Climate Action Plan (2013)
14. Concord Trails Master Plan (2002)

The following sections include brief descriptions of these documents and how they inform the development of the CSAP. A detailed list of goals, objectives and relevant policies from the reviewed information is listed in [Appendix B](#), while a list of road safety related improvements and projects are listed in [Appendix C](#).

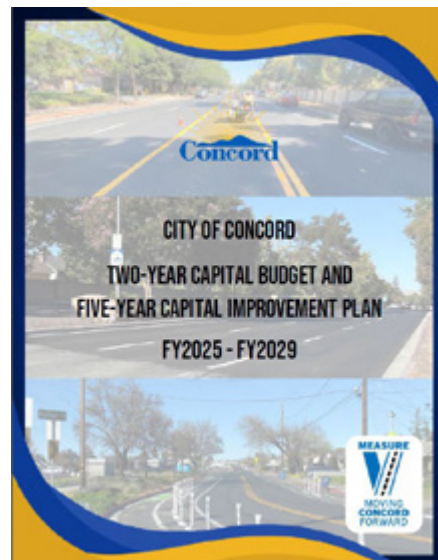


Safe Trips to Bart: An Action Plan for Safer Roadways (2025)

This regional roadway safety action plan was developed by the San Francisco Bay Area Rapid Transit District (BART). It is the first plan of its kind developed by a transit operator in the United States. Guided by the Safe System Approach, the plan analyzed five years of injury crash data (2019–2023) on public streets surrounding all 48 non-airport BART stations across five Bay Area counties to identify a system wide High Injury Network (HIN). The plan produced a four-tier Systemic Roadway Safety Measures Toolbox of more than 30 engineering countermeasures aligned with the FHWA Safe System Roadway Design Hierarchy, and developed Focus Station Area Action Plans (FSAAPs) for seven representative stations, including Concord.

CSAP Relevance

The Concord FSAAP directly supports the CSAP by identifying six priority locations on HIN corridors. For each location, the FSAAP provides site-specific countermeasure recommendations organized by Safe System tier with capital cost estimates, offering a ready implementation framework consistent with the CSAP's Safe System approach. The plan's system wide finding that arterials and higher-speed roads disproportionately concentrate KSI collisions aligns directly with the CSAP's goals of targeting investment on high-injury corridors. The plan also provides a documented regional evidence base the City can reference when pursuing federal and state safety grant funding to implement CSAP projects.



Five-Year Capital Improvement Plan FY2025-FY2029 (2024)

The Five-Year Capital Improvement Plan (CIP) FY2025–FY2029, adopted by City Council in June 2024, provides the financial and programmatic framework for implementing CSAP strategies through capital investments in transportation infrastructure. The CIP evaluation criteria explicitly prioritize projects that implement Complete Streets policy goals and Climate Action Plan strategies, ensuring the systematic integration of safety considerations into all capital planning decisions.

CSAP Relevance

The CIP includes dedicated programs that directly advance CSAP objectives, including the School Safety Assessment Program addressing infrastructure conditions at all 50 schools citywide, the street lighting and safety improvement project, and the traffic safety and traffic calming program providing systemic solutions for high-risk areas. These programmatic investments complement project-specific safety improvements across the bicycle and pedestrian network, creating a comprehensive capital framework that translates the CSAP's vision and goals into funded infrastructure improvements over the five-year planning horizon.



Contra Costa County Complete Streets Safety Assessment (2024)

The Contra Costa County Complete Streets Safety Assessment (CSSA), conducted by UC Berkeley SafeTREC, evaluates pedestrian and bicycle safety along Concord Avenue from Contra Costa Boulevard to downtown Concord. The assessment applies the Safe System Approach, integrating safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. Through crash data analysis, policy benchmarking, and field audits of three focus areas, the CSSA identifies infrastructure countermeasures including Leading Pedestrian Intervals, protected left turns, roundabouts, medians, and enhanced crossings.

CSAP Relevance

This assessment directly advances CSAP strategies by addressing crossing barriers at I-680 and SR-242, implementing traffic calming through lane narrowing, providing separated bicycle facilities, and enhancing signalized intersection safety. The CSSA's alignment with the County Vision Zero Resolution adopted in December 2023 demonstrates the regional coordination essential to CSAP success.



Pine Hollow Road Complete Streets Feasibility Study (2023)

The Pine Hollow Road Complete Streets Feasibility Study addresses a critical 2.2-mile corridor segment from Clayton Valley Charter High School to Mount Diablo Elementary School. The study was identified in the City’s Bicycle, Pedestrian and Safe Routes to Transit Plan (2016) as a priority corridor lacking continuous sidewalks or bike lanes and facing challenges from high traffic speeds, heavy truck traffic, and frequent collisions. The study conducted extensive stakeholder engagement, analyzed existing corridor conditions, and recommended innovative and context-sensitive multimodal improvements to enhance bicycle and pedestrian safety, improve auto circulation, enhance trail connectivity, and improve residential and school access.

CSAP Relevance

This feasibility study exemplifies the CSAP’s comprehensive approach to corridor safety by addressing multiple modes of transportation, prioritizing vulnerable users near schools, and incorporating community input into design solutions. The study’s focus on complete streets principles and accessibility improvements directly supports the CSAP’s Safe System approach and demonstrates the City’s commitment to the systematic evaluation and improvement of high-priority corridors identified through data analysis and community concern.



Concord Local Roadway Safety Plan (2022)

The Concord Local Roadway Safety Plan (LRSP) provides a systematic, data-driven approach to identifying roadway safety issues and developing targeted countermeasures to reduce fatal and serious injury (KSI) collisions. The LRSP analyzed collision data, identified high-risk locations, and developed emphasis areas focused on Safe System elements including safe road users, safe vehicles, safe speeds, safe roads, and post-crash care. The LRSP establishes a framework to systematically identify and analyze safety problems and recommend improvements following the Safe System approach, which acknowledges that human error is inevitable and designs the road system to minimize the serious consequences of collisions.

CSAP Relevance

The LRSP serves as a critical foundation document for the CSAP, providing detailed collision analysis, proven countermeasures, and implementation roadmaps that directly support the CSAP’s goals. The CSAP builds upon the LRSP’s data-driven approach while expanding its scope to include comprehensive community safetyw analysis, and broader stakeholder and public engagement consistent with SS4A program requirements. The LRSP’s emphasis on Vision Zero principles and the Safe System approach provides the philosophical and technical foundation for the CSAP’s comprehensive safety strategy.

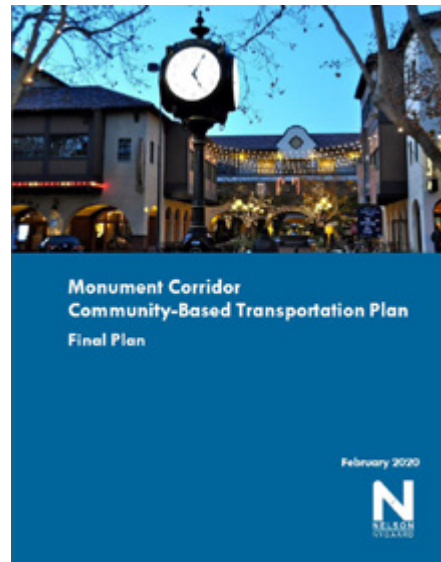


City Of Concord Complete Streets Feasibility Study: Willow Pass Road, Galindo Street & Cowell Road (2020)

The Complete Streets Feasibility Study, completed in February 2020 with Caltrans funding, develops design concepts for 2.4 miles of Willow Pass Road, 1.2 miles of Galindo Street, and 2.1 miles of Cowell Road. The study provides engineering analysis and community-driven recommendations applying complete streets principles including travel lane narrowing to 10–11 feet, widened sidewalks, separated bicycle facilities, curb extensions, green infrastructure, street trees at 25–30 foot spacing, and improved signal timing.

CSAP Relevance

This study supports the CSAP through phased implementation leveraging existing CIP repaving projects, medium-term network connectivity improvements, and long-term road diets converting vehicle capacity to pedestrian and bicycle space. The community engagement process provides a model for incorporating resident priorities into CSAP implementation while addressing documented safety needs.



Monument Corridor Community-Based Transportation Plan (2019)

The Monument Corridor Community-Based Transportation Plan addresses mobility and accessibility challenges along a key corridor in the City of Concord. The plan identified several mobility goals, with community concerns focused specifically on bicycle and pedestrian safety. Users of active transportation are disproportionately affected by collisions in the study area. Drawing on extensive public feedback, the plan recommends comprehensive actions to improve transportation safety, including Safe Routes to School improvements, enhanced crossings, traffic signal coordination, sidewalk gap closure, commercial driveway consolidation, separated bikeways, wayfinding signage, and volunteer driver programs.

CSAP Relevance

This community-based plan demonstrates the CSAP's commitment to engaging directly with residents and addressing their specific safety concerns. The plan's emphasis on protecting vulnerable users, particularly pedestrians and cyclists, aligns with Safe System principles and provides a model for comprehensive corridor improvements that balance multiple transportation modes while prioritizing safety. The plan's recommendations for infrastructure improvements combined with educational and enforcement programs support the CSAP's multifaceted approach to transportation safety.



Bicycle, Pedestrian & Safe Routes to Transit Plan (2016)

The Bicycle, Pedestrian & Safe Routes to Transit Plan establishes a 20-year vision for improving the walking and bicycling environment throughout Concord. To achieve a safe and efficient multimodal transportation system, the City recognizes that new streets will need to be developed and existing streets selectively retrofitted through road diets, lane narrowing, traffic calming, and other safety improvements. The plan places safety as its highest priority, developing project recommendations that address known safety challenges based on available collision data. The plan prioritizes travel safety for all modes of transportation and designs active transportation projects that are accessible and comfortable for people of all ages and abilities.

CSAP Relevance

This comprehensive plan provides the strategic framework for the CSAP's active transportation safety goals. The plan's commitments to regularly reviewing collision data, prioritizing improvements at high-injury intersections and corridors, implementing enforcement and education campaigns, and applying designs that emphasize safety and comfort for vulnerable users directly support the CSAP's Safe System approach. The plan's emphasis on creating a complete and convenient active transportation network provides the infrastructure foundation necessary to achieve Vision Zero objectives while promoting sustainable transportation choices throughout the community.



Downtown Corridors Plan (2016)

The Downtown Corridors Plan focuses on revitalizing Concord's downtown area by enhancing three critical corridors: Oak Street, Grant Street from Oak Street to Salvio Street, and Salvio Street from Grant Street to Broadway. These corridors form the eastern half of the green frame conceptualized in the Downtown Specific Plan. The plan aims to improve key pedestrian and bicycle connections between Todos Santos Plaza, employment centers, residential neighborhoods, and regional transit. The design applies familiar materials while establishing more consistent standards, better legibility and accessibility, and improved safety for all users.

CSAP Relevance

This corridor-specific plan demonstrates how the CSAP's comprehensive safety approach can be applied to enhance the pedestrian environment in downtown areas. The plan's focus on improving connections to transit, employment, and community destinations while prioritizing safety and accessibility directly supports the CSAP's goals of creating a walkable, bikeable community. The conceptual streetscape plans provide a guide for implementing Safe System infrastructure that transforms the public right-of-way to support safe, sustainable transportation while fostering economic development and community vitality.

5 TRANSPORTATION AND CIRCULATION

5.1 OVERVIEW

The Transportation and Circulation Element is intended to provide guidance and specific actions to ensure the continued safe and efficient operation of the City of Concord's transportation system. The Element is based on a fundamental philosophy that traffic conditions in the City can be managed through a comprehensive program of transportation planning, land use planning, and growth management strategies. The Element includes provisions for vehicles, transit, walking, bicycling, pedestrians, and bicycle transportation modes.

The Transportation and Circulation Element reports directly to the Concord Municipal Code, which states: "The Transportation Element of the General Plan and studies in conjunction with future development potential in the City have identified approaches that are necessary to the City's transportation system. As development occurs, improvements to the transportation system must be achieved through a planned program of roadway improvements and funding mechanisms."

State law recognizes that circulation and land use are closely related and requires that policies in the Element and the Land Use Element be linked. Careful cooperation of the City's traffic and circulation policies with its land use policies will ensure that there is sufficient capacity to accommodate travel needs generated by planned future development. The City is committed to designing a system of regional transit, local roads, public transit and bicycle and pedestrian routes that will enhance the community and protect the environment.

The Transportation and Circulation Element includes policies related to the physical framework for development that the circulation system is designed to serve, and includes policies for the street and joint services. The Element is supported by a commitment to provide a multimodal transportation system which

Concord Complete Streets Study

City of Concord, California



CAL POLY
SAN LUIS OBISPO
City & Regional Planning

Concord 2030 General Plan - Transportation Element (Amended 2015)

The Transportation Element of the Concord 2030 General Plan, amended in 2015, provides comprehensive guidance to ensure that people and goods can safely and efficiently move within Concord and connect to the regional transportation system. The Element defines clear priorities within the transportation system, placing pedestrians and cyclists first and prioritizing pedestrian facilities above dedicated bicycle facilities, and both above street trees and parking. The Element incorporates complete streets policies as required by state law, recognizing that roads should be designed to meet the needs of multiple users including motorists, bicyclists, pedestrians, transit users, and persons of different physical capabilities.

CSAP Relevance

This foundational planning document establishes the policy framework that guides all transportation planning and implementation in Concord. The Element's clear prioritization of vulnerable users, commitment to complete streets principles, and emphasis on multimodal transportation provide the overarching policy foundation for the CSAP. The specific policies addressing pedestrian circulation, bicycle network development, traffic calming, and safe routes to schools create the regulatory and planning framework necessary to systematically implement the CSAP's comprehensive safety strategies while ensuring consistency with broader community planning goals.

Concord Complete Streets Study (2014)

The Concord Complete Streets Study provides comprehensive analysis and recommendations for implementing complete streets principles throughout the City. The study examined existing conditions, analyzed collision data from the Transportation Injury Mapping System (TIMS) for pedestrian and bicycle collisions, identified twelve target intersections for safety improvements, and developed specific design recommendations.

CSAP Relevance

This study provides detailed technical analysis and specific design solutions that support the CSAP's implementation strategy. The study's recommendations for establishing clear ADA accessibility plans, evaluating lower-volume streets as boulevards, implementing consistent bike lanes and sharrows, and creating programs to educate residents and foster a culture of active transportation directly inform the CSAP's comprehensive approach. The collision data analysis and identification of high-priority intersections provide a data-driven foundation for targeting safety improvements where they are needed most.

Concord Downtown Specific Plan (2014)

The Downtown Specific Plan, adopted in 2014 and amended in 2021, articulates a comprehensive vision to revitalize Downtown Concord and accommodate growth in future population and employment. As a designated Priority Development Area and BART Station Planning Area, Downtown Concord represents a critical opportunity for transit-oriented development. The plan contains specific circulation objectives including developing a green street framework, designing and constructing streets that integrate green streets principles supporting pedestrian, biking, transit, and green infrastructure, and improving access to and from the Downtown Concord BART Station.

CSAP Relevance

This specific plan provides the land use and development framework that supports the CSAP's comprehensive safety goals. By promoting higher-density, mixed-use development around transit stations and creating walkable, bikeable environments, the plan reduces vehicle miles traveled and creates opportunities for safe active transportation. The plan's complete streets approach and emphasis on multimodal connectivity directly support the CSAP's Vision Zero objectives while advancing broader community goals related to economic development, environmental sustainability, and quality of life.



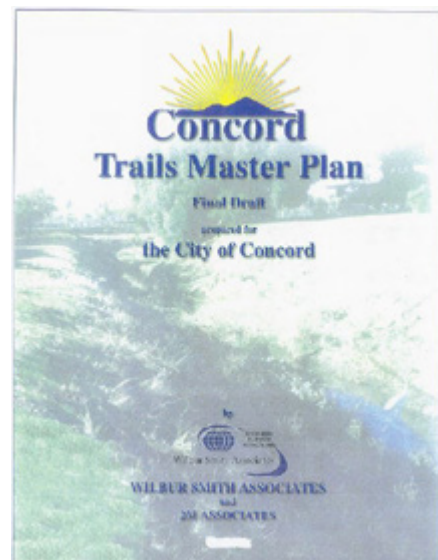
Citywide Climate Action Plan (2013)

The Citywide Climate Action Plan is a comprehensive community document that measures and monitors locally-generated greenhouse gas emissions trends. The plan includes Transportation Systems and Land Use strategies that make incremental, long-term improvements to expand viable transportation options within Concord and improve the energy efficiency of motor vehicle infrastructure. Key strategies include developing pedestrian and bicycle master plans consistent with Complete Streets standards, prioritizing traffic enforcement to protect cyclists and pedestrians, implementing traffic calming measures, creating comprehensive Safe Routes to Schools programs, and implementing complete streets projects that prioritize active transportation users.



CSAP Relevance

This climate action plan demonstrates how transportation safety improvements directly support broader environmental sustainability goals. The plan's emphasis on expanding active transportation options, implementing traffic calming, and creating complete streets directly aligns with the CSAP's Safe System approach while addressing climate change mitigation. By reducing vehicle miles traveled through safe, attractive alternatives for walking and cycling, these strategies advance both Vision Zero objectives and greenhouse gas reduction targets by demonstrating the compounded benefits of comprehensive transportation safety investment.



Concord Trails Master Plan (2002)

The Concord Trails Master Plan establishes a comprehensive network for recreation and alternative transportation modes including hiking, biking, and equestrian use. The plan identifies the need for providing access to BART stations, historic walking tours, new bridges, and filling roadway gaps. The trails are designed to serve multiple purposes including outdoor recreation, transportation for commuters, public health, education, social and economic well-being, and alternative emergency access.

CSAP Relevance

This trails master plan provides the foundation for developing a comprehensive off-street active transportation network that complements on-street bicycle and pedestrian facilities. The plan's emphasis on connecting trails to transit, schools, and community destinations while providing safe, grade-separated crossings of major barriers supports the CSAP's comprehensive approach to transportation safety. By creating attractive, safe alternatives to driving for both recreation and transportation, the trails network advances Vision Zero objectives while enhancing community health, quality of life, and environmental sustainability.



CONCORD
Comprehensive
Safety Action Plan



CHAPTER THREE

Safety Analysis & High-Injury Network Identification



This chapter presents the results of the safety analysis conducted for the City of Concord as part of the Comprehensive Safety Action Plan (CSAP). Grounded in the Safe Streets and Roads for All (SS4A) program requirements and the Safe System Approach, the analysis provides the technical foundation for identifying high-risk locations, understanding systemic safety patterns, and guiding the selection and prioritization of countermeasures.

The analysis is structured around three primary components: (1) collision analysis, (2) High-Injury Network (HIN) identification, and (3) development of collision profiles.

Collision Analysis

The CSAP employs a systematic, data-driven methodology to evaluate roadway safety conditions across the City of Concord. Five years of collision records were analyzed to identify trends, recurring patterns, and contributing factors affecting all categories of road users. The findings directly inform the identification of priority safety concerns and the development of targeted, evidence-based countermeasures.

DATA SOURCES

Collision data were drawn from three primary sources: the Transportation Injury Mapping System (TIMS), the Statewide Integrated Traffic Records System (SWITRS), and records maintained by the Concord Police Department. Police reports were used to supplement and validate individual collision details. Together, these sources yield a five-year dataset spanning January 1, 2021, through December 31, 2025, a sufficiently robust timeframe to evaluate long-term safety trends, seasonal patterns, and location-specific risk concentrations.

METHODOLOGY

The analysis applied a range of complementary techniques to evaluate collision patterns and contributing factors across multiple

dimensions. The key components include:



Severity Analysis: Classification of collisions by severity, including fatal, severe injury, visible injury, and complaint of pain.



Temporal Trends: Evaluation of collision patterns by year, month, day of week, and time of day.



Road User Analysis: Identification of vulnerable road users, including pedestrians, bicyclists, and motorcyclists.



Collision Characteristics Analysis: Examination of collision types, primary contributing factors, roadway characteristics, lighting conditions, and weather conditions.



Demographics Analysis: Assessment of trends related to age and gender of involved parties.



Spatial Distribution Analysis: Use of Geographic Information Systems (GIS) to map collision locations and identify spatial patterns and clusters.

HIGH-INJURY NETWORK IDENTIFICATION

Drawing on the results of the collision analysis, the City identified a High-Injury Network (HIN) is a defined set of roadway segments and intersections where fatal and severe injury collisions are disproportionately concentrated. The HIN serves as the primary tool for directing safety investments and prioritizing targeted interventions toward the locations where the potential to reduce serious harm is greatest.

COLLISION PROFILES

Collision profiles were developed to characterize recurring patterns in roadway incidents, capturing key dimensions including collision severity, mode involvement, and contributing factors. These profiles deepen the understanding of systemic safety challenges and directly inform the selection of countermeasures suited to specific collision types and roadway contexts.

OFFICE OF TRAFFIC SAFETY (OTS) RANKINGS

The California Office of Traffic Safety (OTS) publishes annual rankings that enable cities to benchmark their traffic safety performance against peers of comparable population. These rankings are produced using an Empirical Bayesian methodology that accounts for population size, vehicle miles traveled, and collision frequency, providing a statistically grounded basis for comparison.

For 2023, the most recent year for which OTS rankings are available, Concord's results identify several areas warranting focused attention:

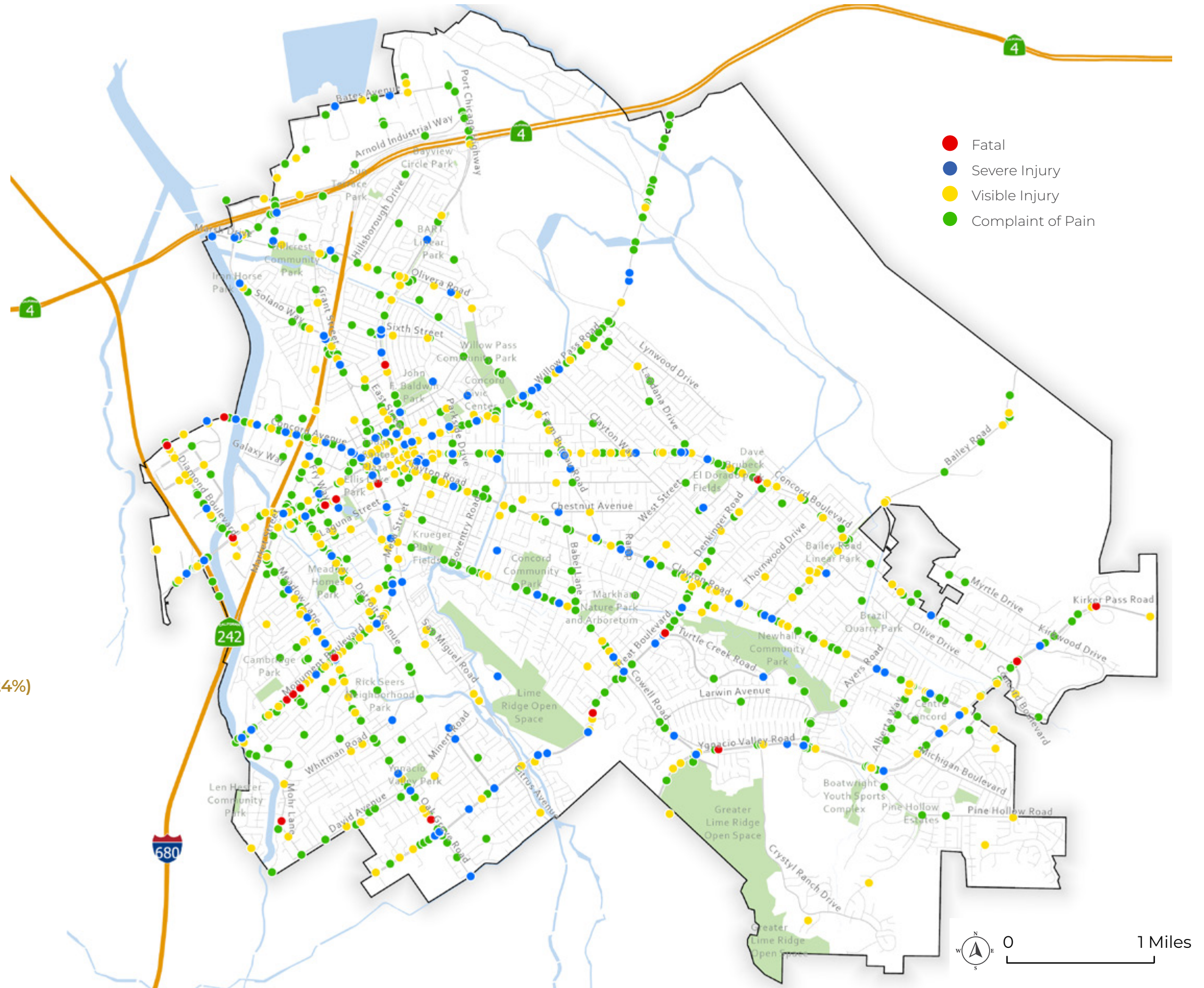
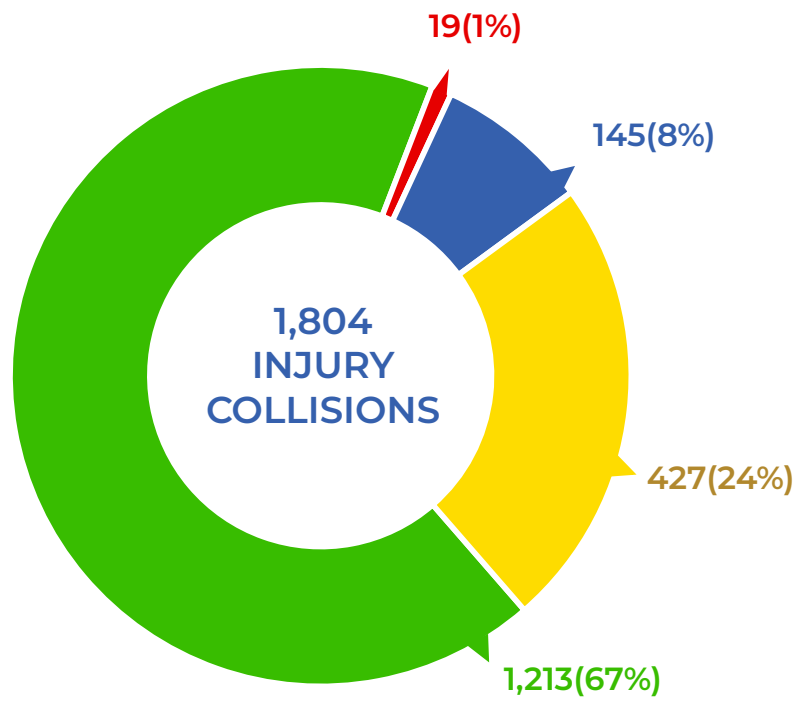
- Pedestrian collisions (age 65 and older): 4th out of 62 cities
- Speed-related collisions: 15th out of 62 cities
- Hit-and-run collisions: 16th out of 62 cities
- DUI collisions (drivers under age 21): 18th out of 62 cities

A full list of all categories is posted on [California OTS's website](#). These rankings serve as high-level indicators of safety performance and are considered alongside the City's own local collision analysis to inform planning priorities and funding strategies.

COLLISIONS BY SEVERITY

Between January 1, 2021, and December 31, 2025, a total of 1,804 traffic collisions were reported within the City of Concord. Of these, 164 collisions (approximately 9 percent) involved fatal or severe injuries (KSI), including 19 fatal collisions and 145 severe injury collisions. An additional 427 collisions (24 percent) resulted in visible injuries, while the remaining 1,213 collisions (67 percent) were categorized as complaint of pain.

This distribution reinforces the importance of directing resources toward strategies that reduce both the frequency and severity of collisions, with particular emphasis on those resulting in fatal and serious injuries. Figure below illustrates injury collisions by severity.



KSI COLLISIONS

164 KSI citywide

41%

all KSI collisions happen on **5 roads**

Willow Pass Rd · Clayton Rd · Monument Blvd · Concord Ave · Treat Blvd

87% at intersections

not along mid-block segments

39%

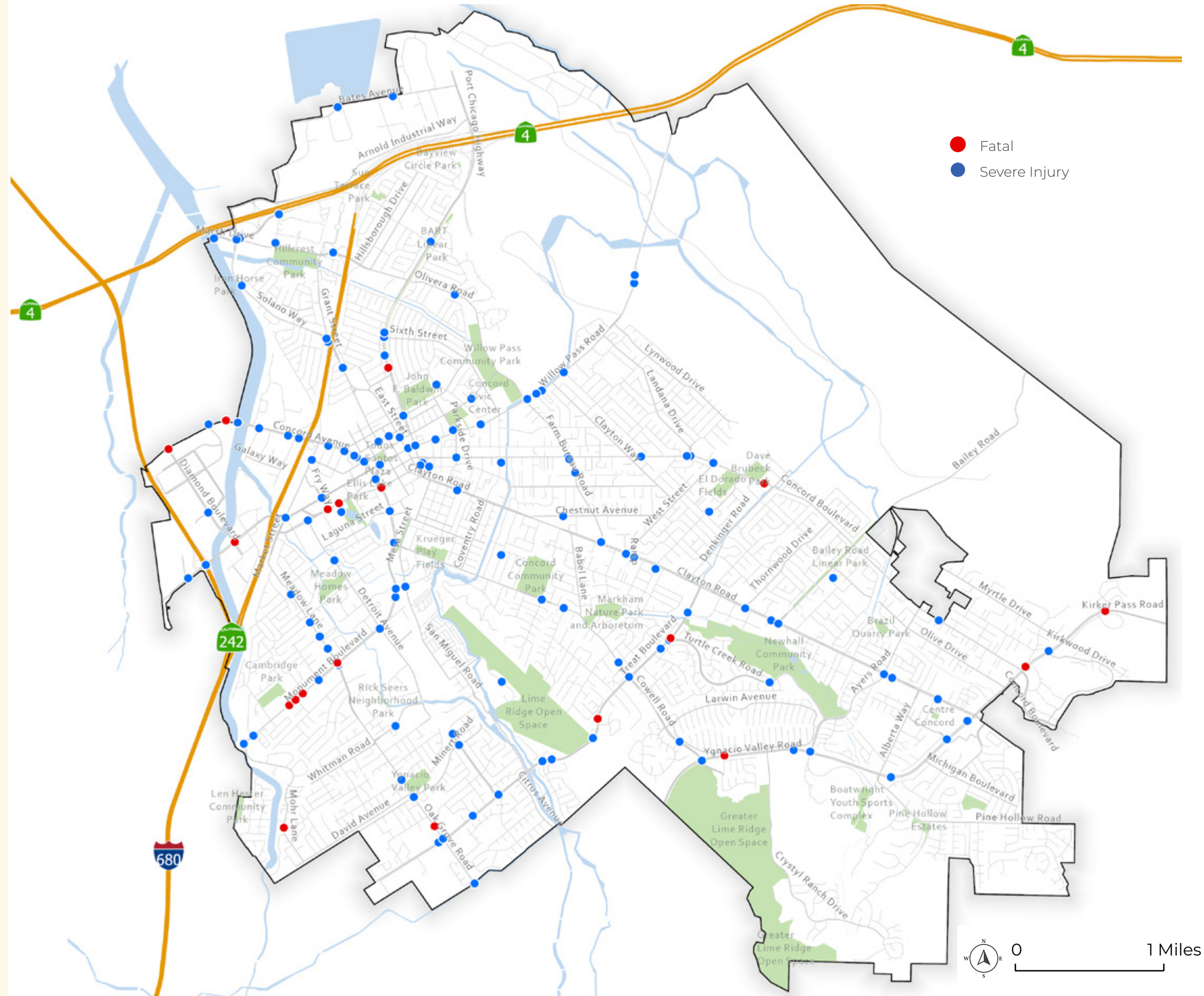
happen **in the dark**

At 1 AM, 1 in 3 collisions is KSI

42%

caused by **speeding, red-light running, or unsafe turns** combined

Top Violation Categories



PEDESTRIAN COLLISIONS

190 total · 46 KSI

2.7X

more likely to be KSI than the average collision victim

Monument Blvd · Clayton Rd · Willow Pass Rd

3 corridors lead all others

42.3%

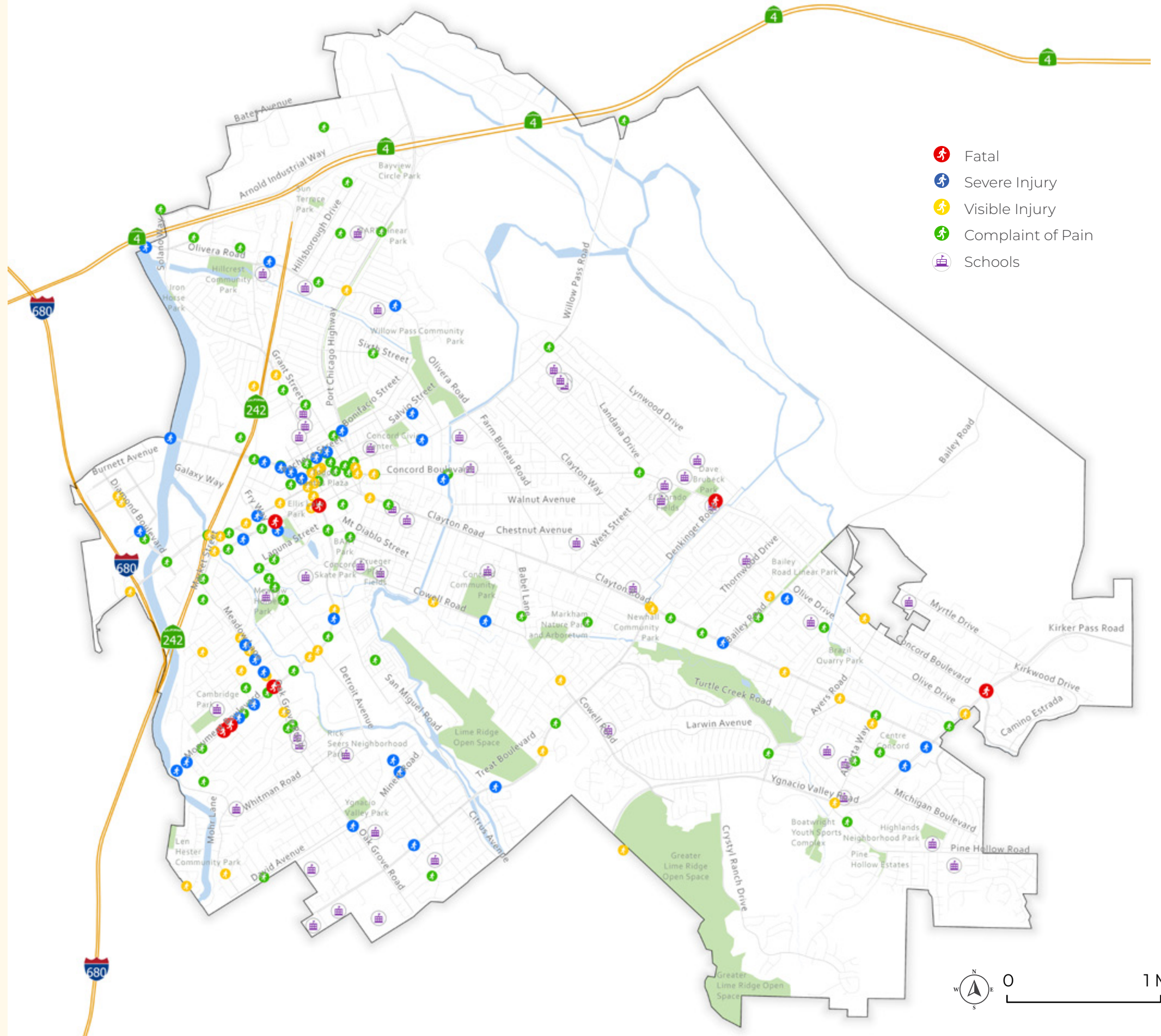
KSI rate when struck at night

Nearly 1 in 2 pedestrians hit after dark is KSI

41.5%

KSI rate when drivers ignore right-of-way at crossings

the single largest violation type involving pedestrians



BICYCLE COLLISIONS

149 total · 21 KSI

55%

above the citywide KSI rate

Cyclists sustain disproportionately KSI

+75%

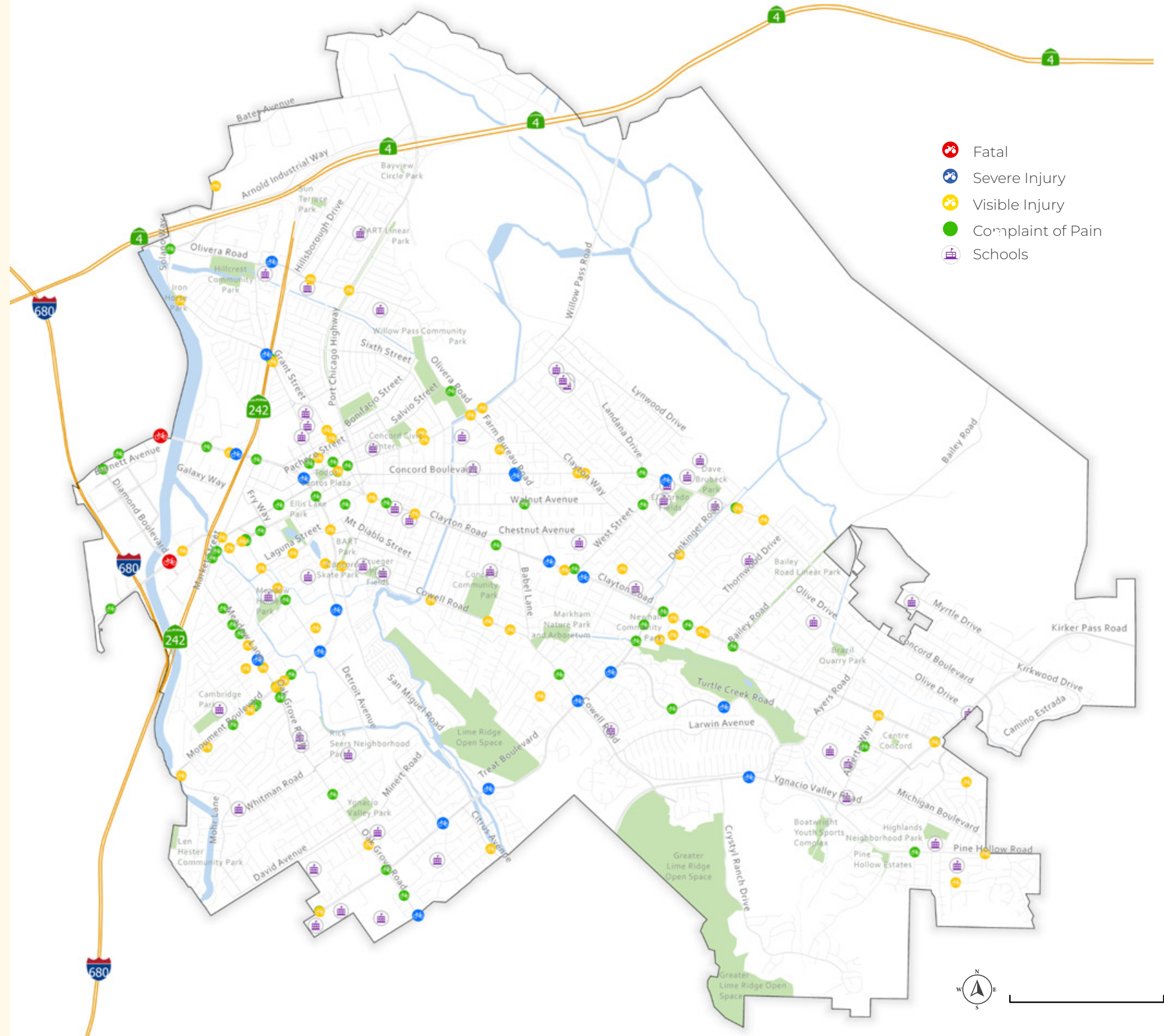
surge in bicycle collisions from 2021 to 2025, More people biking but

infrastructure has not caught up

89%

of KSI bicycle collisions occur at intersections

with broadside collisions dominant



COLLISIONS BY LOCATION

Collisions were categorized by location type to distinguish between intersection-related and mid-block incidents. Consistent with standard practice, any collision occurring within 250 feet of an intersection was classified as an intersection collision.

Of the 1,804 reported collisions, 1,518 (84 percent) occurred at or near intersections, with the remaining 286 (16 percent) occurring along mid-block segments. This pronounced concentration at intersections identifies them as the primary locus of collision risk in Concord and a central focus for safety investment. The table below summarizes injury collisions by severity and location type.

Collision Severity	Roadway Segment	Intersection	Total
Fatal	3	16	19
Severe Injury	19	126	145
Visible Injury	79	348	427
Complaint of Pain	185	1,028	1,213
Total	286	1,518	1,804

Yearly Trends

Fatal and serious injury (KSI) collisions peaked in 2022, with 39 incidents recorded, which is the highest annual total in the five-year study period. Both 2021 and 2025 followed with 34 KSI collisions each.

Total injury collisions rose from 315 in 2021 to a five-year peak of 383 in both 2022 and 2024, before declining to 341 in 2025. This year-to-year variability reflects the complexity of roadway safety and reinforces the case for sustained, data-informed interventions rather than single-point responses.

Daily Trends

KSI collisions are most frequent on Mondays and Sundays, with 28 incidents recorded on each day over the study period.

Total injury collisions follow a different distribution, peaking on weekdays, with Thursday recording the highest volume at 310 collisions, while weekend totals are lower, with 235 on Saturday and 206 on Sunday.

This divergence between weekday and weekend patterns reflects differences in travel volume and trip purpose. Weekday commuting drives higher overall collision counts, while severe collisions are distributed more evenly across all days of the week, indicating that high-speed or high-risk travel behaviors are not limited to peak commute periods.

Monthly Trends

KSI collisions are most frequent in June, with 19 incidents recorded over the five-year period, followed by August and December with 17 each.

Total injury collisions are broadly consistent across the calendar year, though a seasonal pattern is evident: collision frequency rises during the warmer months of May through October. Monthly totals range from a low of 126 in February to a peak of 165 in both September and October.

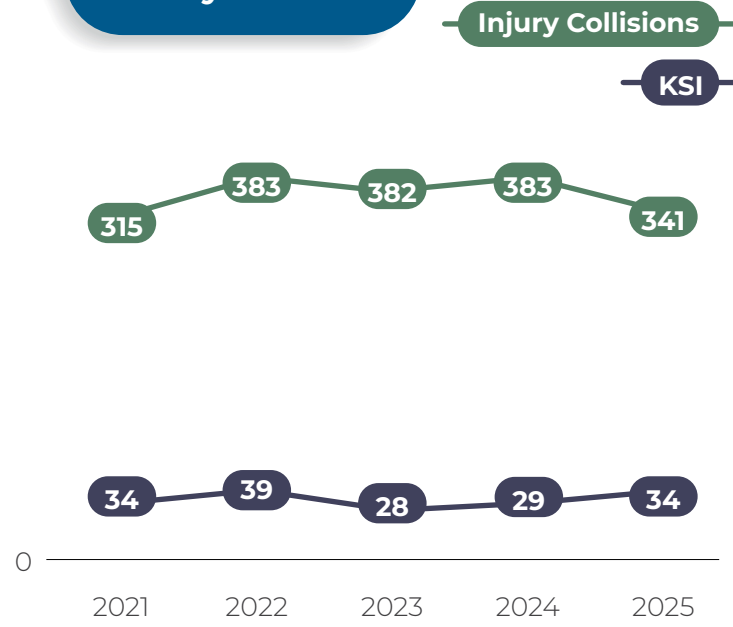
This seasonal pattern likely reflects the increase in travel activity, including recreational trips and pedestrian and bicycle use during warmer months. This pattern underscores the value of heightened safety outreach and targeted interventions timed to peak travel periods.

Hourly Trends

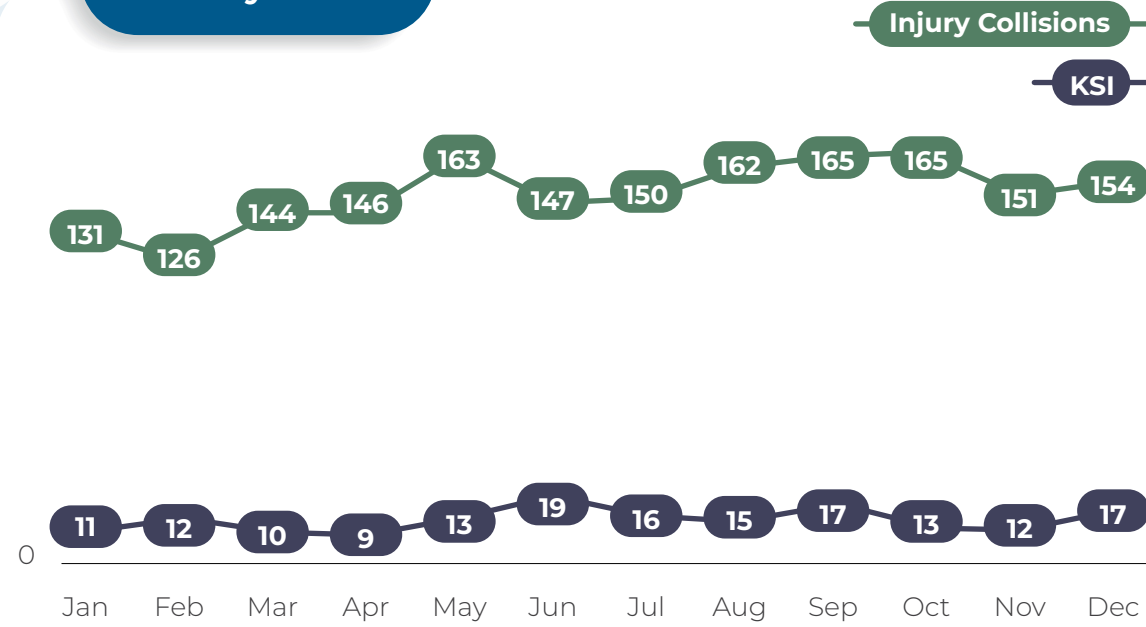
Both KSI and total injury collisions are most frequent during the afternoon and early evening hours. The period between 2:00 p.m. and 5:00 p.m. records the highest activity, with 36 KSI collisions and 420 injury collisions over the five-year study period.

This concentration aligns with the combined pressures of afternoon commuter traffic and school dismissal trips which is a period of elevated roadway demand that warrants focused safety measures and targeted enforcement during peak hours.

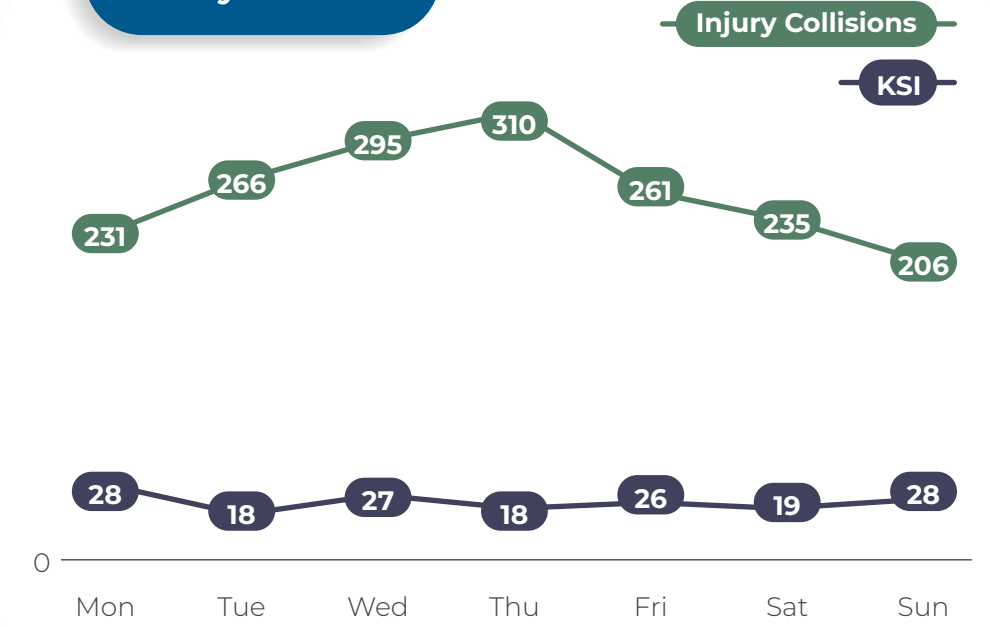
Yearly Trends



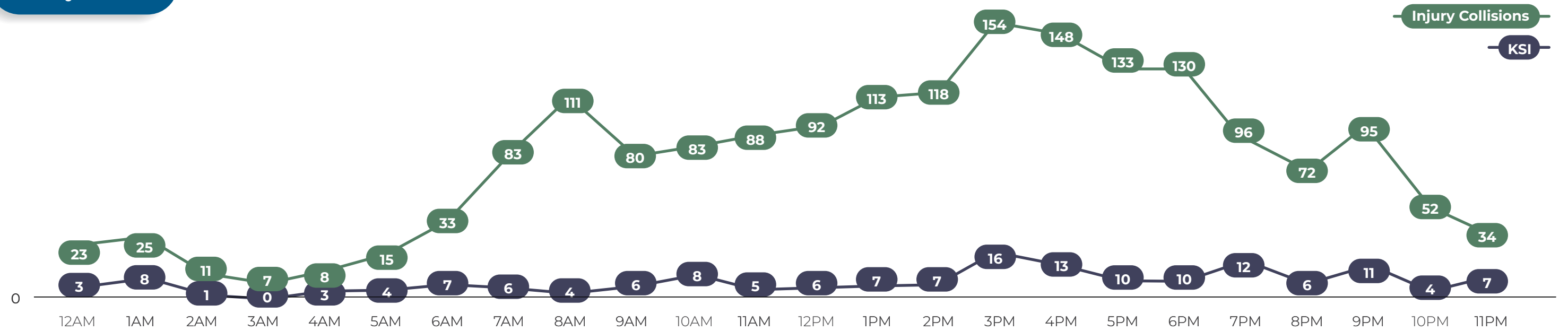
Monthly Trends

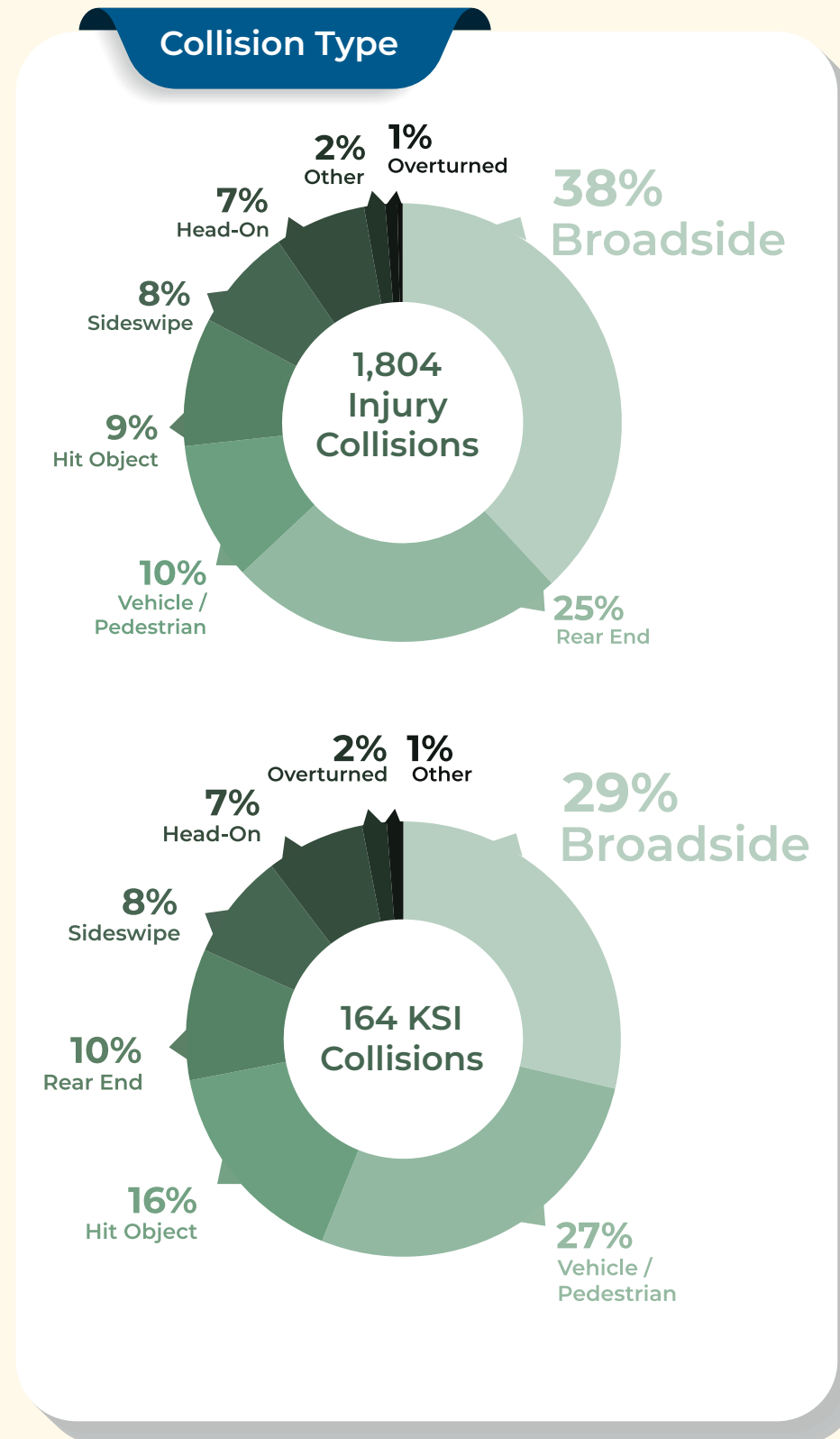
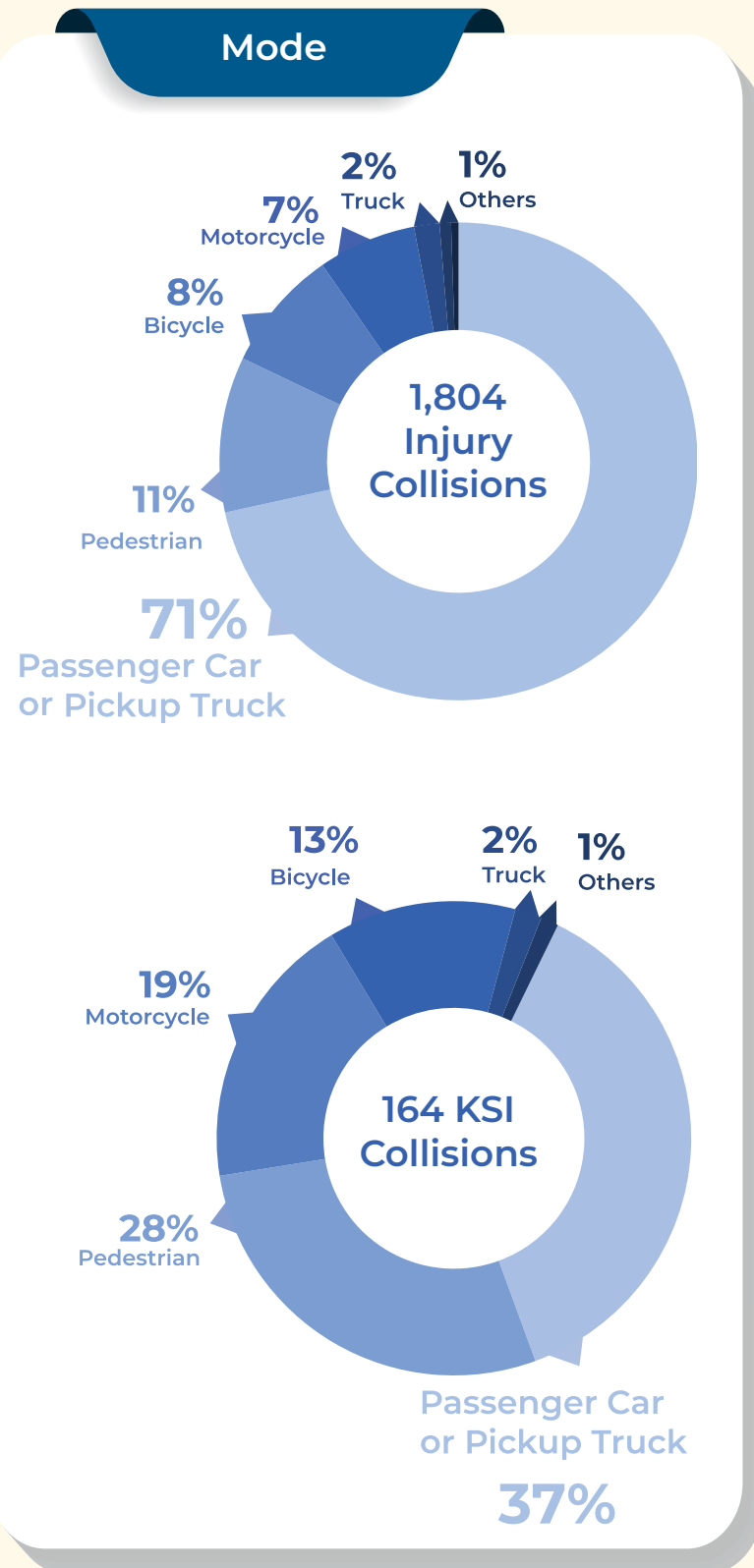


Daily Trends



Hourly Trends





COLLISION BY MODE

Passenger vehicles are the most frequently involved mode, accounting for 37 percent of KSI collisions and 71 percent of total injury collisions.

Vulnerable road users are significantly overrepresented in severe outcomes relative to their share of total collisions. Pedestrian-involved collisions account for 28 percent of KSI collisions while representing only 11 percent of all injury collisions. Bicyclists account for 13 percent of KSI collisions and 8 percent of injury collisions, and motorcyclists account for 19 percent of KSI collisions and 7 percent of injury collisions. In each case, the gap between KSI share and overall collision share reflects the heightened physical vulnerability of these road users in the event of a collision.

These results affirm the need for safety strategies that specifically address pedestrian, bicycle, and motorcycle safety, consistent with the Safe System Approach's priority of protecting those most at risk of serious harm.

COLLISION BY COLLISION TYPE

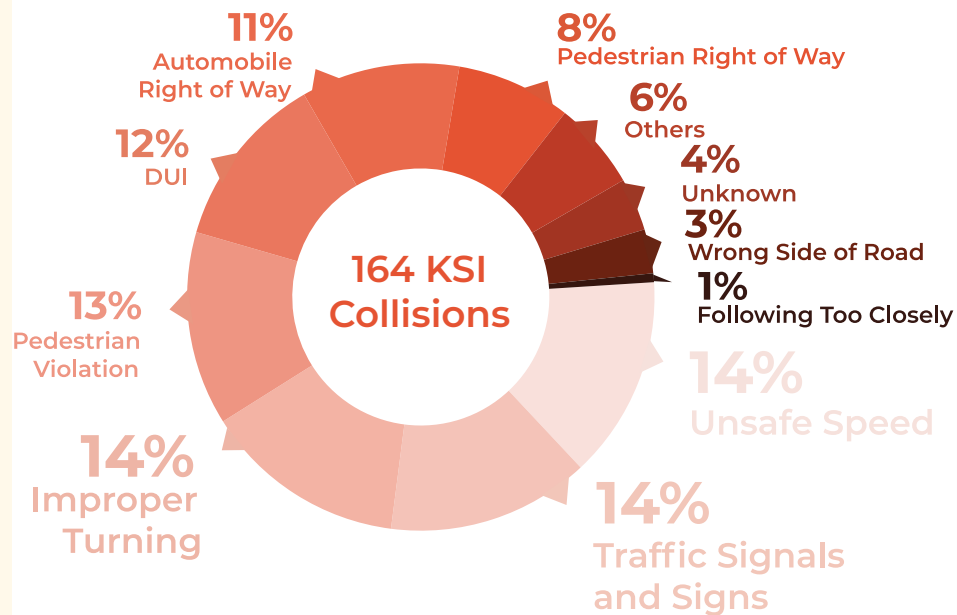
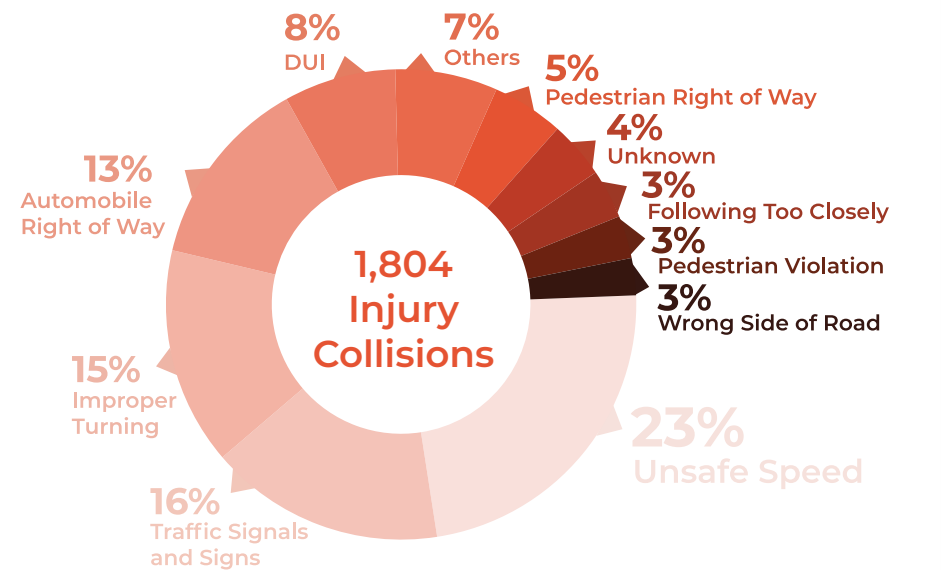
Broadside collisions are the most prevalent collision type, accounting for 29 percent of KSI collisions and 38 percent of all injury collisions, which shows a consistent pattern with Concord's high concentration of collision activity at intersections.

Vehicle-pedestrian collisions account for 27 percent of KSI collisions which reflects the physical vulnerability of pedestrians and the severity of outcomes when they are involved in collisions. Rear-end collisions represent 25 percent of total injury collisions but only 10 percent of KSI collisions, indicating that while they are common, they tend to produce less severe outcomes than intersection-related conflict types.

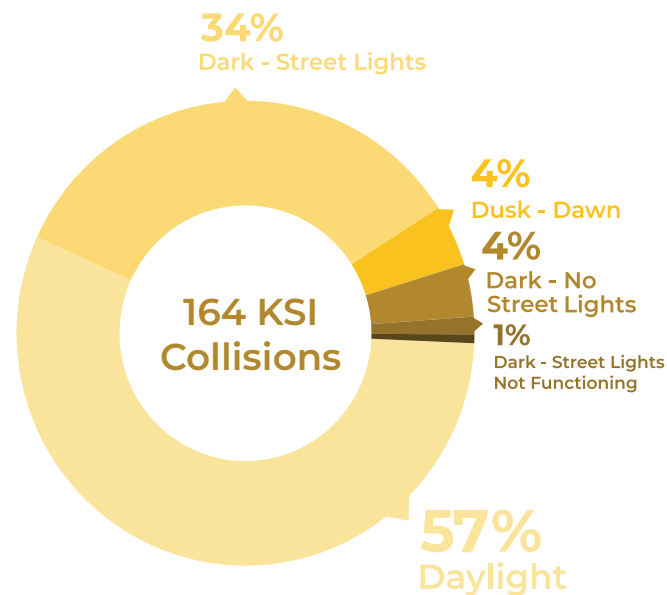
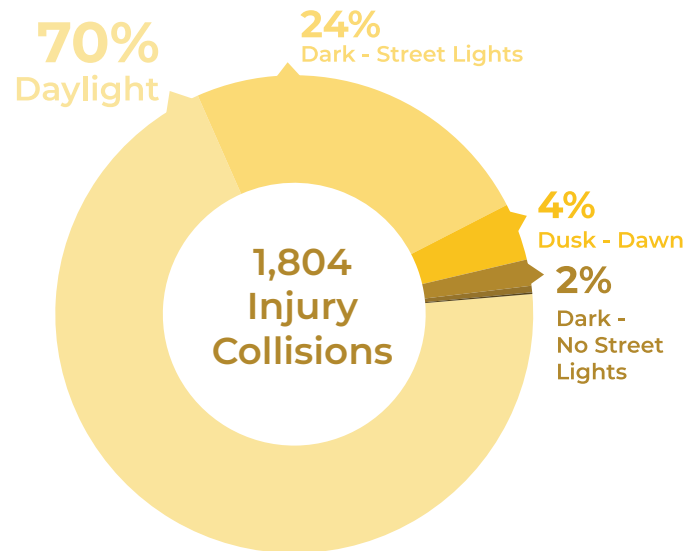
Collisions involving vehicles striking fixed objects contribute 16 percent of KSI collisions and 9 percent of total injury collisions, representing a meaningful share of severe outcomes that warrants attention in roadway design and speed management strategies.

Taken together, these patterns point to the need for countermeasures that address intersection conflict, pedestrian exposure, and roadway departure risk, the three collision types responsible for the greatest share of fatal and severe injury outcomes in Concord.

Violation



Lighting



COLLISION BY VIOLATION CATEGORY

Unsafe speed is the leading contributing factor in Concord collisions, associated with 14 percent of KSI collisions and 23 percent of all injury collisions. Traffic signal and sign violations are equally prevalent in severe collisions, contributing to 14 percent of KSI collisions and 16 percent of total injury collisions.

Improper turning movements account for 14 percent of KSI collisions and 15 percent of injury collisions, while automobile right-of-way violations contribute 11 percent of KSI and 13 percent of injury collisions. Driving under the influence (DUI) is implicated in 12 percent of KSI collisions and 8 percent of total injury collisions, which shows a disproportionate share given DUI's share of all trips, underscoring its outsized role in serious collision outcomes.

Pedestrian violations account for 13 percent of KSI collisions, a figure that reflects the complexity of pedestrian-vehicle interactions and the shared responsibility between road users and system design in preventing serious outcomes.

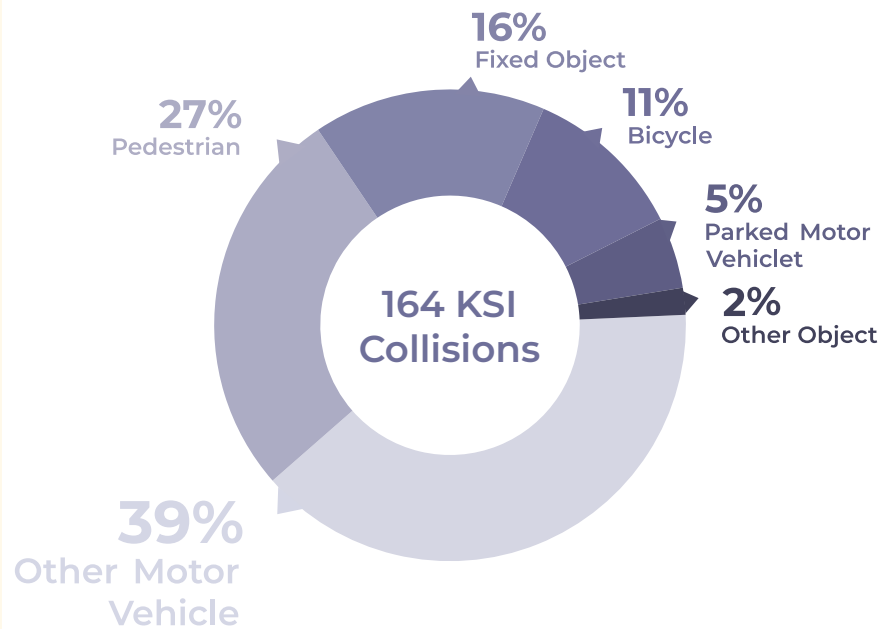
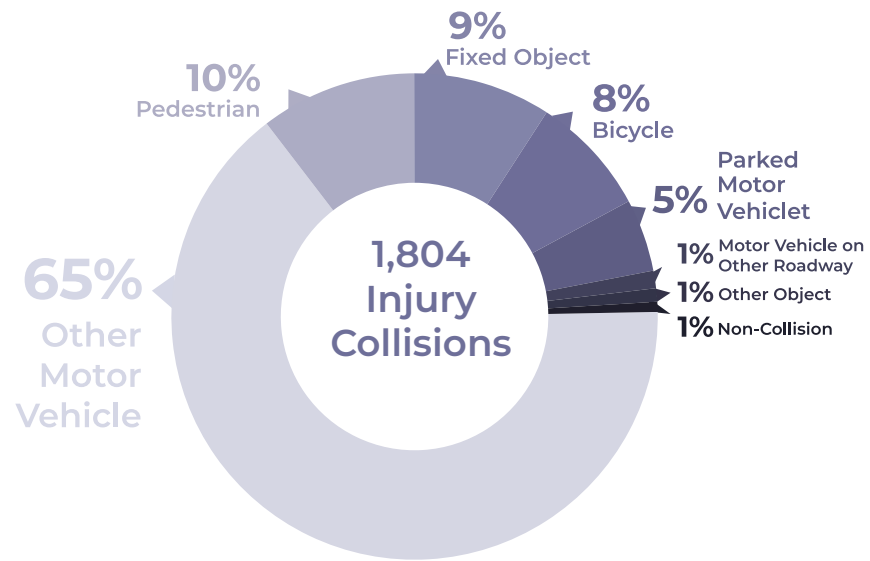
The breadth and variety of contributing factors confirm that no single intervention will resolve Concord's safety challenges. Effective improvement requires a coordinated combination of engineering measures, targeted enforcement, and public education, each addressing different behaviors and roadway conditions.

COLLISION BY LIGHTING CONDITIONS

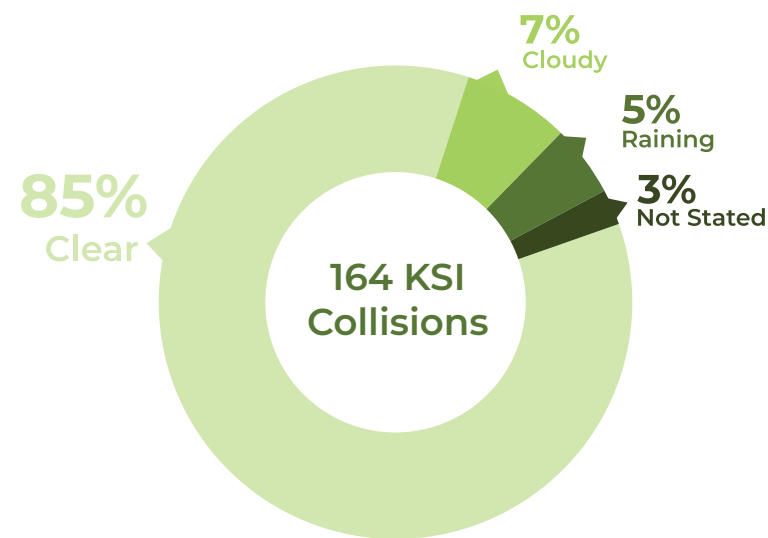
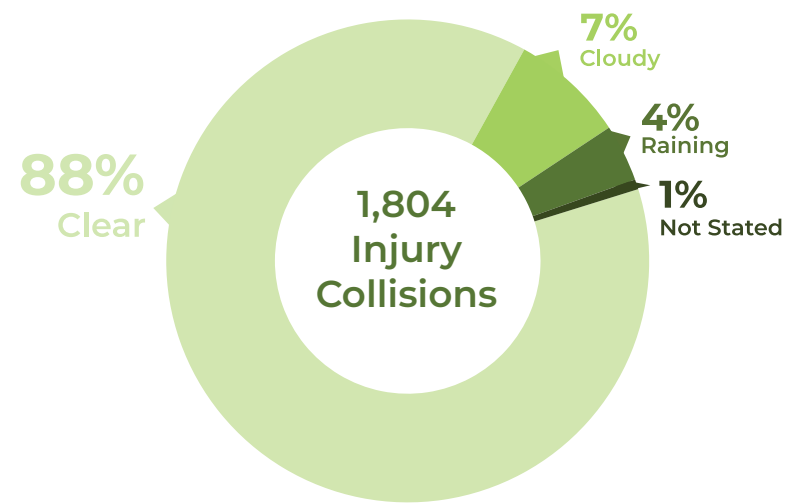
Most collisions occur during daylight hours, accounting for 56 percent of KSI collisions and 70 percent of total injury collisions, a reflection of the greater volume of travel that occurs in daylight rather than any protective quality of darkness.

Collisions under dark conditions with street lighting present a disproportionate risk: they account for 34 percent of KSI collisions while representing only 24 percent of injury collisions overall. This gap indicates that nighttime conditions meaningfully increase the severity risk of a collision even when street lighting is present, reinforcing the importance of roadway lighting quality, visibility enhancements, and treatments that reduce vehicle speeds during low-light hours.

Moto Vehicle



Weather



COLLISION BY MOTOR VEHICLE INVOLVED WITH

Motor vehicle-to-motor vehicle incidents account for the largest share of collisions, with 39 percent of KSI and 65 percent of total injury collisions, reflecting the dominant role of vehicle-to-vehicle conflict in Concord's collision landscape.

Pedestrian-involved collisions are strongly overrepresented in severe outcomes: they account for 27 percent of KSI collisions while comprising only 10 percent of total injury collisions. Collisions with fixed objects similarly punch above their weight, representing 16 percent of KSI collisions against 9 percent of total injury collisions.

Bicycle-involved collisions account for 11 percent of KSI and 8 percent of injury collisions. Across all vulnerable road user categories, the data consistently show a gap between collision frequency and collision severity, a pattern that directly informs the Safe System priority of designing the transportation network to protect those most at risk.

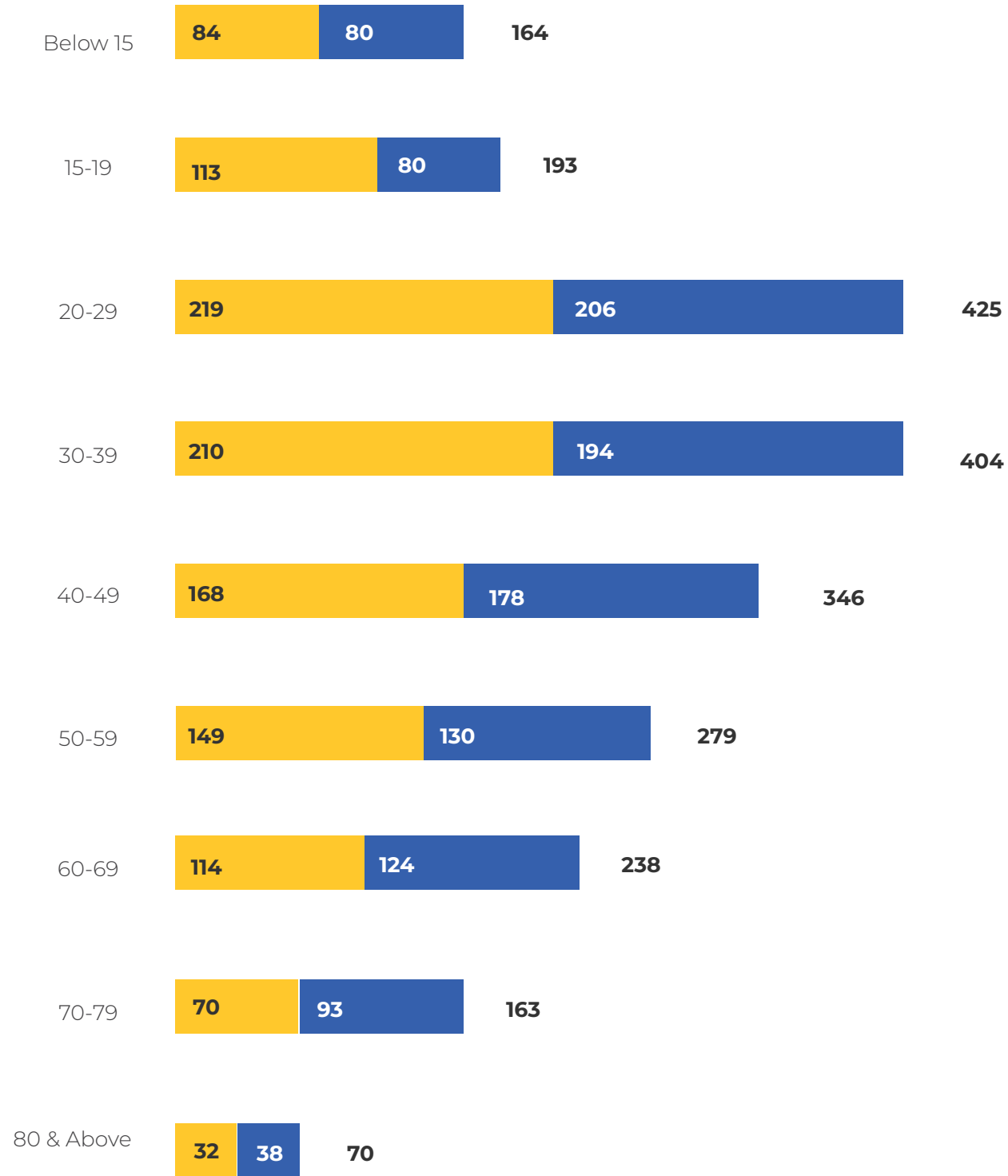
COLLISION BY WEATHER CONDITION

The overwhelming majority of collisions occurred under clear weather conditions, with 88 percent of KSI and 85 percent of all injury collisions.

Cloudy conditions account for 7 percent of both KSI and total injury collisions, while all other weather conditions contribute a minimal share. The data confirm that adverse weather is not a primary driver of collision risk in Concord. Rather, collisions are concentrated under the everyday travel conditions that most residents experience most of the time, which reinforces the importance of systemic infrastructure improvements that perform under normal operating conditions, not just edge-case scenarios.

Age Group

Male Female



Numbers of Collisions

INDIVIDUALS (VICTIMS) INVOLVED IN INJURY COLLISIONS

Over the five-year study period, a total of 2,385 individuals were involved in injury collisions within the City of Concord, resulting in 20 fatalities and 2,365 reported injuries. Of those injuries, 152 were classified as severe, 473 as visible, and 1,740 as complaints of pain.

Age and gender data were unavailable for 103 individuals. Among those with complete records, adults aged 20 to 29 account for the largest share of those involved, at 425 individuals (19 percent), followed by those aged 30 to 39 with 404 individuals (18 percent) and those aged 40 to 49 with 346 individuals (15 percent).

Gender distribution is broadly balanced, with males accounting for 51 percent and females for 49 percent of involved individuals.

The concentration of collision involvement among working-age adults aged 20 to 49 is consistent with their higher rates of driving and active transportation use. This age distribution should inform both outreach strategies and the design of safety improvements along corridors most heavily used by this population.

High Injury Network

The collision analysis culminates in the identification of Concord's High-Injury Network (HIN) corridors and intersections where fatal and serious injury collisions are most heavily concentrated. Consistent with SS4A guidance and Safe System principles, the HIN provides the spatial framework for prioritizing safety investments and directing resources to locations where the potential for impact is greatest.

Collision locations were mapped and spatially analyzed using ArcGIS to identify areas of elevated KSI and total injury concentration. Each location was evaluated on both collision frequency and severity to ensure that the resulting network reflects the full spectrum of safety risk rather than volume alone.

The output of this analysis is a prioritized list of high-injury corridors and intersections that forms the foundation for the safety project recommendations in Chapter 6 and guides the allocation of limited resources toward locations with the greatest demonstrated need.

METHODOLOGY

To identify and prioritize high-injury locations, the City applied a weighted ranking methodology consistent with Safe System principles and FHWA guidance. The approach is designed to reflect the dual priorities of reducing the most severe collisions and protecting vulnerable road users.

The scoring model draws on five collision indicators: KSI collisions, total injury collisions, intersection-related collisions, pedestrian-involved collisions, and bicycle-involved collisions. Each indicator carries a weight that reflects its relative importance to overall safety performance.

KSI collisions carry the highest weight of 30, reflecting the Safe System imperative to eliminate fatal and severe outcomes above all else. Pedestrian and bicycle collisions each receive a weight of 20, consistent with the elevated severity risk these users face. Total injury collisions are also weighted at 20 to capture overall safety performance, while intersection-related collisions receive a weight of 10.

To enable fair comparison across locations of different sizes and volumes, each indicator value is normalized proportionally: the count at each location is divided by the citywide total for that indicator, then multiplied by its assigned weight. The five weighted components are summed to produce a composite Safe System score for each corridor and intersection.

The Safe System score is calculated as follows:

$$\text{Safe System Score} = \left(\frac{\text{KSI}}{\text{Total KSI}} \times 30 \right) + \left(\frac{\text{Injury}}{\text{Total Injury}} \times 20 \right) + \left(\frac{\text{Intersection}}{\text{Total Intersection}} \times 10 \right) + \left(\frac{\text{Pedestrian}}{\text{Total Pedestrian}} \times 20 \right) + \left(\frac{\text{Bicycle}}{\text{Total Bicycle}} \times 20 \right)$$

Locations are ranked by their composite score, with higher scores indicating a greater concentration of severe collisions and a correspondingly higher priority for safety investment.

This transparent, data-driven framework ensures that safety resources are directed to the locations where they can achieve the greatest reductions in fatalities and serious injuries, directly fulfilling SS4A program objectives and the core principles of the Safe System Approach.

EXAMPLE CALCULATION – Clayton Road (Rank A)

For Clayton Road, the observed collision data includes:

- Fatal and serious injury (KSI) collisions: 16
- Total injury collisions: 224
- Intersection-related collisions: 208
- Pedestrian-involved collisions: 18
- Bicycle-involved collisions: 20

These values were normalized using systemwide totals:

- Total KSI collisions: 164
- Total injury collisions: 1,804
- Total intersection collisions: 1,518
- Total pedestrian collisions: 190
- Total bicycle collisions: 149

Each component was weighted and calculated as follows:

- KSI contribution: $(16 / 164) \times 30 = 2.93$
- Injury contribution: $(224 / 1,804) \times 20 = 2.48$
- Intersection contribution: $(208 / 1,518) \times 10 = 1.37$
- Pedestrian contribution: $(18 / 190) \times 20 = 1.89$
- Bicycle contribution: $(20 / 149) \times 20 = 2.68$

The resulting composite Safe System score for Clayton Road is 11.36.

With a composite score of 11.36, Clayton Road ranks as the highest-priority corridor in the network. This ranking reflects both its substantial share of fatal and serious injury collisions and its elevated involvement of pedestrians and bicyclists, precisely the combination of factors the Safe System scoring methodology is designed to surface.

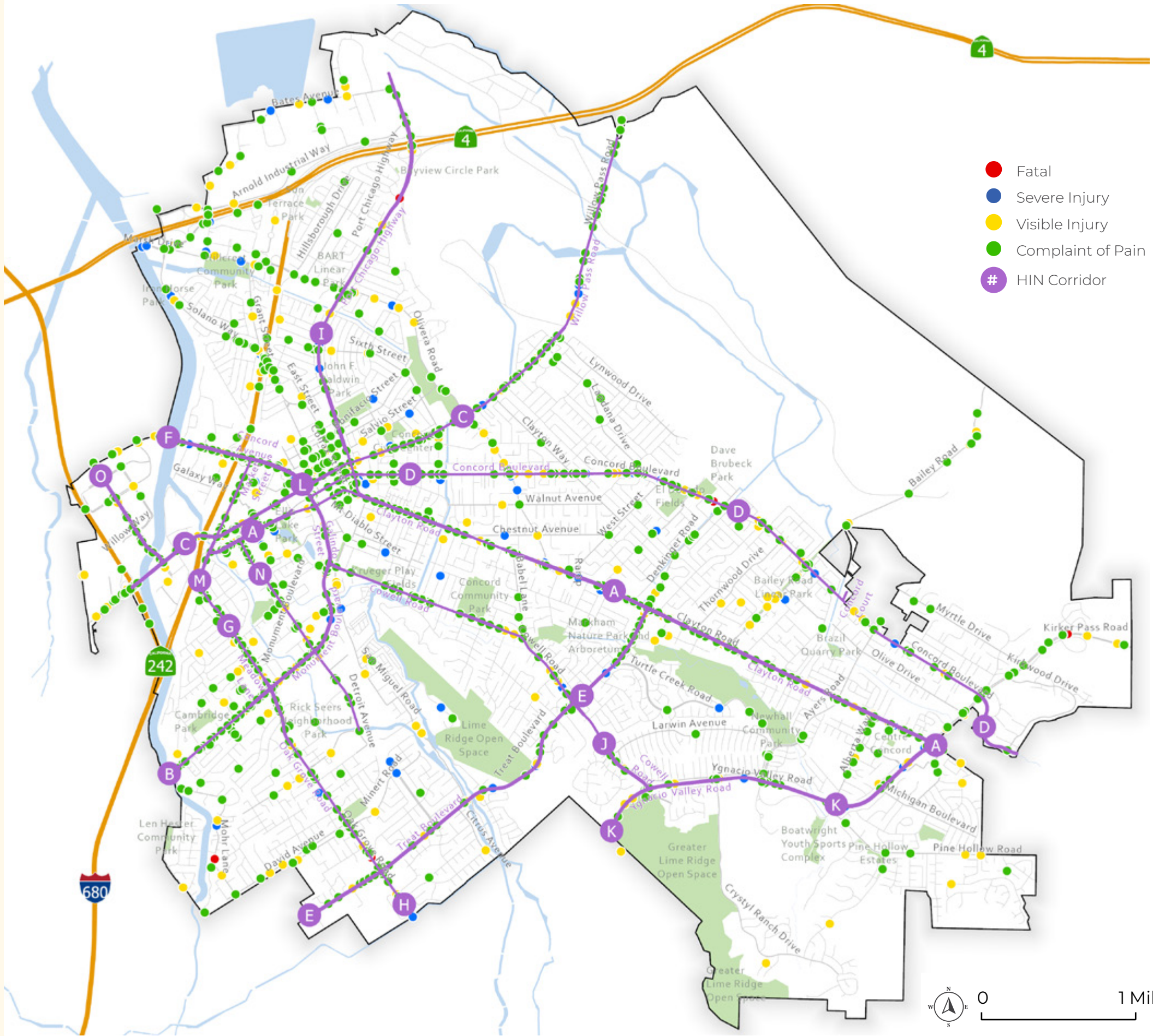
The table below provides the list of top 15 high injury corridors within City of Concord, identified based on the collisions that occurred between January 1, 2021 and December 31, 2025.

RANK	CORRIDOR NAME	FATAL	SEVERE INJURY	OTHER VISIBLE INJURY	COMPLAINT OF PAIN	KSI COLLISIONS	INJURY COLLISIONS	COLLISIONS OCCURRED AT INTERSECTIONS	PEDESTRIAN COLLISIONS	BICYCLE COLLISIONS	SAFE SYSTEM SCORE
A	Clayton Road: SR-242 to Washington Boulevard	3	13	57	151	16	224	208	18	20	11.36
B	Monument Boulevard: Cowell Road to Mohr Lane	3	10	30	101	13	144	114	24	14	9.13
C	Willow Pass Road: I-680 to Avila Road	1	16	29	135	17	181	153	16	9	9.02
D	Concord Boulevard: Galindo Street to Yolanda Cir	1	9	45	104	10	159	150	9	10	6.87
E	Treat Boulevard: Argonne Drive to Clayton Road	2	11	14	51	13	78	71	10	4	5.30
F	Concord Avenue: John Glenn Drive to Salvio Street	1	11	17	49	12	78	67	5	7	4.97
G	Meadow Lane: Market Street to Monument Boulevard	1	5	14	31	6	51	43	9	8	3.97
H	Oak Grove Road: Monument Boulevard to Contra Costa Canal Trail	1	6	7	34	7	48	40	3	6	3.20
I	Port Chicago Highway: Clayton Road to Bates Ave	1	7	18	40	8	66	52	4	1	3.09
J	Cowell Road: Monument Boulevard to Ygnacio Valley Road	0	5	15	38	5	58	52	2	6	2.92
K	Ygnacio Valley Road: Clayton Road to Cowell Road	1	6	13	35	7	55	42	3	2	2.75
L	Galindo Street: Salvio Street to Cowell Road	0	2	12	46	2	60	60	5	3	2.36
M	Market Street: Concord Avenue to Meadow Lane	0	1	7	28	1	36	30	4	5	1.87
N	Detroit Avenue: Clayton Road to Whitman Road	0	1	8	31	1	40	27	6	2	1.70
O	Diamond Boulevard: Willow Pass Road to Concord Avenue	1	1	8	36	2	46	30	4	1	1.63



The map illustrates the high injury corridors in City of Concord.

- A Clayton Road: SR-242 to Washington Boulevard
- B Monument Boulevard: Cowell Road to Mohr Lane
- C Willow Pass Road: I-680 to Avila Road
- D Concord Boulevard: Galindo Street to Yolanda Cir
- E Treat Boulevard: Argonne Drive to Clayton Road
- F Concord Avenue: John Glenn Drive to Salvio Street
- G Meadow Lane: Market Street to Monument Boulevard
- H Oak Grove Road: Monument Boulevard to Contra Costa Canal Trail
- I Port Chicago Highway: Clayton Road to Bates Ave
- J Cowell Road: Monument Boulevard to Ygnacio Valley Road
- K Ygnacio Valley Road: Clayton Road to Cowell Road
- L Galindo Street: Salvio Street to Cowell Road
- M Market Street: Concord Avenue to Meadow Lane
- N Detroit Avenue: Clayton Road to Whitman Road
- O Diamond Boulevard: Willow Pass Road to Concord Avenue

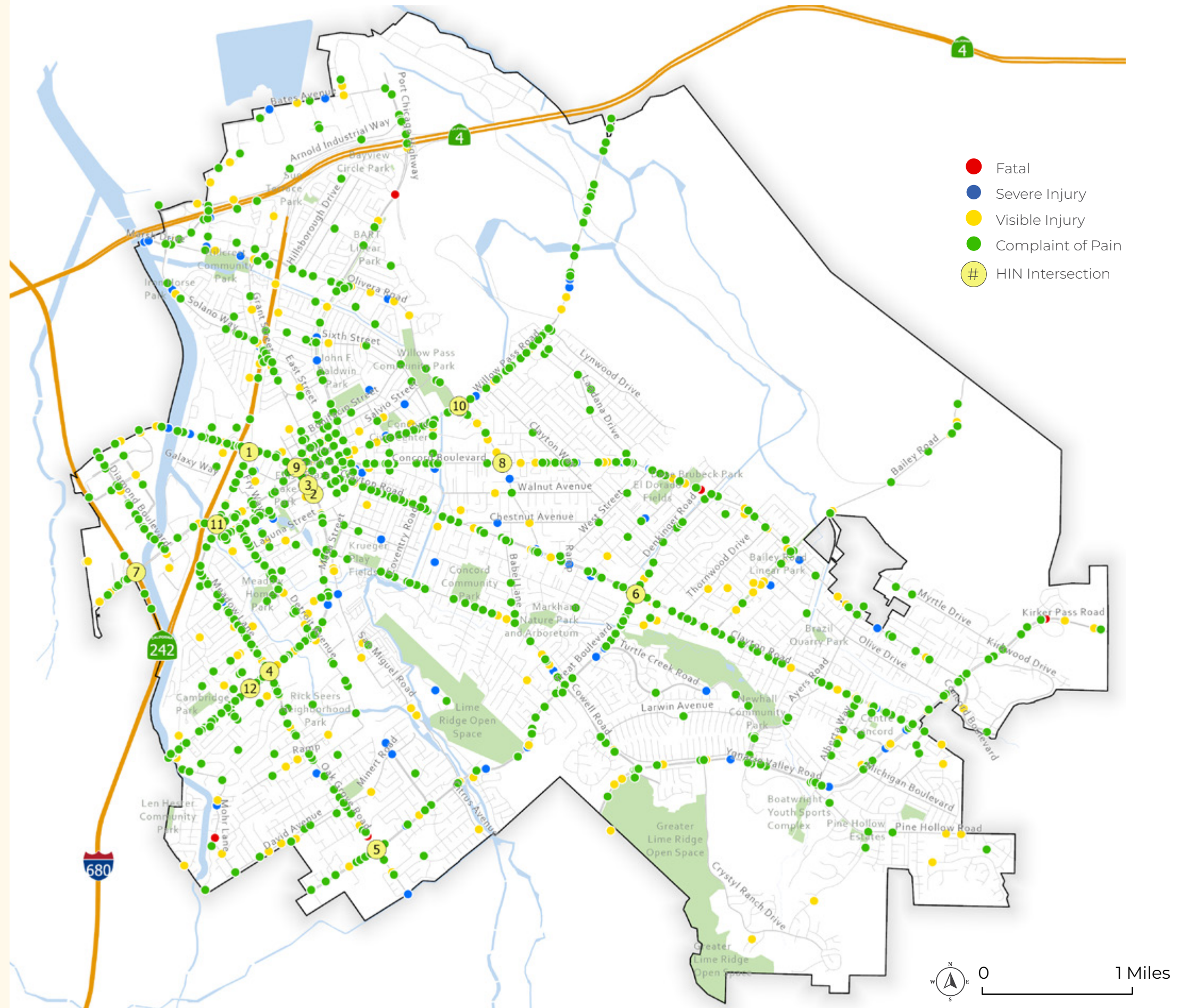


The table below provides the list of top 12 high injury intersections within City of Concord, identified based on the collisions that occurred between January 1, 2021 and December 31, 2025.

RANK	INTERSECTIONS NAME	FATAL	SEVERE INJURY	OTHER VISIBLE INJURY	COMPLAINT OF PAIN	KSI COLLISIONS	INJURY COLLISIONS	PEDESTRIAN COLLISIONS	BICYCLE COLLISIONS
1	Market Street & Concord Avenue	0	0	6	26	0	32	1	1
2	Galindo Street & Clayton Road	1	0	5	21	1	27	2	0
3	Galindo Street & Concord Boulevard	0	1	6	19	1	26	3	2
4	Monument Boulevard & Meadow Lane	1	3	6	13	4	23	4	4
5	Treat Boulevard & Oak Grove Road	0	2	2	17	2	21	0	1
6	Clayton Road & Treat Boulevard	0	0	8	12	0	20	2	0
7	Willow Pass Road & I-680	0	1	2	13	1	16	1	0
8	Concord Boulevard & Farm Bureau Road	0	2	6	7	2	15	0	3
9	Concord Avenue & Salvio Street	0	3	1	9	3	13	3	1
10	Willow Pass Road & Farm Bureau Road	0	1	5	7	1	13	0	2
11	Willow Pass Road & Market Street	0	1	4	8	1	13	1	1
12	Monument Boulevard & Virginia Lane	0	1	2	10	1	13	4	2

The map illustrates the high injury intersections in City of Concord.

- 1 Market Street & Concord Avenue
- 2 Galindo Street & Clayton Road
- 3 Galindo Street & Concord Boulevard
- 4 Monument Boulevard & Meadow Lane
- 5 Treat Boulevard & Oak Grove Road
- 6 Clayton Road & Treat Boulevard
- 7 Willow Pass Road & I-680
- 8 Concord Boulevard & Farm Bureau Road
- 9 Concord Avenue & Salvio Street
- 10 Willow Pass Road & Farm Bureau Road
- 11 Willow Pass Road & Market Street
- 12 Monument Boulevard & Virginia Lane



Collision Profiles

Collision profiles distill five years of collision data into a set of clearly defined, recurring safety patterns within the City of Concord. Each profile captures a distinct type of collision risk and serves as the analytical basis for selecting targeted countermeasures in the Comprehensive Safety Action Plan (CSAP).

Drawing on collision records from January 2021 through December 2025, the City identified consistent patterns in collision type, contributing factors, road user behavior, and roadway characteristics. These systemic patterns are the focus of the profiles, supporting countermeasure selection that addresses both collision frequency and severity across the network.

The profiles are designed to deepen understanding of the underlying causes of injury collisions and to anchor safety decision-making in evidence. By synthesizing trends across collision type, violation category, travel mode, location context, and lighting conditions, they surface the most effective and context-appropriate safety strategies for each identified risk area.

Rather than organizing safety issues by roadway classification, Concord's profiles are developed on a citywide basis. This approach captures the most prevalent and severe patterns across the entire transportation network and allows the City to address systemic challenges that cut across roadway types and geographic areas.

Each collision profile is structured around four elements:

- Total number of injury collisions, including those involving fatal and serious injury (KSI)
- Key collision trends, including collision types, violation factors, location characteristics, and lighting conditions
- Primary travel modes involved, such as motor vehicles, pedestrians, bicyclists, and motorcyclists
- A geographic representation illustrating the spatial distribution of collisions associated with the profile

Together, these elements provide a complete picture of each safety challenge and the evidence base needed to identify effective countermeasures.

The analysis identified ten priority collision profiles representing the most significant and persistent safety challenges on Concord's roadway network:

- 1 Improve Safety at Intersections – 1,518 collisions**
- 2 Reduce Broadside Collisions – 687 collisions**
- 3 Address Collisions Near Schools (within 0.25 miles) – 667 collisions**
- 4 Reduce Nighttime Collisions – 544 collisions**
- 5 Reduce Rear-End Collisions – 450 collisions**
- 6 Reduce Unsafe Speed-Related Collisions – 418 collisions**
- 7 Address Traffic Signal and Sign Violations – 292 collisions**
- 8 Improve Pedestrian Safety – 190 collisions**
- 9 Improve Bicycle Safety – 149 collisions**
- 10 Reduce DUI-Related Collisions – 139 collisions**

Collectively, these ten profiles define the safety priorities that shape every subsequent element of the CSAP, from infrastructure investments and project selection to education campaigns and enforcement strategies. By aligning resources with the conditions and behaviors most strongly associated with fatal and serious injury outcomes, the City can ensure that every safety dollar delivers the greatest possible reduction in harm.



1

IMPROVE SAFETY AT INTERSECTIONS

KSI Collisions 142

Injury Collisions 1,518

Collision Type

Broadside Collisions 607

Rear End Collisions 374

Violation Category

Unsafe Speed Collisions 340

Traffic Signs and Signals Violation Collisions 287

Lighting

Nighttime Collisions 457

Mode

Bicycle 133

Bus 9

Motorcycle 93

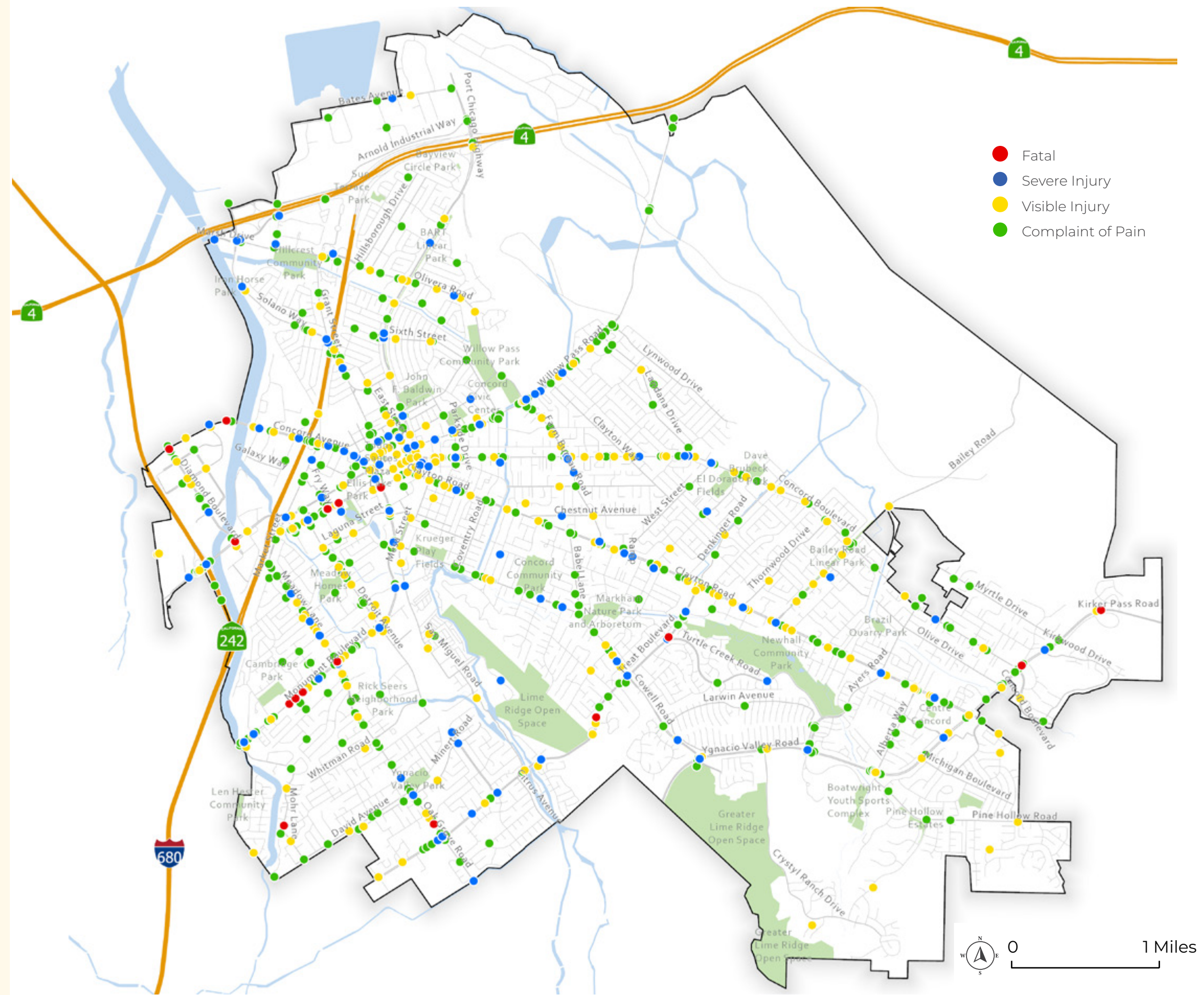
Others 6

Passenger Car or Pickup Truck 1,090

Pedestrian 163

Truck 24

The map illustrates the collisions that occurred at intersections in the City of Concord between January 1, 2021 and December 31, 2025.



2 REDUCE BROADSIDE COLLISIONS

KSI Collisions 47

Injury Collisions 687

Violation Category

Collisions at Intersections 607

Traffic Signs and Signals Collisions 253

Automobile Right-of-Way Collisions 190

Improper Turning Collisions 107

Lighting

Nighttime Collisions 179

Mode

Bicycle 89

Bus 6

Motorcycle 50

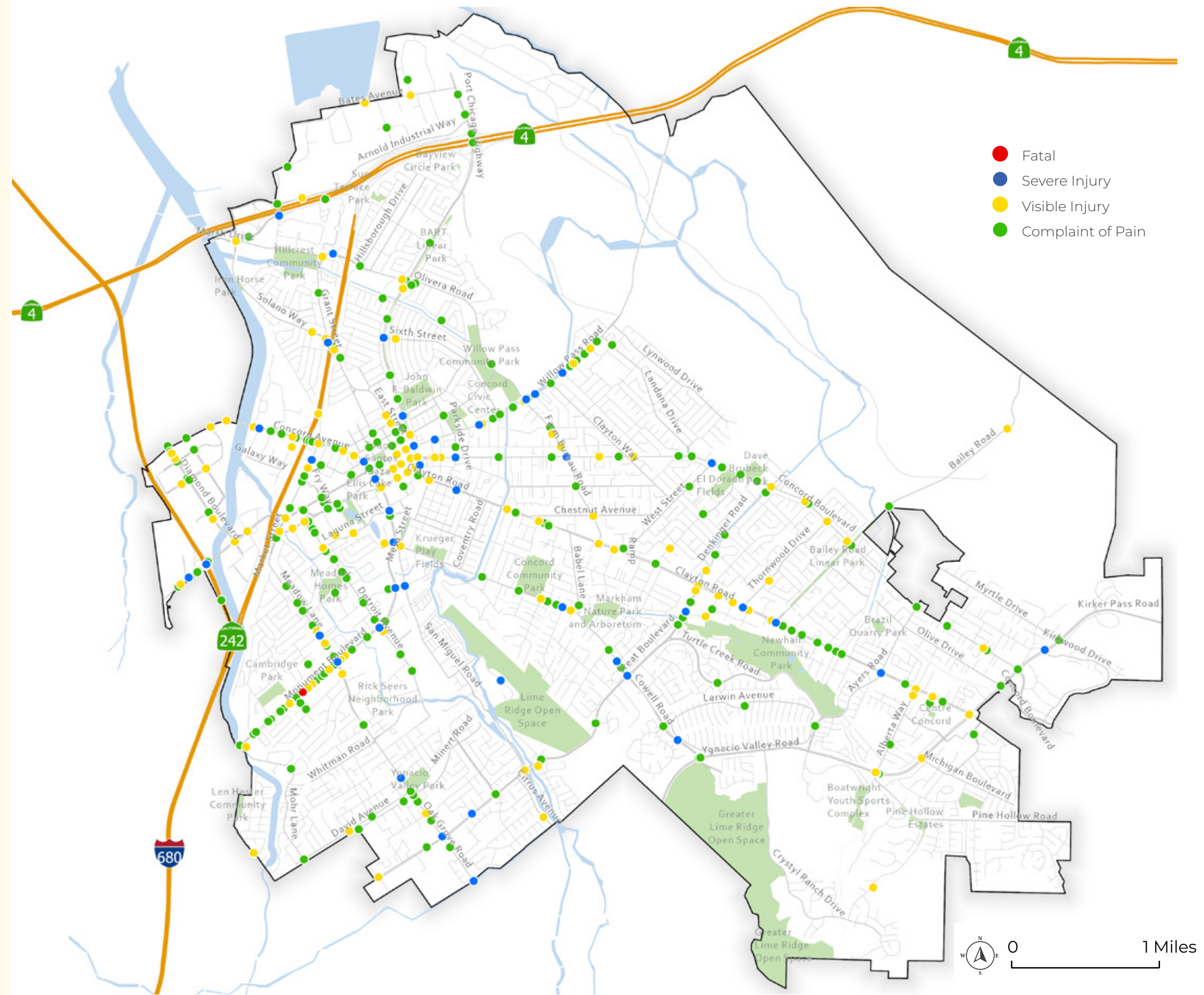
Others 3

Passenger Car or Pickup Truck 524

Pedestrian 3

Truck 12

The map illustrates the broadside collisions in the City of Concord between January 1, 2021 and December 31, 2025.



3 ADDRESS COLLISIONS NEAR 0.25 MILE OF SCHOOLS

KSI Collisions 57

Injury Collisions 667

Location Type

Collisions at Intersections 589

Collision Type

Broadside Collisions 243

Rear End Collisions 166

Violation Category

Unsafe Speed Collisions 155

Traffic Signs and Signals Violation Collisions 105

Lighting

Nighttime Collisions 197

Mode

Bicycle 52

Bus 3

Motorcycle 44

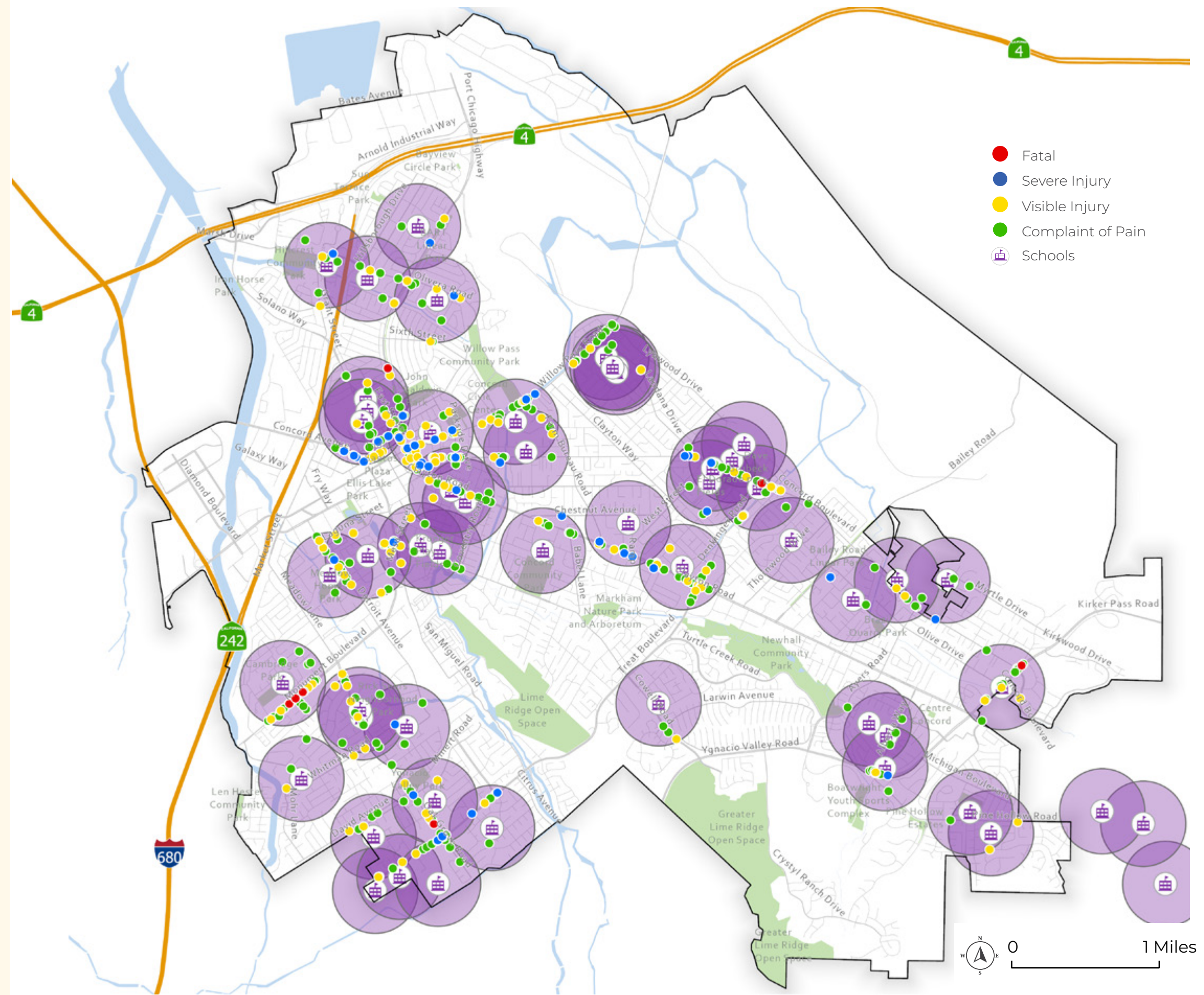
Others 4

Passenger Car or Pickup Truck 476

Pedestrian 70

Truck 18

The map illustrates the collisions that occurred within 0.25 miles of schools in the City of Concord between January 1, 2021 and December 31, 2025.

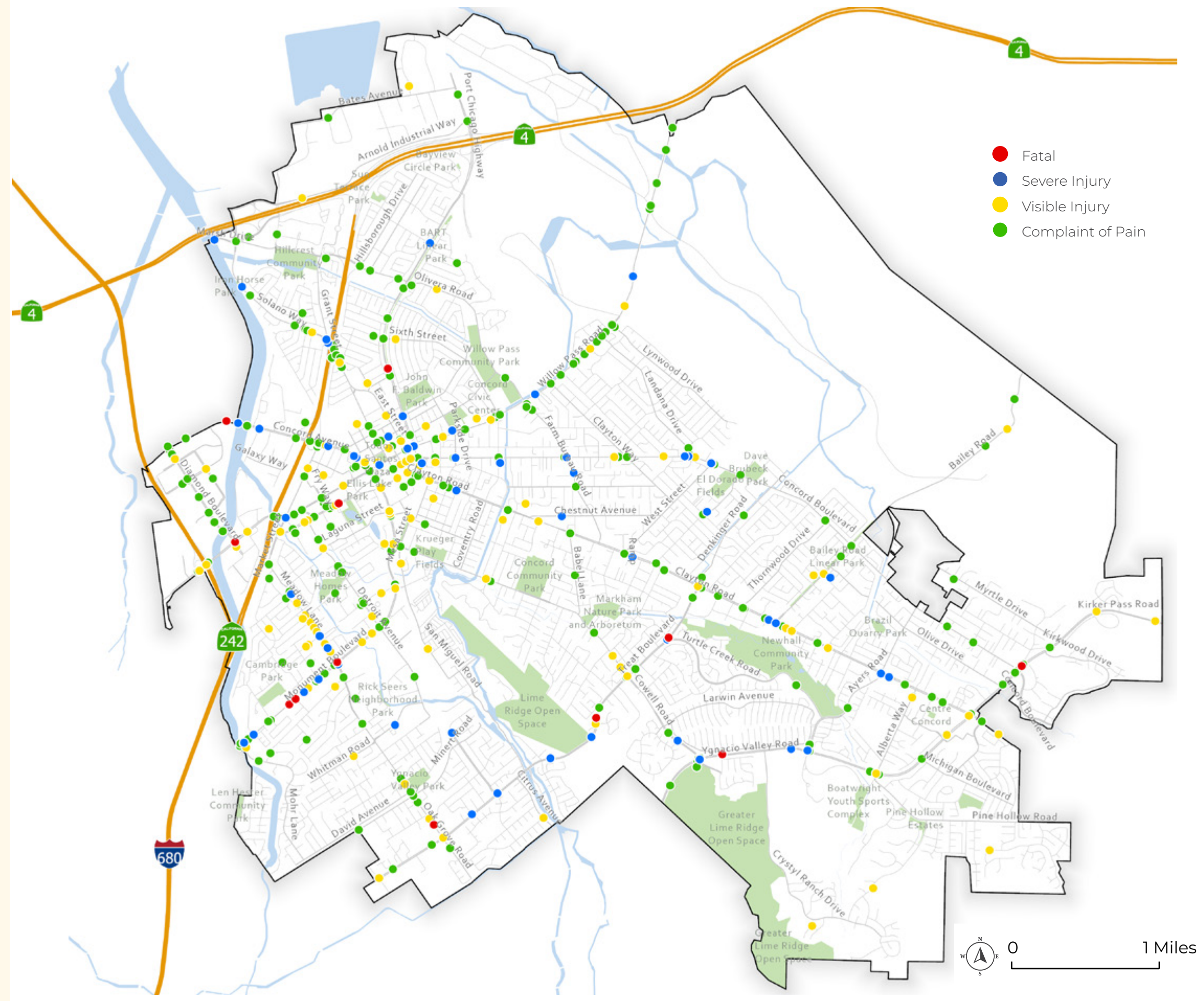


4

REDUCE NIGHTTIME COLLISIONS

KSI Collisions	71
Injury Collisions	544
Location Type	
Collisions at Intersections	457
Collision Type	
Broadside Collisions	179
Rear End Collisions	136
Violation Category	
Unsafe Speed Collisions	122
DUI Collisions	107
Mode	
Bicycle	33
Bus	1
Motorcycle	39
Others	1
Passenger Car or Pickup Truck	400
Pedestrian	60
Truck	10

The map illustrates the nighttime collisions in the City of Concord between January 1, 2021 and December 31, 2025.

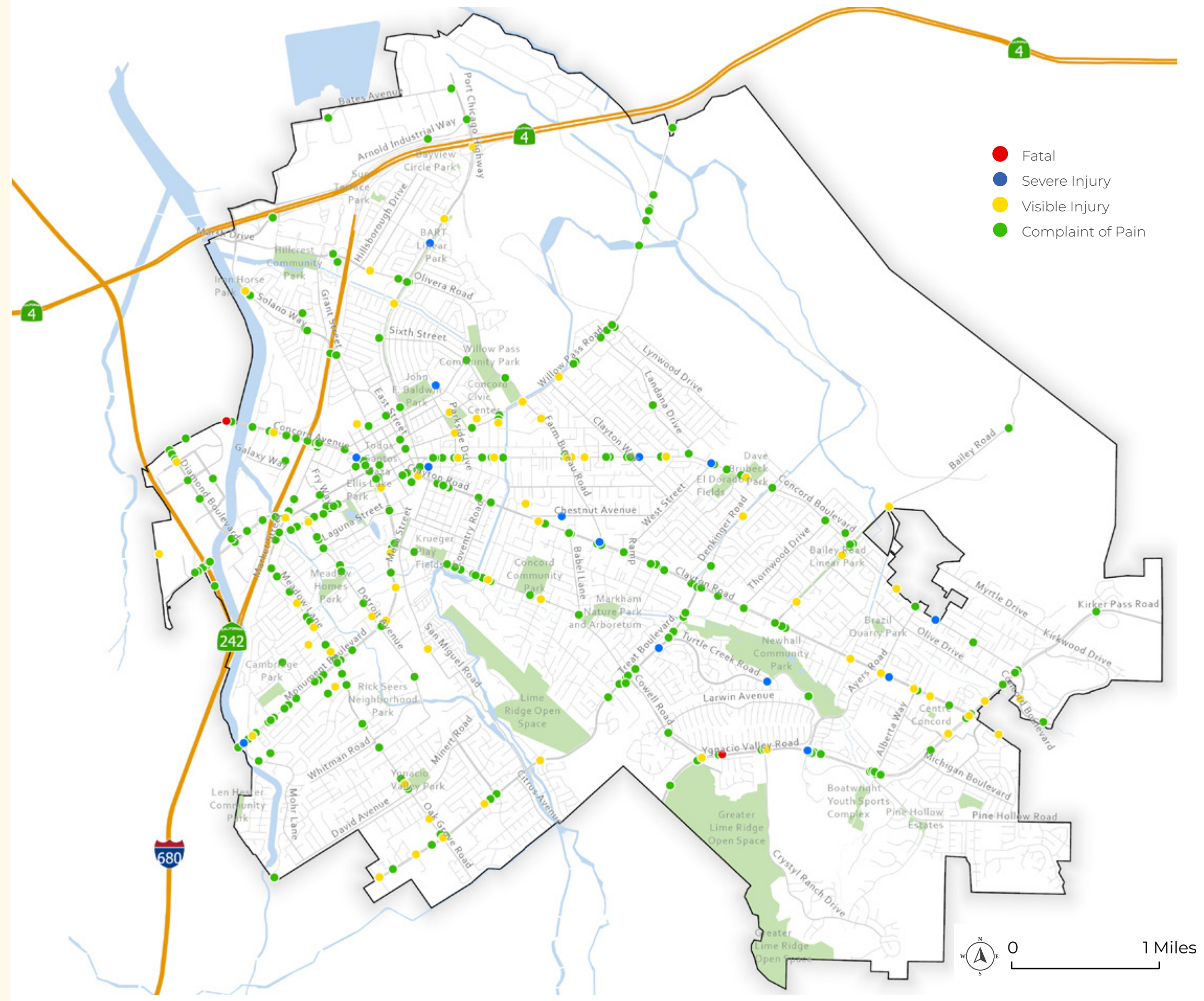


5

REDUCE REAR-END COLLISIONS

KSI Collisions	16
Injury Collisions	450
Location Type	
Collisions at Intersections	374
Violation Category	
Unsafe Speed Collisions	292
Following Too Closely Collisions	59
Lighting	
Nighttime Collisions	136
Mode	
Bicycle	10
Bus	4
Motorcycle	16
Others	2
Passenger Car or Pickup Truck	406
Pedestrian	1
Truck	11

The map illustrates rear-end collisions in the City of Concord between January 1, 2021 and December 31, 2025.



6 REDUCE UNSAFE SPEED-RELATED COLLISIONS

KSI Collisions 23

Injury Collisions 418

Location Type

Collisions at Intersections 340

Collision Type

Rear End Collisions 292

Hit Object Collisions 48

Lighting

Nighttime Collisions 122

Mode

Bicycle 9

Bus 2

Motorcycle 24

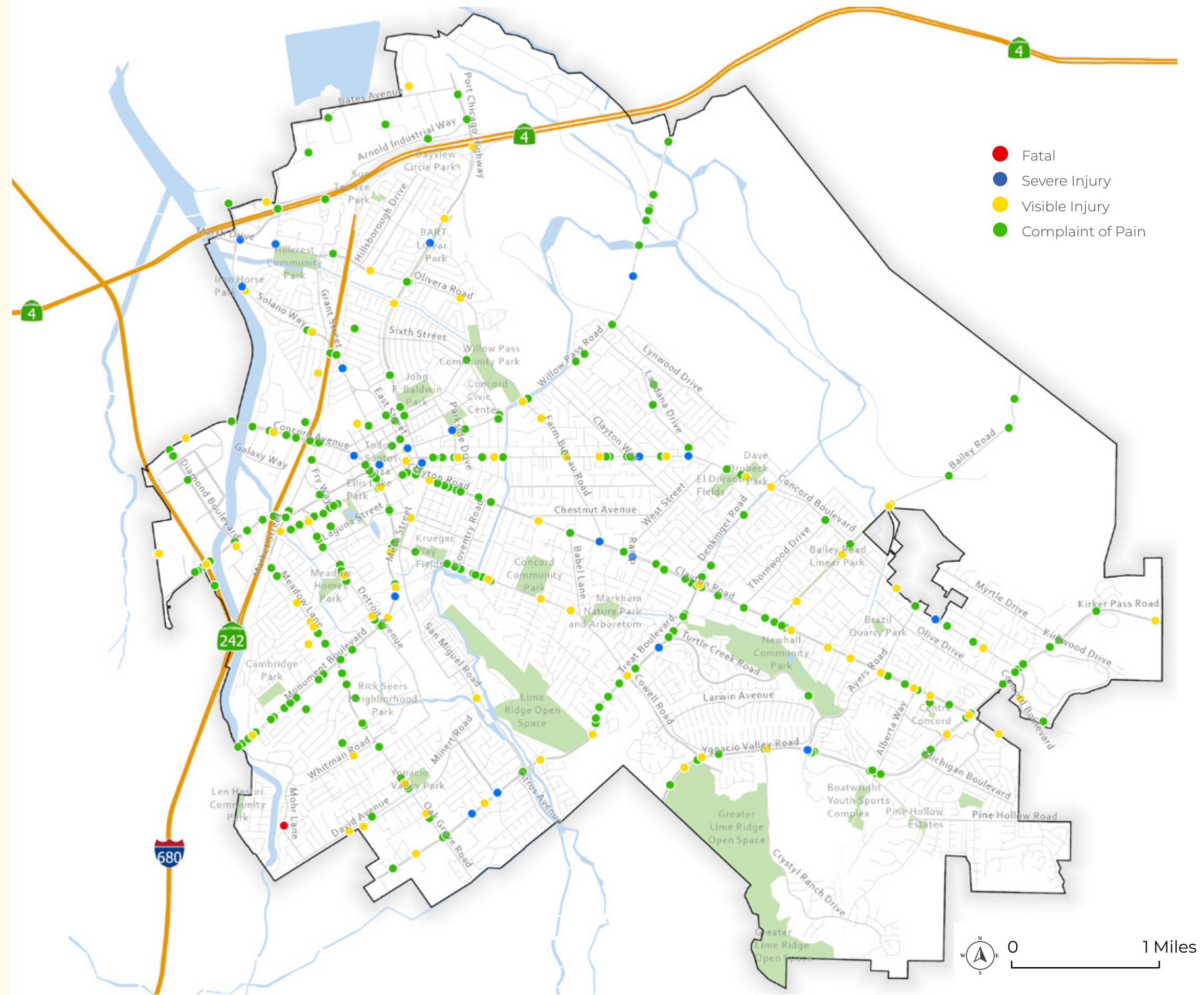
Others 1

Passenger Car or Pickup Truck 355

Pedestrian 20

Truck 7

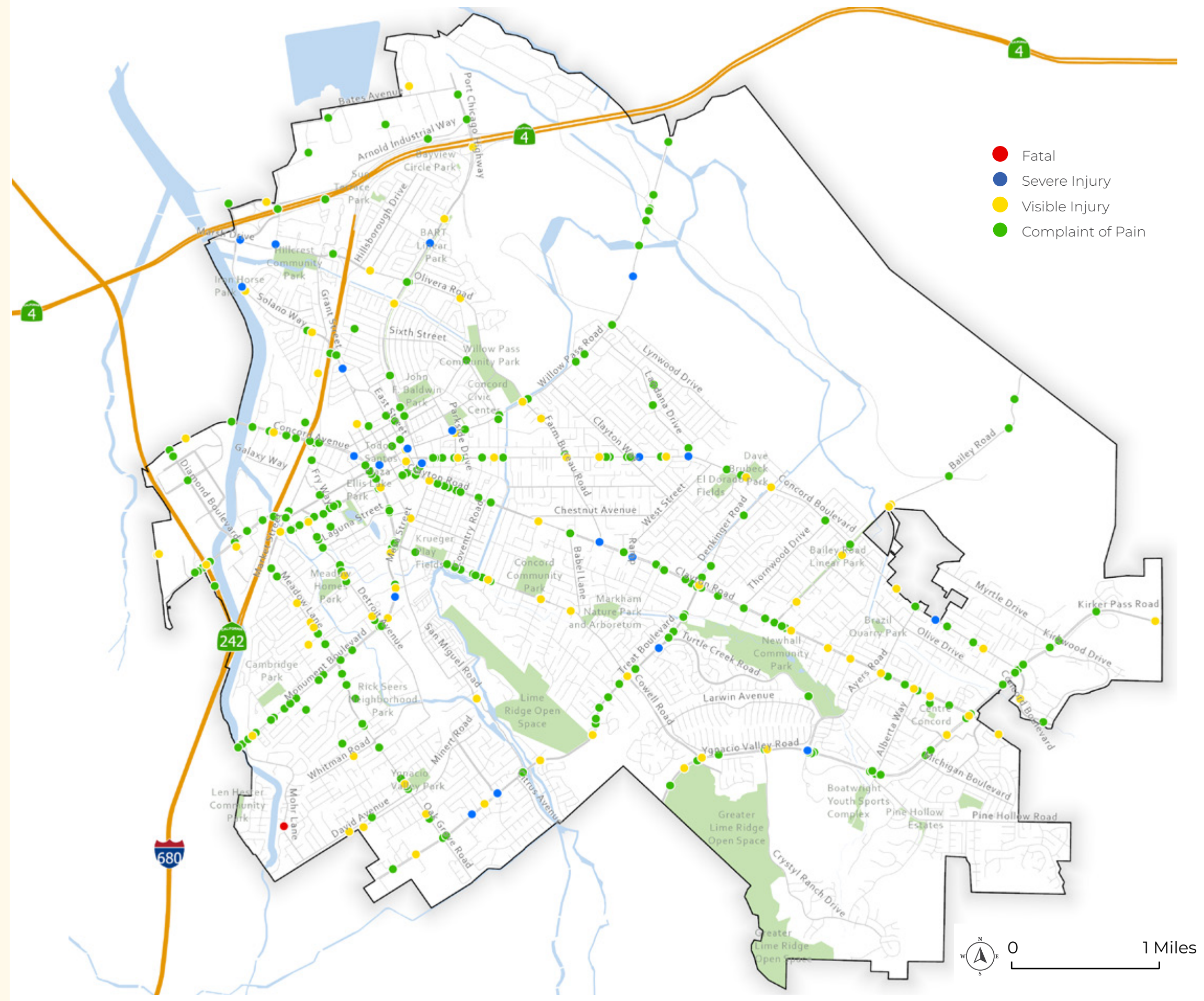
The map illustrates the unsafe speed collisions in the City of Concord between January 1, 2021 and December 31, 2025.



7 ADDRESS TRAFFIC SIGNS AND SIGNALS VIOLATIONS

KSI Collisions	23
Injury Collisions	292
Location Type	
Collisions at Intersections	287
Collision Type	
Broadside Collisions	253
Lighting	
Nighttime Collisions	69
Mode	
Bicycle	27
Bus	1
Motorcycle	15
Others	1
Passenger Car or Pickup Truck	235
Pedestrian	9
Truck	4

The map illustrates the collisions related to traffic signs and signals violations in the City of Concord between January 1, 2021 and December 31, 2025.



8 IMPROVE PEDESTRIAN SAFETY

KSI Collisions 46

Injury Collisions 190

Location Type

Collisions at Intersections 163

Collision Type

Vehicle/Pedestrian Collisions 181

Violation Category

Pedestrian Right-of-Way Violations 75

Pedestrian Violations 48

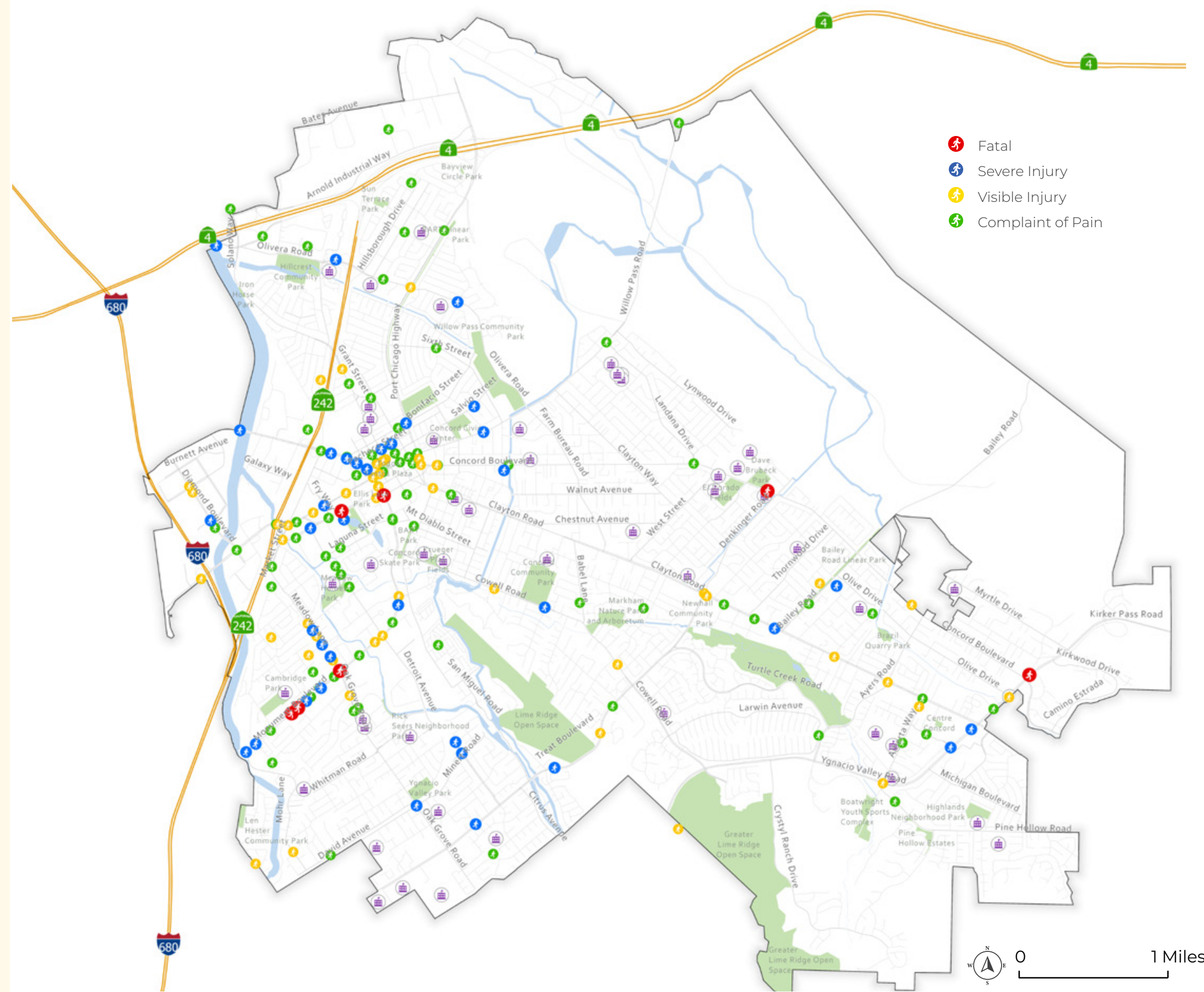
Lighting

Nighttime Collisions 60

Mode

Pedestrian 190

The map illustrates the pedestrian-involved collisions in the City of Concord between January 1, 2021 and December 31, 2025.



9 IMPROVE BICYCLE SAFETY

KSI Collisions 21

Injury Collisions 149

Location Type

Collisions at Intersections 133

Collision Type

Broadside Collisions 89

Improper Turning Collisions 21

Violation Category

Traffic Signs and Signals Collisions 27

Wrong Side of Road Collisions 26

Automobile Right-of-Way Collisions 21

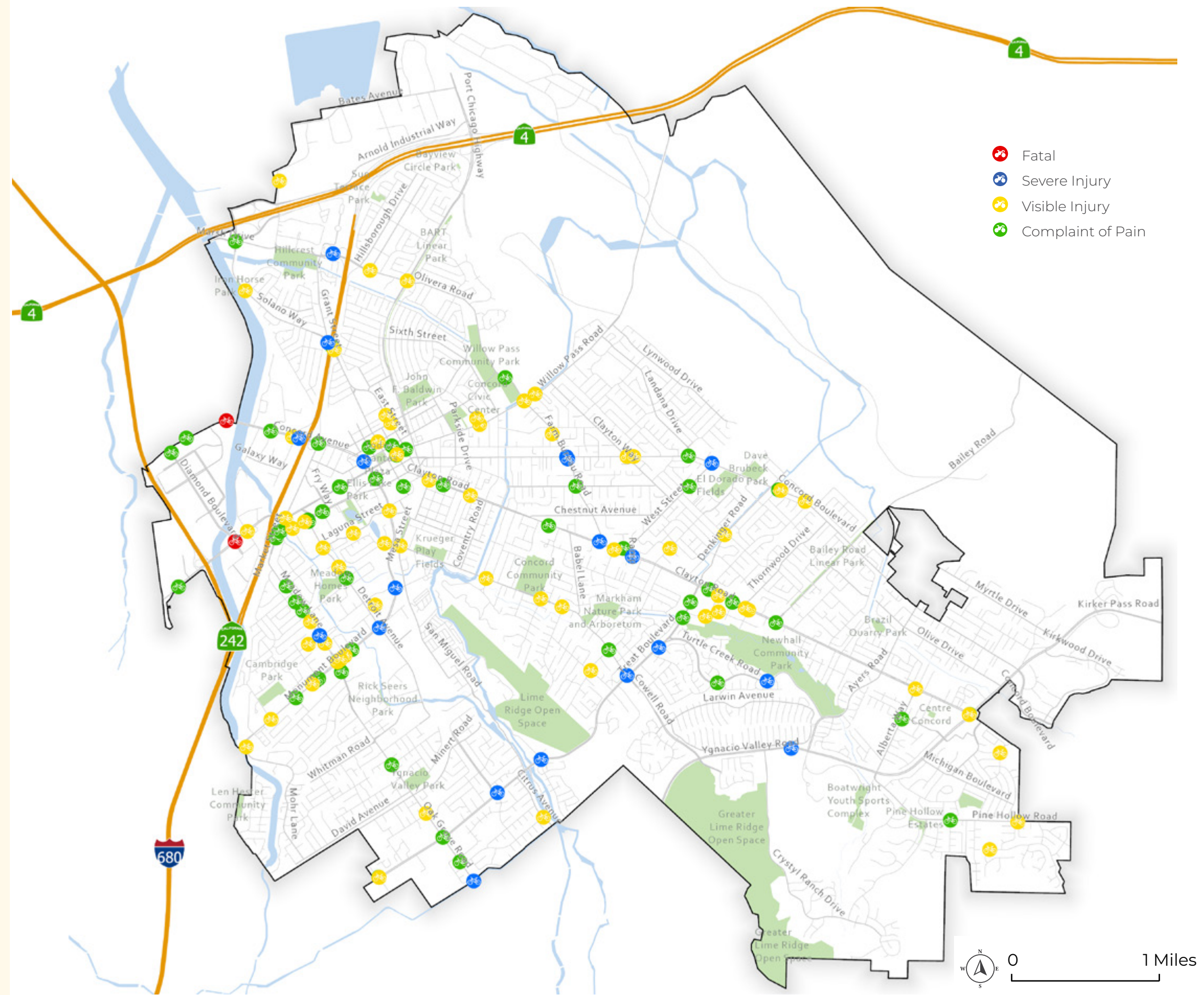
Lighting

Nighttime Collisions 33

Mode

Bicycle 149

The map illustrates the bicycle-involved collisions in the City of Concord between January 1, 2021 and December 31, 2025.



10 REDUCE DUI-RELATED COLLISIONS

KSI Collisions 20

Injury Collisions 139

Location Type

Collisions at Intersections 113

Collision Type

Rear End Collisions 41

Hit Object Collisions 40

Broadside Collisions 23

Head-On Collisions 21

Lighting

Nighttime Collisions 107

Mode

Bicycle 1

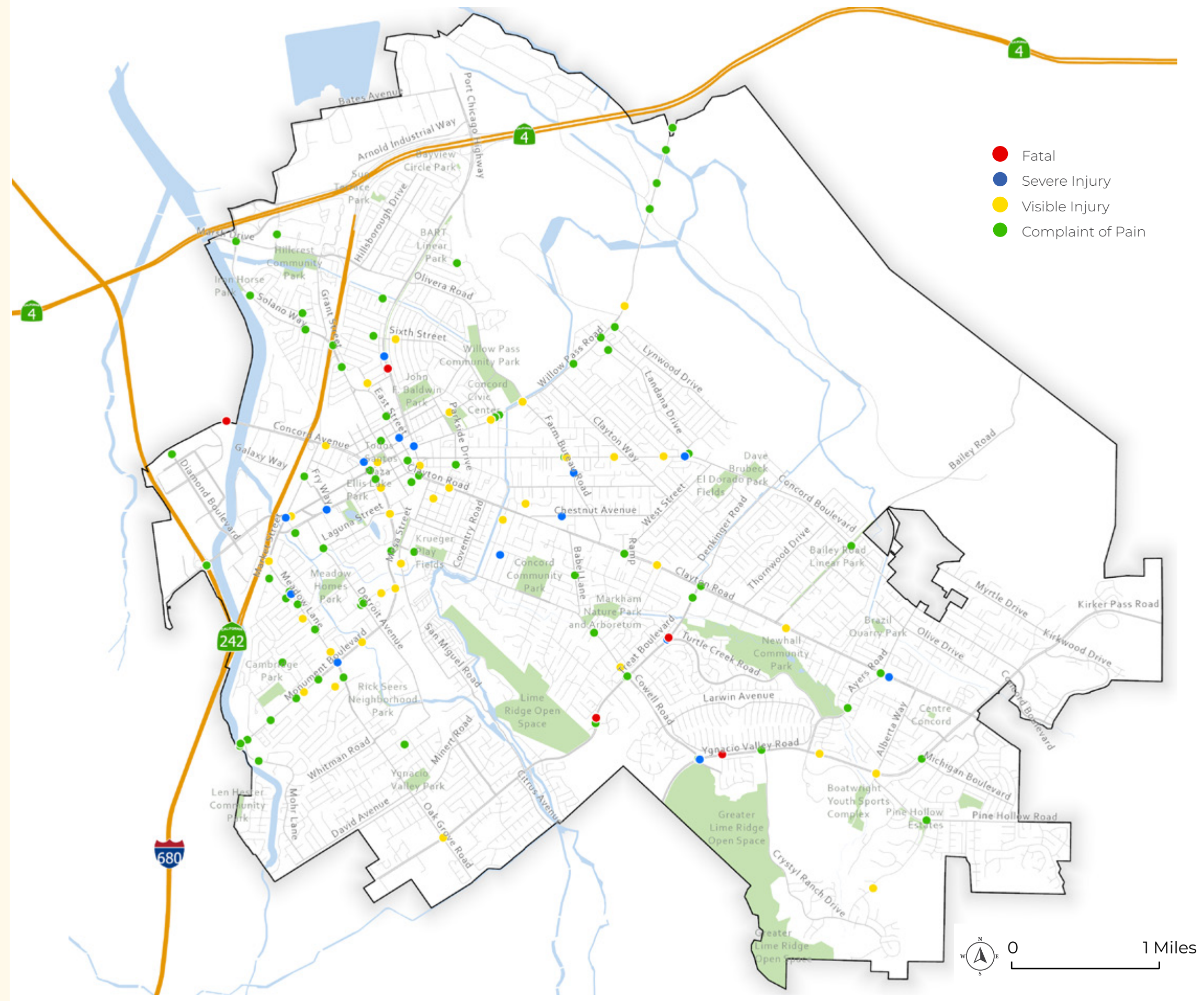
Motorcycle 4

Passenger Car or Pickup Truck 129

Pedestrian 2

Truck 3

The map illustrates the collisions related to DUI collisions in the City of Concord between January 1, 2021 and December 31, 2025.



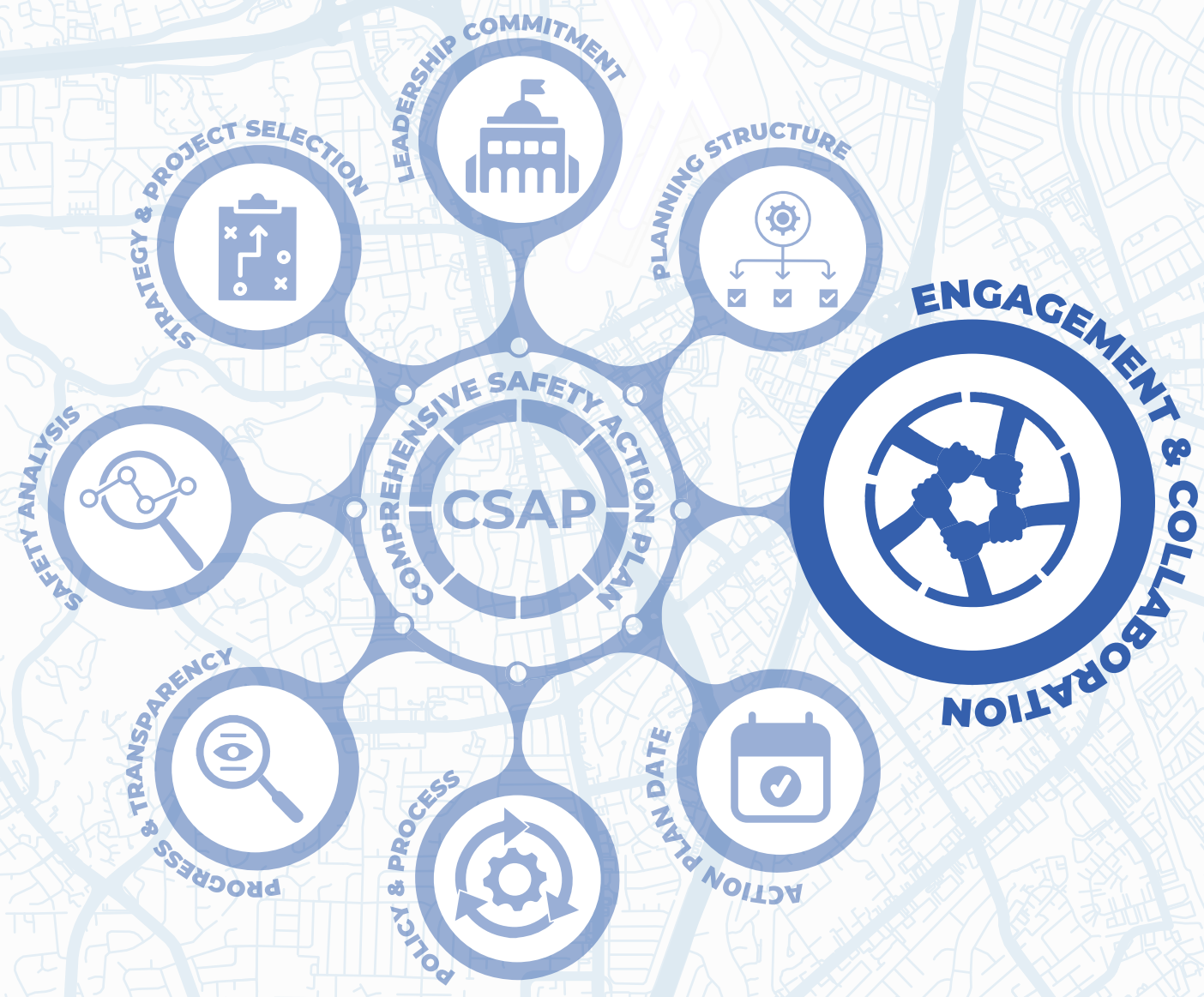


CONCORD
Comprehensive
Safety Action Plan



CHAPTER FOUR

Engagement & Collaboration



OVERVIEW

The development of the Concord Comprehensive Safety Action Plan (CSAP) involved extensive community engagement and close collaboration with stakeholders and residents. Recognizing that traffic safety is a shared responsibility, the process prioritized input from community members, partner agencies, and local stakeholders to identify key concerns, validate technical analyses, and build support for recommended strategies. Incorporating lived experiences from those who use Concord's streets daily is essential to both the safety analysis and the identification of priority projects. The CSAP engagement program was designed to reach a broad cross-section of the community and included four primary components:



Steering Committee: Established to provide technical oversight and stakeholder guidance throughout the plan's development.



Community Outreach Meetings: Three meetings open to the public, offering opportunities for residents to learn about the project and share feedback.



Public Input Tools: A citywide online safety survey and an interactive web-based mapping platform that allowed residents to identify specific locations and corridors of concern.



Project Website: A dedicated website (concordsafeststreets.org) that served as a central hub for project information, planning documents, and engagement opportunities throughout the process.

The following table summarizes all engagement activities.

SUMMARY OF ENGAGEMENT AND OUTREACH ACTIVITIES

Activity	Description	Date(s)
Project Website	A dedicated project website, concordsafeststreets.org , was created to provide residents with ongoing access to CSAP information, planning documents, and survey and map input links throughout the planning process.	Launched in February 2026
Steering Committee Meeting #1	Virtual kickoff meeting with the CSAP Steering Committee to introduce project scope, review the Safe System Approach, and present preliminary collision data analysis findings.	February 23, 2026
Online Survey and Map Input Opens	Launch of the citywide online community safety survey and web-based public map input platform, allowing residents to submit safety concerns and identify specific locations of concern across the city.	March 11, 2026
Community Outreach Meeting #1 (In-person)	In-person public meeting open to all Concord residents. Collision data analysis and preliminary High Injury Network findings were presented, and the survey and map input platform were introduced.	March 30, 2026
Community Outreach Meeting #2 (Virtual)	In a virtual public meeting, survey and map input results were presented alongside draft project recommendations, and residents provided direct feedback on proposed safety improvements.	April 13, 2026
Steering Committee Meeting #2	Virtual Steering Committee meeting to review engagement outcomes, High Injury Network findings, and draft safety project recommendations. Guidance was provided on project prioritization and plan finalization.	April 14, 2026
Online Survey and Map Input Closes	Engagement period closes. A total of 651 survey responses and 77 map input comments were collected over the online survey period.	April 20, 2026
Steering Committee Meeting #3	Virtual Steering Committee meeting to present the Safety Project recommendations and solicit feedback from the Steering Committee.	April 30, 2026
Community Outreach Meeting #3	Third Community Outreach meeting to present the Safety Project recommendations and solicit feedback from the residents.	May 4, 2026
Bicycle & Pedestrian Advisory Committee Meeting (In-person)	Bicycle and Pedestrian Advisory Committee (BPAC) meeting presenting the CSAP recommendations.	May 6, 2026

COMMUNITY OUTREACH MEETING #1 PRESENTATION

STEERING COMMITTEE MEETING #1 PRESENTATION



**MAKING CONCORD
STREETS SAFER**

City of Concord
Transportation Division

Federally Funded by
U.S. DOT SS4A Program

www.concordsafestreeets.org

Comprehensive Safety Action Plan
Community Outreach Meeting
March 30, 2026 | City of Concord

Concord Comprehensive Safety Action Plan | CSAP 2026 1



**MAKING CONCORD
STREETS SAFER**

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www.concordsafestreeets.org

Comprehensive Safety Action Plan
Community Outreach Meeting
March 30, 2026 | City of Concord

Concord Comprehensive Safety Action Plan | CSAP 2026 1

Appendix D includes presentations of both community outreach meetings and steering committee meetings.

CSAP STEERING COMMITTEE

The Steering Committee was established as part of the Concord Comprehensive Safety Action Plan (CSAP) to provide technical oversight and stakeholder guidance throughout the plan's development. The committee brings together representatives from municipal departments, regional transportation agencies, emergency services, and local institutions to support a coordinated and collaborative approach to improving traffic safety in Concord.

The formation of the Steering Committee reflected the understanding that traffic safety is a shared responsibility that requires coordination across multiple agencies and disciplines. Representatives from the City of Concord Public Works Department, the Contra Costa Transportation Authority (CCTA), Bay Area Rapid Transit (BART), the Contra Costa County Fire Protection District, and the Mt. Diablo Unified School District were convened to contribute their expertise and perspectives. This structure allowed the City to draw on a broad range of institutional knowledge and resources to identify and advance strategies to reduce serious injuries and fatalities on Concord's roadways.

During the preparation of the CSAP, the Steering Committee played a central role in providing policy direction and technical input. Members contributed insights related to infrastructure, transit operations, emergency response, and school travel safety, helping to develop a comprehensive understanding of Concord's safety challenges. The committee's diverse representation ensured that the action plan reflected a wide range of considerations, including capital improvements, corridor redesigns, education, enforcement, and emergency response coordination.

The following table lists Steering Committee members and their affiliated agencies.

REPRESENTATIVE	AGENCY
Abhishek Parikh	City of Concord Public Works Department
Virendra Patel	City of Concord Public Works Department, Project Manager
Phalen Shwan	City of Concord
Jesse Crawford	City of Concord
Danielle Thomas	Contra Costa County Fire Protection Department
Pranjal Dixit	Central Contra Costa Transit Authority (CCCTA)
Kamla Parks	Bay Area Rapid Transit (BART)
Melanie Koslow	Mt. Diablo Unified School District

PROJECT WEBSITE

A dedicated project website (concordsafeststreets.org) was developed to provide residents with ongoing access to CSAP information throughout the planning process. The website served as a central hub for project materials, including a project overview, a preliminary collision analysis summary with an interactive collision map, links to the community survey and map-based input tools, and updates on the project schedule.

The website was promoted through City communication channels and partner agency networks to reach a broad cross-section of Concord residents and encourage participation in the planning process. By providing accessible and up-to-date information, the website supported transparency and facilitated ongoing community engagement.

The following figure illustrates the project website homepage.

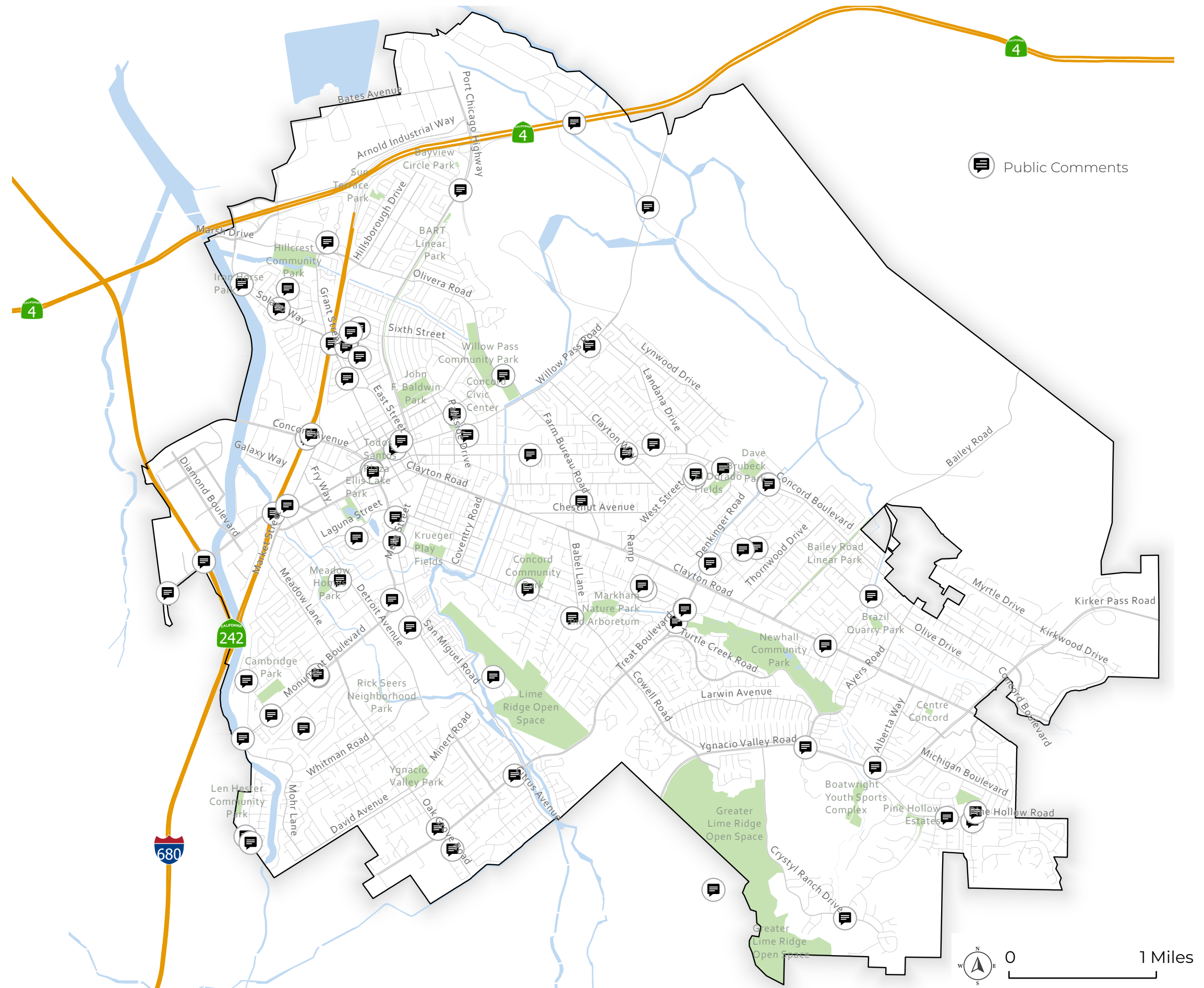


ONLINE MAP INPUT PLATFORM

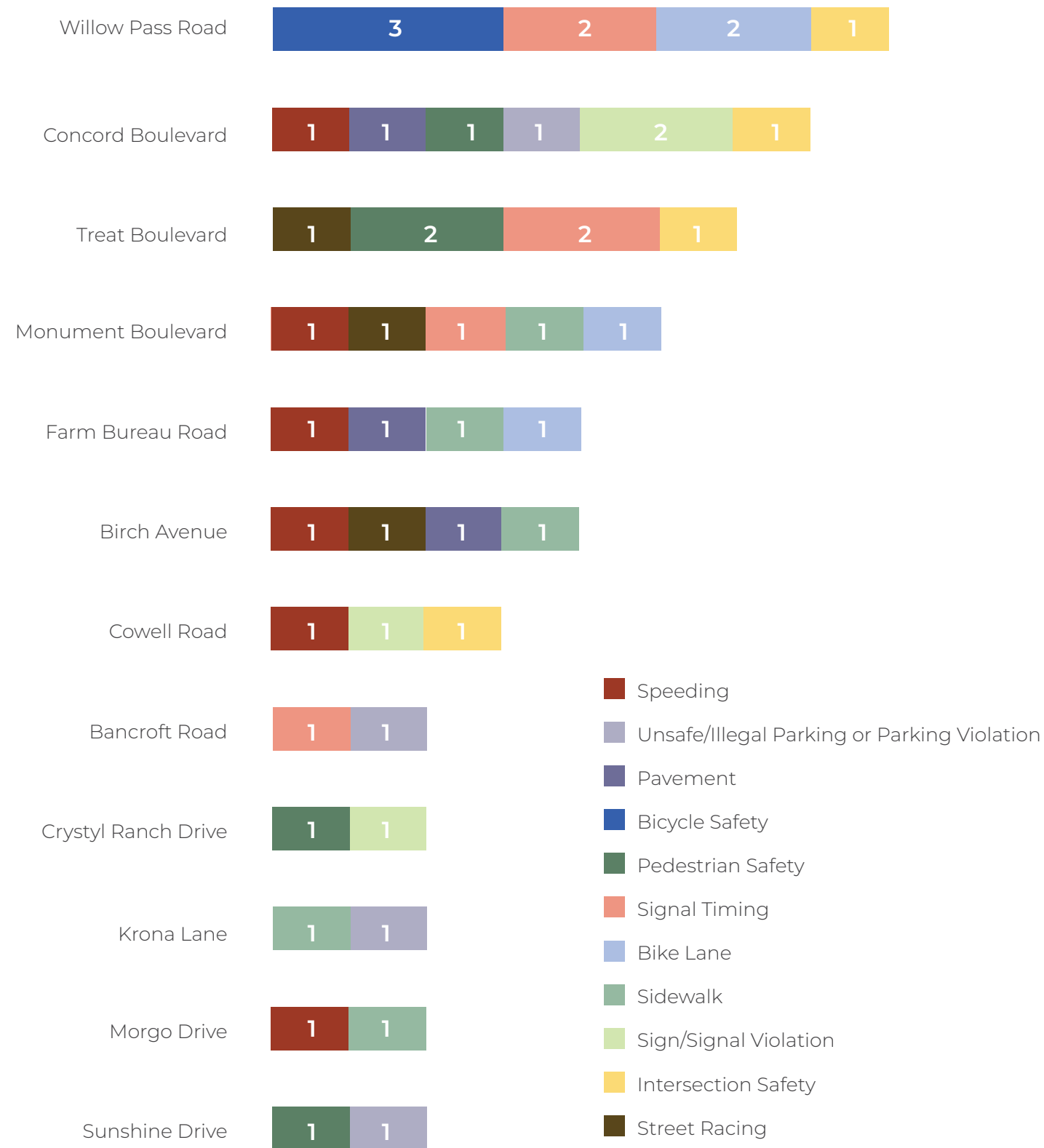
A web-based public map input platform was made available to allow residents to identify specific locations and corridors where they had observed or experienced traffic safety issues. The platform was open from March 11 to April 20, 2026.

A total of 77 map-based comments were received during this period. Analysis of these submissions resulted in 106 categorized safety concern responses, as individual comments often referenced multiple issue types. For example, a single comment at a given location might identify concerns related to speeding, school safety, and inadequate street lighting, with each concern categorized separately in the analysis. All subsequent analysis in this section is based on these 106 categorized responses.

The following map illustrates the locations of all community input comments across the city. [Appendix E](#) contains the complete log of map input comments and their associated safety concern categories.



The following figure provides a summary bar chart of the issue categories.



Note: This graph represents the top 12 corridors and top 11 issue categories from the map input survey responses.

The highest concentration of comments was received along Willow Pass Road, Concord Boulevard, Treat Boulevard, and Monument Boulevard. These corridors are consistent with the High Injury Network segments identified through the CSAP collision data analysis.

Speeding was the most frequently cited concern, followed by unsafe or illegal parking and poor pavement conditions.

The following tables summarize the corridors receiving the greatest number of comments and the distribution of categorized responses by issue type.

MAP INPUT: TOP CORRIDORS BY NUMBER OF COMMENTS

Corridor	Number of Comments
Willow Pass Road	10
Concord Boulevard	7
Treat Boulevard	7
Monument Boulevard	6
Farm Bureau Road	5
Birch Avenue	4
Cowell Road	4
Bancroft Road	3
Crystyl Ranch Drive	3
Krona Lane	3
Morgo Drive	3
Sunshine Drive	3

MAP INPUT: CATEGORIZED SAFETY CONCERN RESPONSES BY ISSUE TYPE

Issue Category	# Responses	% of Total Responses
Speeding	11	10.4%
Unsafe or Illegal Parking	10	9.4%
Pavement	9	8.5%
Bicycle Safety	8	7.5%
Pedestrian Safety	8	7.5%
Signal Timing	8	7.5%
Bike Lane (Request or Gap)	7	6.6%
Sidewalk (Gap or Request)	6	5.7%
Sign or Signal Violation	6	5.7%
Intersection Safety	4	3.8%
Street Racing	4	3.8%
Poor Visibility	3	2.8%

Note: 77 map input comments were received. Analysis yielded 106 categorized safety concern responses, as individual comments may address multiple distinct issue types. Percentages are calculated as a share of 106 total responses.



COMMUNITY SAFETY SURVEY HIGHLIGHTS

An online community safety survey was administered citywide from March 11 to April 20, 2026, generating a total of 651 responses. The survey collected information on travel behavior, safety concerns, personal experiences with traffic incidents, school zone conditions, geographic priorities, and preferred safety improvements.

Key findings from the survey are summarized below. A complete tabulation of results, including cross-tabulation analyses by age, trip purpose, and collision experience, is provided in [Appendix F](#).



Note: Survey data collected via the City of Concord CSAP public engagement platform, March 11–April 20, 2026. Total valid responses: 651. Survey used multi-select, single-select, and open-text question formats. Percentages for multi-select questions exceed 100% as respondents could select multiple options. Open-text responses were reviewed thematically; locations cited fewer than three times were noted but not individually tabulated. Analysis and report prepared by the Transportation Division, Public Works Department, City of Concord.

COMMUNITY SAFETY SURVEY: HIGHLIGHTS BY TOPIC

Topic	Key Finding
Respondent Profile	651 responses collected March 11 to April 20, 2026. 51 percent of respondents were aged 55 or older. 94 percent traveled primarily by personal vehicle, consistent with Concord's auto-oriented street network.
Top Safety Concerns	Speeding (66 percent) and red-light running (60 percent) are the dominant concerns across all road user groups and represent the clearest, most consistent signal in the survey. Distracted driving (39 percent) and illegal or unsafe e-bike operations (24 percent) are the next most frequently cited concerns.
Pedestrian Safety	Failure to yield at crosswalks (37 percent) and turning vehicle conflicts (32 percent) are the leading pedestrian safety concerns. Missing sidewalks (19 percent) and missing crossings (13 percent) indicate unmet infrastructure needs.
Bicycle Safety	Cyclists not following traffic rules ranked first (26 percent), followed by absence of bike lanes (18 percent), poor road conditions (15 percent), and no safe routes (12 percent). Multiple open-ended responses noted e-bikes operating on sidewalks, particularly near schools, and called for consistent enforcement of e-bike regulations.
Personal Incident Experience	74 percent of respondents reported direct personal experience with a traffic incident on Concord streets. Near-misses (30 percent) and witnessed collisions (30 percent) were most commonly reported, followed by direct collision involvement (11 percent). Only 26 percent reported no personal incident experience.
Time-of-Day Risk	The afternoon period (3 PM to 6 PM) was the highest-risk window across all modes: 62 percent of drivers, 33 percent of pedestrians, and 26 percent of cyclists identified it as the most dangerous time. Morning commute hours (6 AM to 9 AM) and school hours were the next most-cited periods.
School Zone Safety	72 percent of respondents expressed concern about school-area safety. Speeding near schools (41 percent), traffic backup at drop-off/pick-up (36 percent), and double-parking blocking sight lines (29 percent) were the top driver issues. Drivers failing to yield to children (30 percent) and absence of a dedicated bike route to school (19 percent) were prominent pedestrian and bicycle concerns.
Priority Improvements	Crash-prone intersections (54 percent) and commercial corridors (36 percent) were the most frequently selected geographic focus areas. Increased police enforcement (52 percent), pedestrian signal improvements (38 percent), and high-visibility crosswalks (34 percent) are the most requested interventions.
Behavior Change	92 percent of respondents modified their travel behavior due to safety concerns. The most common adaptations were avoiding certain streets (32 percent), traveling more cautiously (30 percent), and avoiding certain times of day (30 percent). Corridors most frequently cited for avoidance included Ygnacio Valley Road, Clayton Road, and Treat Boulevard.

KEY TAKEAWAYS

1

Enforcement is the most requested improvement across all contexts.

It ranked as the top priority in every geographic category, including residential streets, intersections, school zones, and commercial corridors. Support for physical infrastructure improvements was also strong, with pedestrian signals and high-visibility crosswalks consistently ranking second and third.



2

Speeding and red-light running are the most prevalent safety concerns.

These issues were cited across all road user groups and geographic areas, indicating that any effective safety strategy should prioritize these behaviors through both enforcement and engineering countermeasures.



3

Traffic safety issues are widely experienced by residents.

Three out of four respondents reported having direct or indirect experience with a traffic incident on Concord streets, indicating that safety concerns are grounded in direct experience rather than perception alone.



4

The afternoon peak period presents the greatest safety risk.

Between 3:00 PM and 6:00 PM, the highest share of drivers, pedestrians, and cyclists reported elevated safety concerns. Targeting enforcement, signal operations, and school zone measures during peak periods would benefit the broadest range of users.



5

Residents are actively adapting their behavior in response to safety concerns.

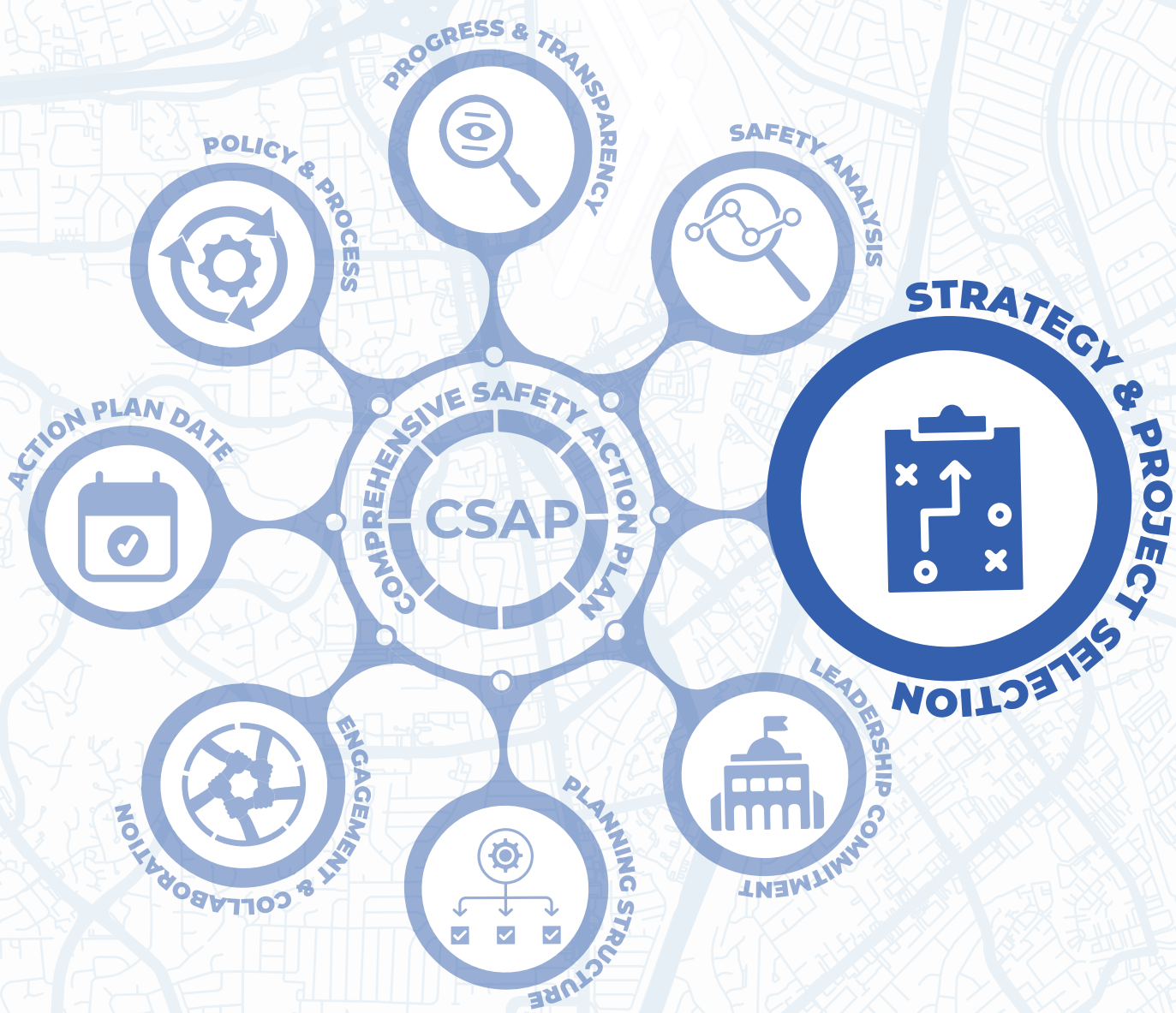
The 92 percent rate of behavioral changes, such as avoiding certain routes or shifting travel times, highlights a substantial, often unmeasured burden that extends beyond reported collision data.



HOW ENGAGEMENT & OUTREACH INFORMED THE CSAP

Engagement findings were directly integrated into the CSAP's analytical and planning framework. Input from the community survey and map-based platform both corroborated and enriched the technical collision data analysis. Corridors most frequently identified by residents as areas of concern, including Willow Pass Road, Concord Boulevard, Treat Boulevard, and Monument Boulevard, align closely with the High Injury Network corridors identified through quantitative analysis. Consistent emphasis on issues such as speeding, intersection conflicts, crosswalk violations, and gaps in pedestrian and bicycle infrastructure across both engagement tools further reinforced these concerns as citywide priorities.

Steering Committee guidance helped ensure that engagement outcomes were interpreted within the context of existing plans, programs, and funding opportunities. This coordination supported the development of recommendations that were feasible within the City's capital improvement programming and grant funding framework. In addition, three community outreach meetings provided opportunities for the public to review and comment on draft findings and emerging project recommendations, allowing the planning team to refine priorities through direct dialogue with residents prior to finalizing the CSAP.



CONCORD

Comprehensive Safety Action Plan



CHAPTER FIVE

Safe Street Toolkit

The Safe Streets Toolkit presents a comprehensive suite of safety countermeasures to support implementation of the CSAP. The countermeasures are drawn from evidence-based strategies identified by the Federal Highway Administration (FHWA), including the Crash Modification Factor (CMF) Clearinghouse and FHWA guidance documents related to roadway departure, intersection safety, and roadway safety analysis. A complete listing of FHWA Proven Safety Countermeasures is provided in [Appendix X](#).

The Toolkit serves as a technical resource to guide the selection and application of safety treatments that address identified collision patterns and systemic risk factors across the City's transportation network.

TOOLKIT PURPOSE & APPLICATION

The Safe Streets Toolkit is designed as a flexible reference document rather than a prescriptive list of improvements. All countermeasures are supported by research and have demonstrated safety benefits; however, their applicability varies depending on site-specific conditions, community context, and implementation feasibility.

In accordance with the Safe System Approach, the Toolkit enables City staff to select context-sensitive countermeasures based on factors such as roadway characteristics, user needs, collision history, and available resources. Inclusion of a countermeasure in the Toolkit does not constitute a formal recommendation for implementation; rather, it provides a range of viable options to be considered during project development and design.

COMPREHENSIVE SAFETY APPROACH

Consistent with SS4A guidance, the Toolkit supports a multidisciplinary approach to safety that integrates Engineering, Enforcement, and Education strategies. While engineering countermeasures form the core of the Toolkit, complementary measures including targeted enforcement and public education campaigns are essential for addressing behavioral risk factors such as

speeding, impaired driving, distracted driving, and failure to yield.

Implementing these strategies will require coordination with law enforcement agencies, community organizations, and regional partners to ensure a comprehensive and effective response to identified safety challenges.

ORGANIZATION OF COUNTERMEASURES

For ease of application, countermeasures are organized into the following categories:



Signalized Intersections: Treatments applicable to intersections controlled by traffic signals, including signal timing modifications, enhanced signage and pavement markings, and geometric improvements.



Unsignalized Intersections: Countermeasures for stop-controlled or uncontrolled intersections, including signal installation, roundabouts, and improved signing and striping.



Roadway Segments: Treatments designed to improve safety along roadway corridors between intersections, such as rumble strips, roadway lighting, guardrails, and geometric realignments.



Additional Countermeasures: Non-infrastructure strategies, including education, enforcement, and programmatic initiatives.

COUNTERMEASURE EVALUATION CRITERIA

Each countermeasure included in the Toolkit is characterized using a standardized set of evaluation criteria to support informed decision-making:



Collision Types Addressed: Identifies the types of collisions the countermeasure is intended to mitigate, such as all collisions, pedestrian and bicycle collisions, or nighttime crashes.



Crash Reduction Factor (CRF): Provides the expected percentage reduction in collisions based on empirical research and national studies.



Expected Service Life: Indicates the anticipated functional lifespan of the countermeasure, typically ranging from 10 to 20 years, before major rehabilitation or replacement is required.



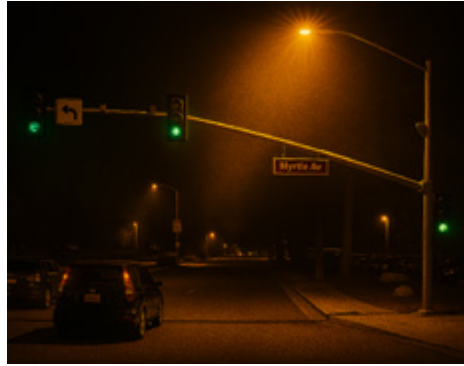
Systemic Implementation Potential: Assesses the suitability of applying the countermeasure using a systemic, risk-based approach across multiple locations, categorized as Very High, High, Medium, or Low.

APPLICATION IN CONCORD

The Toolkit supports both location-specific and systemic safety improvements within Concord. By leveraging data from the High Injury Network (HIN) and broader collision analysis, City staff can identify appropriate countermeasures to address priority safety concerns while also proactively deploying treatments across similar roadway contexts.

The following sections present detailed descriptions of individual countermeasures and provide guidance on their applicability within the City of Concord.

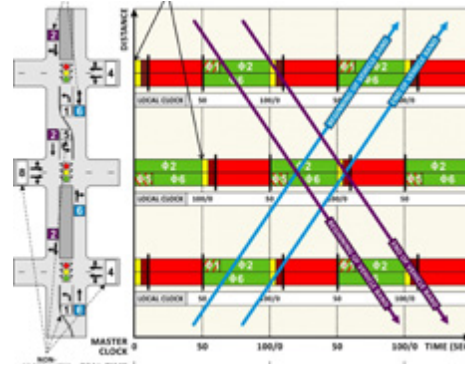
SIGNALIZED INTERSECTION COUNTERMEASURES



Add Intersection Lighting



Improve Signal Hardware: Lenses, Back-Plates With Retroreflective Borders, Mounting, Size, And Number



Improve Signal Timing (Coordination, Phases, Red, Yellow, Or Operation)



Install Emergency Vehicle Pre-emption Systems



Install Left-Turn Lane And/Or Add Turn Phase (Signal Has No Left-Turn Lane or Phase Before)



Provide Protected Left Turn Phase (Left Turn Lane Already Exists)

Crash Type: Night	Crash Type: All	Crash Type: All	Crash Type: Emergency Vehicle	Crash Type: All	Crash Type: All
CRF 40%	CRF 15%	CRF 15%	CRF 70%	CRF 55%	CRF 30%
EXPECTED LIFE (YEARS) 20	EXPECTED LIFE (YEARS) 10	EXPECTED LIFE (YEARS) 10	EXPECTED LIFE (YEARS) 10	EXPECTED LIFE (YEARS) 20	EXPECTED LIFE (YEARS) 20
SYSTEMIC APPROACH OPPORTUNITY Medium	SYSTEMIC APPROACH OPPORTUNITY Very High	SYSTEMIC APPROACH OPPORTUNITY Very High	SYSTEMIC APPROACH OPPORTUNITY High	SYSTEMIC APPROACH OPPORTUNITY Low	SYSTEMIC APPROACH OPPORTUNITY High
Includes the installation of new streetlights, upgraded lighting fixtures, or the enhancement of existing lighting to improve visibility for all road users at intersections. This may involve increasing the number of luminaires, improving lighting levels, or adjusting lighting patterns to enhance visibility and safety for all road users.	Includes New LED lighting, signal back plates, retro-reflective tape outlining the back plates, or visors to increase signal visibility, larger signal heads, relocation of the signal heads, or additional signal heads.	Includes adding phases, lengthening clearance intervals, eliminating or restricting higher-risk movements, and coordinating signals at multiple locations.	Corridors that have a history of collisions involving emergency response vehicles. The target of this strategy is signalized intersections where normal traffic operations impede emergency vehicles and where traffic conditions create a potential for conflicts between emergency and nonemergency vehicles. These conflicts could lead to almost any type of crash, due to the potential for erratic maneuvers of vehicles moving out of the paths of emergency vehicles.	Intersections that do not currently have a left turn lane or a related left-turn phase that are experiencing a large number of collisions. Many intersection safety problems can be traced to difficulties in accommodating left-turning vehicles, in particular where there is currently no accommodation for left turning traffic. A key strategy for minimizing collisions related to left-turning vehicles (angle, rear-end, sideswipe) is to provide exclusive left-turn lanes and the appropriate signal phasing, particularly on high-volume and high-speed major-road approaches.	Left turns are widely recognized as the highest-risk movements at signalized intersections. Providing Protected left-turn phases for signalized intersections with existing left turn pockets significantly improve the safety for left-turn maneuvers by removing the need for the drivers to navigate through gaps in oncoming/opposing through vehicles.



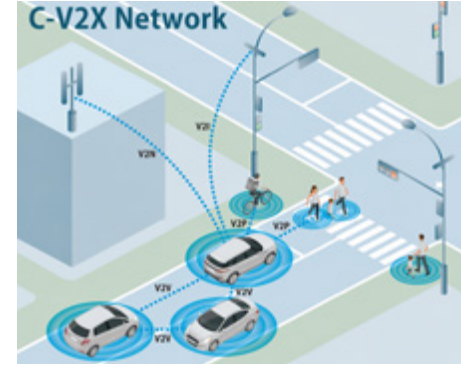
Convert Signal to Mast Arm (from Pedestal-Mounted)



Install Pedestrian Median Fencing on Approaches



Install Flashing Beacons as Advance Warning



Connected Vehicle Infrastructure (C-V2X Roadside Units)



Install raised median on approaches



High Visibility Crosswalk

Crash Type: All		Crash Type: P & B		Crash Type: All		Crash Type: All		Crash Type: All		Crash Type: All, P & B	
CRF	30%	CRF	35%	CRF	30%	CRF	N/A	CRF	25%	CRF	40%
EXPECTED LIFE (YEARS)	20	EXPECTED LIFE (YEARS)	20	EXPECTED LIFE (YEARS)	10	EXPECTED LIFE (YEARS)	10	EXPECTED LIFE (YEARS)	20	EXPECTED LIFE (YEARS)	3
SYSTEMIC APPROACH OPPORTUNITY	Medium	SYSTEMIC APPROACH OPPORTUNITY	Low	SYSTEMIC APPROACH OPPORTUNITY	Medium	SYSTEMIC APPROACH OPPORTUNITY	Medium	SYSTEMIC APPROACH OPPORTUNITY	Medium	SYSTEMIC APPROACH OPPORTUNITY	High
<p>Converting a signal to a mast arm from a pedestal-mounted base provides better visibility of intersection signs and signals that aid the drivers' advance perception of the upcoming intersection. Visibility and clarity of the signal should be improved without creating additional confusion or distraction for drivers.</p>		<p>Signalized Intersections with high pedestrian-generators nearby (e.g. transit stops) may experience high volumes of pedestrians J-walking across the travel lanes at mid-block locations instead of walking to the intersection and waiting to cross during the walk-phase.</p>		<p>Includes the installation of flashing beacons (e.g., yellow beacons, LED beacons) to alert drivers to an upcoming signalized intersection or stop sign. This provides drivers with increased visual cues, allowing for earlier identification of the upcoming intersection and improved reaction time.</p>		<p>Cellular Vehicle-to-Everything (C-V2X) Roadside Units (RSUs) enable real-time communication between infrastructure and connected vehicles to broadcast safety messages such as signal phase and timing (SPaT), intersection geometry (MAP), and hazard alerts. RSUs mounted at signalized intersections transmit standardized safety messages to equipped vehicles, enabling in-vehicle warnings for red-light violations, pedestrian presence, hard braking events, and collision hazards. This technology supports the USDOT's Safe System Approach by providing an additional layer of safety beyond physical infrastructure. C-V2X RSUs are most effective when deployed at high-risk intersections with a history of fatalities or severe injuries and are complementary to near-miss analytics platforms. RSUs require fiber backhaul connectivity and integration with the traffic signal controller.</p>		<p>Raised medians next to left turn lanes at intersections offer a cost effective means for reducing collisions and improving operations at higher volume intersections.</p>		<p>Ladder or zebra crosswalk markings are added to an intersection to make the crosswalk more visible and improve yielding to pedestrians.</p>	

Note: N/A refers to Not Applicable



Create Directional Median Openings to Allow (& Restrict) Left-Turns & U-Turns



Modify Signal Phasing to Implement a Leading Pedestrian Interval (LPI)



Convert Intersection to Roundabout



Install Pedestrian Countdown Signal Heads

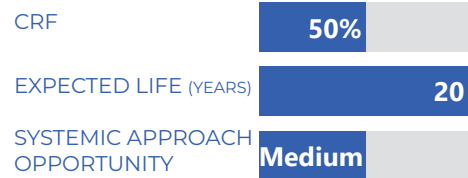


Accessible Pedestrian Signal (APS)



Install Pedestrian Crossing

Crash Type: All



Collisions related to turning maneuvers include angle, rear-end, pedestrian, and sideswipe (involving opposing left turns) type collisions. If any of these crash types are an issue at an intersection, restriction or elimination of the turning maneuver may be the best way to improve the safety of the intersection.

Crash Type: P & B



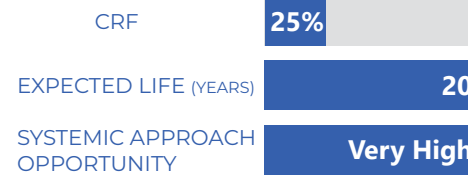
The addition of LPI gives pedestrians the opportunity to enter an intersection 3-7 seconds before vehicles are given a green indication; only minor signal timing alteration is required.

Crash Type: All



For signalized intersections that have a significant crash problem, one alternative to change the nature of the intersection itself is to convert the intersection into a roundabout. Roundabouts can also be very effective at intersections with complex geometry and intersections with frequent left-turn movements.

Crash Type: All



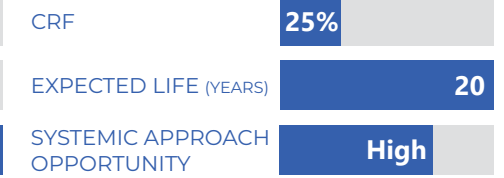
Installing pedestrian countdown signal heads at signalized pedestrian crossings with walk/don't walk indicators, particularly at locations with a history of pedestrian-vehicle collisions, provides pedestrians with a countdown of remaining crossing time, encouraging safer and more timely crossing decisions.

Crash Type: P & B



Accessible pedestrian signals provide information in alternative formats such as verbal message, audible tones and vibrating surfaces to communicate information on the status of pedestrian crossing (Walk, Flashing Don't Walk, or Don't Walk) to people who are visually impaired. Speech messages and wayfinding tones aid in navigation to the pedestrian push button and to the far side of the street. Speech messages also aid sighted pedestrians by alerting them to the pedestrian signal indication changing from Don't Walk to Walk, reducing instances of late crossings. Messaging that includes street names aids in wayfinding and orientation.

Crash Type: P & B



Signalized Intersections with no marked crossing and pedestrian signal heads, where pedestrians are known to be crossing intersections that involve significant turning movements. They are especially important at intersections with (1) multiphase traffic signals, such as left-turn arrows and split phases, (2) school crossings, and (3) double-right or double-left turns. At signalized intersections, pedestrian crossings are often safer when the left turns have protected phases that do not overlap the pedestrian walk phase.



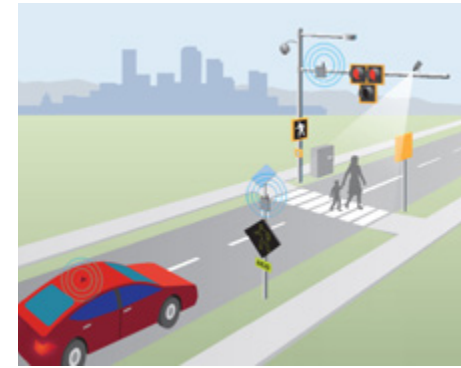
Pedestrian Scramble



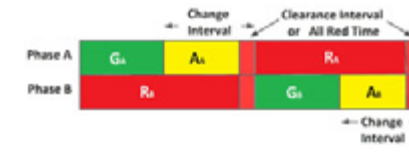
Install Advance Stop Bar Before Crosswalk



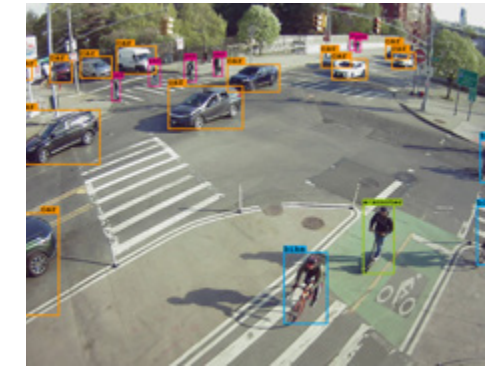
Bicycle Turn Box



Pushbutton-Activated Pedestrian Lighting System (PPLS)



All-Red Clearance Interval Extension



Near-Miss Video Analytics Platform

Crash Type: P & B

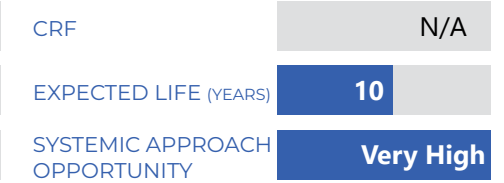
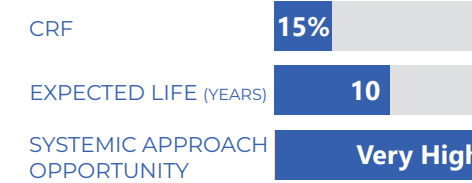
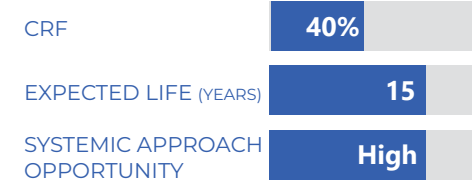
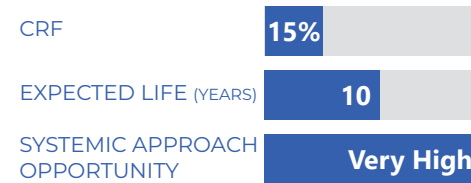
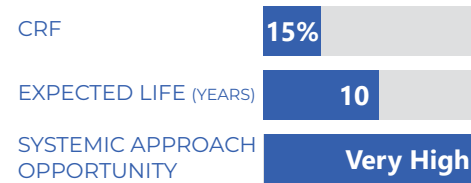
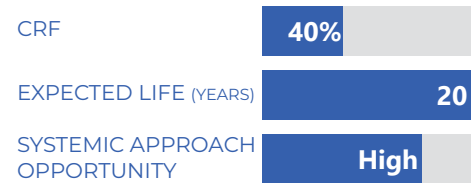
Crash Type: P & B

Crash Type: P & B

Crash Type: P & B / Nighttime

Crash Type: All

Crash Type: All



Pedestrian Scramble is a form of pedestrian "WALK" phase at a signalized intersection in which all vehicular traffic is required to stop, allowing pedestrians/bicyclists to safely cross through the intersection in any direction, including diagonally. Pedestrian Scramble may be considered at signalized intersections with very high pedestrian/bicycle volumes, e.g. in an urban business district.

Installing an advance stop bar before the crosswalk at signalized intersections with marked crossings, particularly where significant bicycle and/or pedestrian volumes are known to occur, helps to improve driver compliance with the red light and enhance pedestrian safety.

A designated, painted box at signalized intersections that offers bicyclists a multi-stage process to safely and more visibly make a left turn across an intersection from a bike lane.

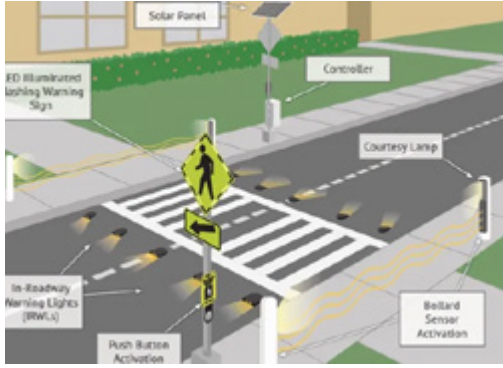
Overhead-mounted LED luminaires that activate upon pedestrian pushbutton press, providing targeted crosswalk illumination during pedestrian crossing phases. Unlike static intersection lighting, PPLS concentrates high-intensity illumination directly on the crosswalk zone only when a pedestrian is present, providing a dynamic visual cue to drivers that a pedestrian is actively crossing. Particularly effective at intersections with high percentages of nighttime or dark-condition pedestrian collisions. PPLS is most effective when integrated with APS and LPI timing to provide a coordinated pedestrian safety package.

Extending the all-red clearance interval adds additional time after one phase ends and before the conflicting phase begins, allowing vehicles that entered the intersection during the yellow change interval to clear before cross-traffic receives a green indication. This low-cost signal timing adjustment is particularly effective at wide intersections and locations with a high proportion of angle and red-light-running collisions. It can be implemented with existing signal hardware through controller programming changes only.

AI-powered video analytics platforms use computer vision and machine learning to continuously monitor intersection operations and detect near-miss events, traffic conflicts, and unsafe behaviors in real time. These systems analyze multimodal interactions between vehicles, pedestrians, and bicyclists to generate conflict heatmaps, identify root causes of recurring safety issues, and quantify risk before collisions occur. Near-miss analytics provide a proactive, data-driven foundation for selecting and prioritizing engineering countermeasures, validating the effectiveness of implemented safety treatments, and supporting grant applications with quantitative safety evidence. Systems can integrate with existing traffic cameras or deploy dedicated sensors, and typically include automated signal performance measures (ATSPM) and dashboard reporting capabilities.

Note: N/A refers to Not Applicable

NON-SIGNALIZED INTERSECTION COUNTERMEASURES



Advance Pedestrian Warning System (Activated)



Convert to all-way STOP control (from 2-way or Yield control)



Convert Intersection to Roundabout or Mini-Roundabout



Install/Upgrade Larger or Additional Stop Signs or Other Intersection Warning/Regulatory Signs

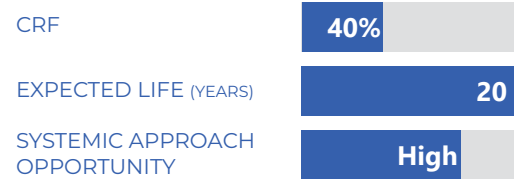


Upgrade Intersection Pavement Markings



Reduced Left-Turn Conflict Intersections

Crash Type: P & B



Advance pedestrian warning systems are activated signs installed upstream (typically 100–150 feet) of a marked crosswalk to alert approaching drivers that a pedestrian is actively in the crosswalk ahead. Activated by pushbutton, passive infrared detection, or radar-based pedestrian sensing, these systems display flashing W11-2 pedestrian warning signs with “AHEAD” or distance supplemental plaques and/or LED-enhanced border lighting. They are especially effective on multilane roads where a driver in a far travel lane may not see a pedestrian already crossing in front of a stopped vehicle in a near lane (the “multiple-threat” scenario). Per MUTCD guidance, advance RRFBs may also be installed upstream of the crosswalk to supplement the warning when sight distance is limited. These systems are applicable at both signalized and unsignalized crossings and are distinct from static pedestrian warning signs by providing a dynamic, real-time alert only when a pedestrian is present.

Crash Type: All



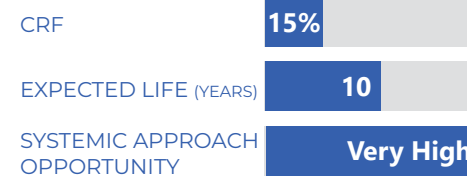
Unsignalized intersection locations that have a crash history and have no controls on the major roadway approaches. However, all-way stop control is suitable only at intersections with moderate and relatively balanced volume levels on the intersection approaches. Under other conditions, the use of all-way stop control may create unnecessary delays and aggressive driver behavior.

Crash Type: All



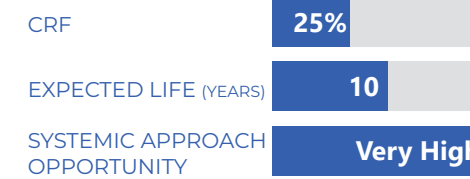
Intersections that have a high frequency of right-angle and left-turn type collisions. Whether such intersections have existing crash patterns or not, a roundabout provides an alternative to signalization. The primary target locations for roundabouts should be moderate-volume unsignalized intersections.

Crash Type: All



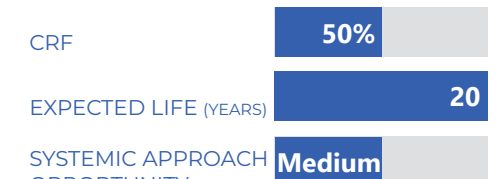
Installing/upgrading larger or additional stop signs or other intersection warning/regulatory signs at or prior to intersections will enhance the ability of approaching drivers to perceive them, improving driver awareness and reducing the risk of collisions.

Crash Type: All



Upgrading intersection pavement markings, which typically includes the addition of “Stop Ahead” markings, centerlines, and stop bars, can improve driver guidance, reduce confusion, and enhance overall safety at the intersection.

Crash Type: All



Reduced left-turn conflict intersections are geometric designs that alter how left-turn movements occur in order to simplify decisions and minimize the potential for related collisions. Two highly effective designs that rely on U-turns to complete certain left-turn movements are known as the restricted crossing U-turn (RCUT) and the median U-turn (MUT).

Note: N/A refers to Not Applicable



Improve Sight Distance to Intersection (Clear Sight Triangles)

Crash Type: All

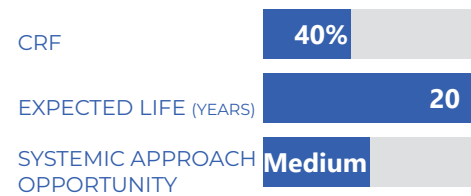


Unsignalized intersections with restricted sight distance and patterns of collisions related to lack of sight distance where sight distance can be improved by clearing roadside obstructions without major reconstruction of the roadway.



Install Splitter-Islands on The Minor Road Approaches

Crash Type: All

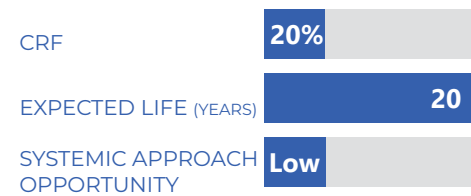


The installation of a splitter island allows for the addition of a stop sign in the median to make the intersection more conspicuous.



Install Right-Turn Lane

Crash Type: All

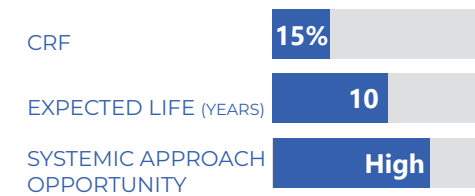


Many collisions at unsignalized intersections are related to right-turn maneuvers. A key strategy for minimizing such collisions is to provide exclusive right-turn lanes, particularly on high-volume and high-speed major-road approaches. When considering new right-turn lanes, potential impacts to non-motorized users should be considered and mitigated as appropriate.



Install Flashing Beacons at Stop-Controlled Intersections

Crash Type: All

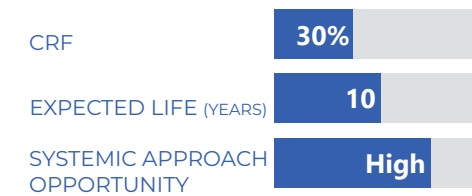


Flashing beacons can reinforce driver awareness of the Non-Signalized intersection control and can help mitigate patterns of right-angle collisions related to stop sign violations. Post-mounted advanced flashing beacons or overhead flashing beacons can be used at stop-controlled intersections to supplement and call driver attention to stop signs.



Install Flashing Beacons as Advance Warning

Crash Type: All

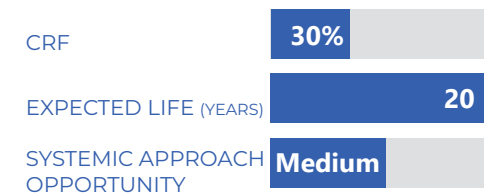


Installing flashing beacons as advance warning, such as yellow beacons, to call drivers' attention to intersection control signs, provides increased visual cues and improves driver awareness of upcoming intersections.



Curb Extensions/Bulb-outs

Crash Type: Pedestrian



Curb Extensions (also called Bulb-outs) extend the sidewalk into the parking lane at intersections, narrowing the effective street width and shortening pedestrian crossing distances. This countermeasure improves pedestrian visibility by positioning waiting pedestrians at the edge of the parking lane, slows turning vehicle speeds by reducing corner radii, and reduces pedestrian exposure time when crossing the roadway. Bulb-outs also provide additional space for accessible curb ramps and prevent parking encroachment on crosswalks.



Install/Upgrade Pedestrian Crossing at Uncontrolled Locations (with Enhanced Safety Features)

Crash Type: P & B

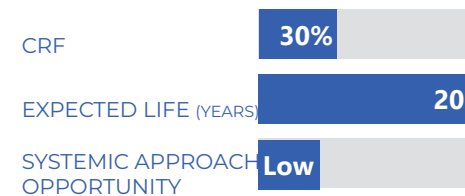


Installing/upgrading pedestrian crossings at uncontrolled locations with enhanced safety features, such as flashing beacons, curb extensions, advanced “stop” or “yield” markings, and other safety features, at locations where pedestrians are known to cross intersections with significant vehicular traffic, particularly at school crossings and intersections with turn pockets, improves pedestrian safety by providing designated crossing areas and enhancing driver awareness.



Install Traffic Signals

Crash Type: All

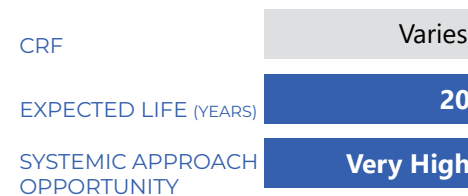


Installing traffic signals at unsignalized intersections or locations with high traffic volumes and complex movements can improve traffic flow, reduce congestion, and enhance safety for all road users.



Install Traffic Circles

Crash Type: All

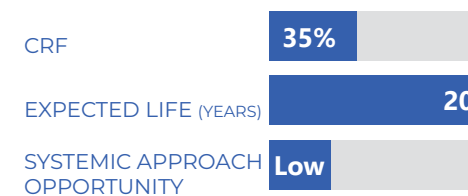


Install traffic circles at intersections to reduce vehicle speeds and conflict points. This treatment improves safety by lowering the likelihood and severity of angle and speed-related collisions while maintaining continuous traffic flow.



Install Left-Turn Lane (Where No Left-Turn Lane Exists)

Crash Type: All

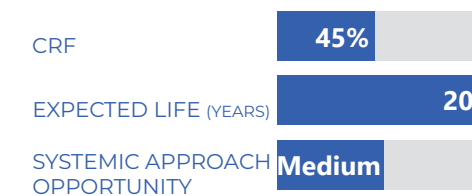


Many collisions at unsignalized intersections are related to left-turn maneuvers. A key strategy for minimizing such collisions is to provide exclusive left-turn lanes, particularly on high-volume and high-speed major-road approaches. When considering new left-turn lanes, potential impacts to non-motorized users should be considered and mitigated as appropriate.



Install Raised Medians / Refuge Islands

Crash Type: P & B

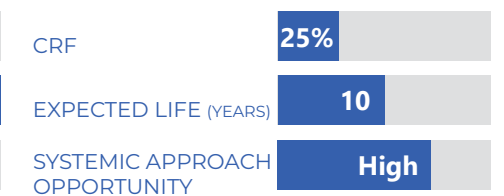


Intersections that have a long pedestrian crossing distance, a higher number of pedestrians, or a crash history may benefit from the installation of raised medians/ refuge islands. Raised medians/refuge islands decrease the level of exposure for pedestrians and allow pedestrians to concentrate on (or cross) only one direction of traffic at a time.



Install Pedestrian Crossing at Uncontrolled Locations

Crash Type: P & B



Installing pedestrian crossings at uncontrolled locations where pedestrians are known to cross intersections involving significant vehicular traffic, particularly at school crossings and intersections with right and/or left-turn pockets, improves pedestrian safety by providing designated crossing areas and enhancing driver awareness.

ROADWAY SEGMENT COUNTERMEASURES



Add Segment Lighting

Install Chicanes

Diagonal Parking

Install Raised Median

Install Median (Flush)

Green Pavement for Bicycle Facilities

Crash Type: Night

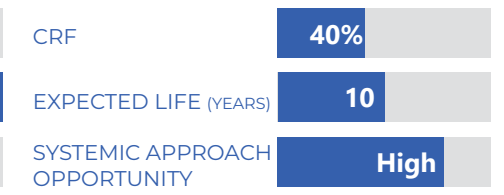
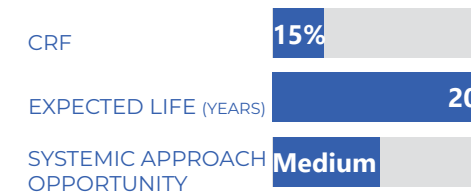
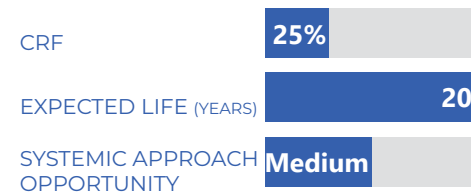
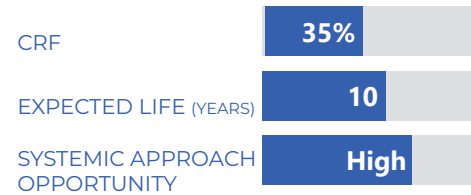
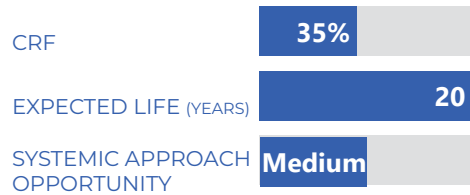
Crash Type: All

Crash Type: All

Crash Type: All

Crash Type: All

Crash Type: Bicycle



Adding segment lighting along roadways improves visibility for all road users, especially during nighttime and low-visibility conditions, enhancing safety and reducing the risk of collisions.

Installing chicanes, which introduce alternating horizontal deflection in the roadway through curb extensions, islands, or other physical features, helps reduce vehicle speeds and improve driver attentiveness. This treatment is particularly effective on local and collector streets with speeding concerns or cut-through traffic. By requiring drivers to navigate a slight side-to-side alignment, chicanes discourage high-speed travel, enhance neighborhood livability, and reduce the likelihood and severity of speed-related collisions.

On-street parking stalls are painted diagonally to the street roadway in order to reduce the width of the road.

Areas experiencing head-on collisions that may be affected by both the number of vehicles that cross the centerline and by the speed of oncoming vehicles. Installing a raised median is a more restrictive approach in that it represents a more rigid barrier between opposing traffic.

Areas experiencing head-on collisions that may be affected by both the number of vehicles that cross the centerline and by the speed of oncoming vehicles. Roadways with oversized lanes offer an opportunity to restripe the roadway to reduce the lanes to standard widths and use the extra width for the median.

This is an easy to maintain, cost effective measure, created with paint, epoxy, thermoplastic, or colored asphalt used to designate bike lanes, bike boxes, bike conflict zones or intersection crossings.



Turn movement Restrictions

Refresh of Current Signage

Portable Speed Feedback Trailer

Install centerline rumble strips/stripes

Install Rectangular Rapid Flashing Beacon (RRFB)

Install Pedestrian Crossing at Uncontrolled Locations

Crash Type: All

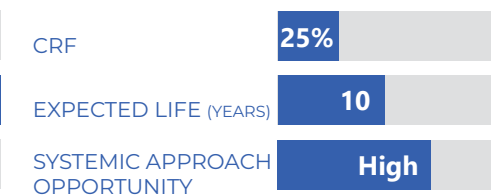
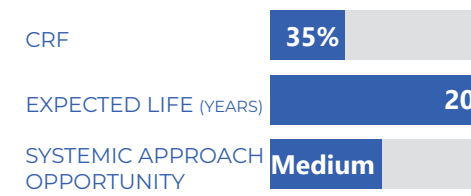
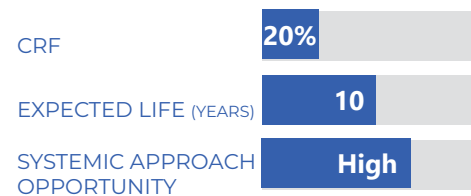
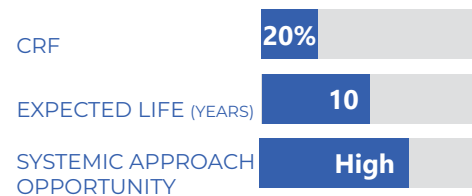
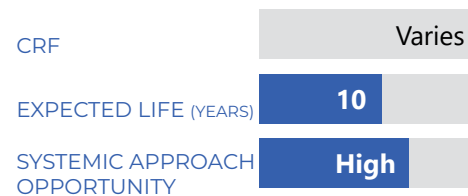
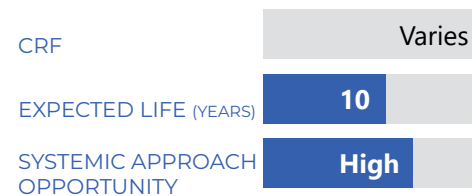
Crash Type: All

Crash Type: All

Crash Type: All

Crash Type: P & B

Crash Type: P & B



Traffic signs are installed to prevent undesired turning movements.

Faded/old traffic signs are replaced.

A speed feedback trailer is temporarily placed along a street segment to remind drivers to watch their speed.

Center Line rumble strips/stripes can be used on virtually any roadway especially those with a history of head-on collisions.

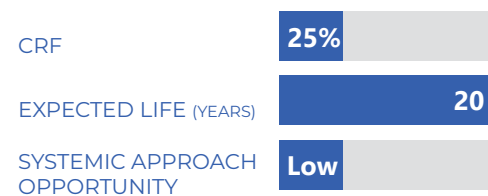
Rectangular Rapid Flashing Beacon (RRFB) includes pedestrian-activated flashing lights and additional signage that enhance the visibility of marked crosswalks and alert motorists to pedestrian crossings. RRFB uses an irregular flash pattern that is similar to emergency flashers on police vehicles. RRFBs can be installed at unsignalized intersections and mid-block pedestrian crossings.

Installing pedestrian crossings at uncontrolled locations where pedestrians are known to cross intersections involving significant vehicular traffic, particularly at school crossings and intersections with right and/or left-turn pockets, improves pedestrian safety by providing designated crossing areas and enhancing driver awareness.



Install Acceleration/Deceleration Lanes

Crash Type: All



Areas proven to have collisions that are the result of drivers not being able to turn onto a high speed roadway to accelerate until the desired roadway speed is reached and areas that do not provide the opportunity to safely decelerate to negotiate a turning movement.



Improve Horizontal Alignment (Flatten Curves)

Crash Type: All

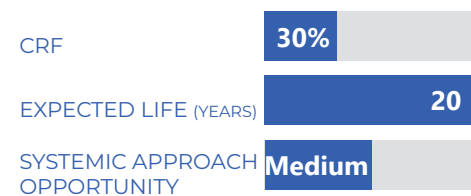


Roadways with horizontal curves that have experienced lane departure collisions as a result of a roadway segment having compound curves or a severe radius. This strategy should generally be considered only when less expensive strategies involving clearing of specific sight obstructions or modifying traffic control devices have been tried and have failed to ameliorate the crash patterns.



Add Two-Way Left-Turn Lane

Crash Type: All



Roadways having a high frequency of drivers being rear-ended while attempting to make a left turn across oncoming traffic. Also can be effective for drivers crossing the centerline of an undivided multilane roadway inadvertently.



Install Pedestrian Signal (including Pedestrian Hybrid Beacon (HAWK))

Crash Type: P & B

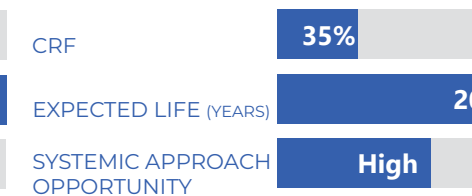


Intersections noted as having a history of pedestrian vs. vehicle collisions and in areas where the likelihood of the pedestrian presence is high. Corridors should also be assessed to determine if there are adequate safe opportunities for non-motorists to cross and if a pedestrian signal, or a Pedestrian Hybrid Beacon (PHB) (also called High-Intensity Activated crossWalk beacon (HAWK)) are needed to provide an active warning to motorists when a pedestrian is in the crosswalk.

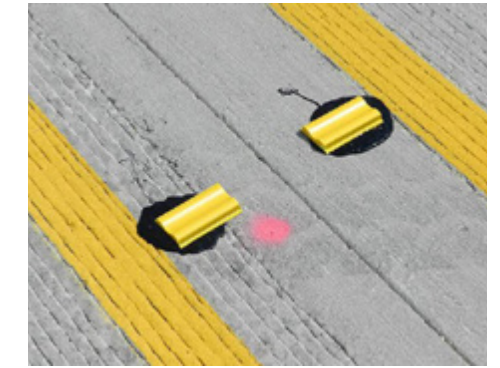


Remove Or Relocate Fixed Objects Outside of Clear Recovery Zone

Crash Type: All

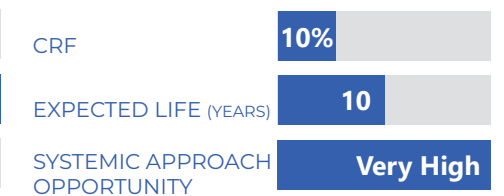


Removing or relocating fixed objects outside of the Clear Recovery Zone, such as utility poles, drainage structures, trees, and other fixed objects, from locations or roadway segments prone to collisions, including the outside of curves, end of lane drops, and within traffic islands, can significantly reduce the severity of run-off-road collisions. Where public right-of-way is limited, steps should be taken to request assistance from property owners, as appropriate.



Install Raised Pavement Markers & Striping

Crash Type: All



When drivers approach and traverse through complex intersections, drivers may be required to perform unusual or unexpected maneuvers, so adding raised pavement markings and striping can guide motorists through complex intersections safely.



Install Curve Advance Warning Signs



Install Curve Advance Warning Signs (Flashing Beacon)



Improve Pavement Friction (High Friction Surface Treatments)



New/Enhanced Traffic Control Signage

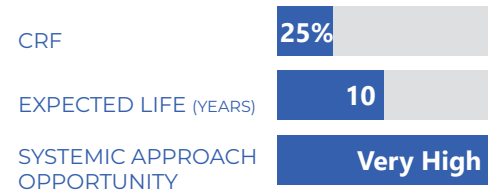


Install/Upgrade Signs with New Fluorescent Sheeting (Regulatory or Warning)



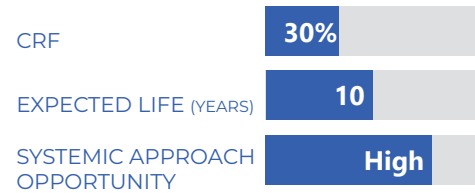
Install Chevron Signs on Horizontal Curves

Crash Type: All



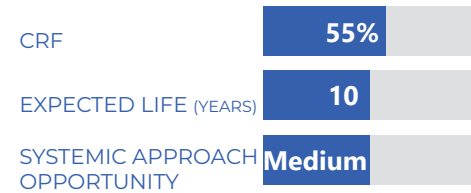
Installing curve advance warning signs, which may also include horizontal alignment and/or advisory speed warning signs, can improve driver awareness of upcoming curves and help prevent run-off-road collisions.

Crash Type: All



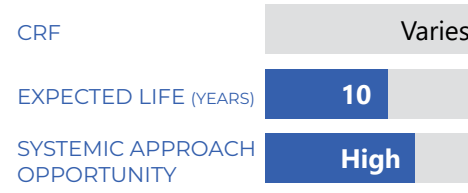
Installing curve advance warning signs with flashing beacons on roadways with an unacceptable level of collisions on relatively sharp curves can improve driver awareness and reduce the risk of run-off-road collisions. However, the use of flashing beacons should be limited to curves with a severe crash history to maintain their effectiveness.

Crash Type: All



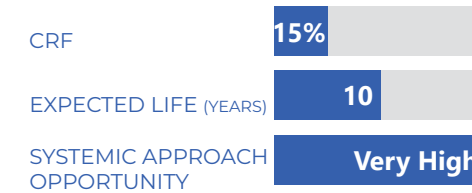
Improving pavement friction with High Friction Surface Treatments can enhance skid resistance at locations with high frequencies of wet road collisions, potentially addressing collisions caused by a failure to stop.

Crash Type: All



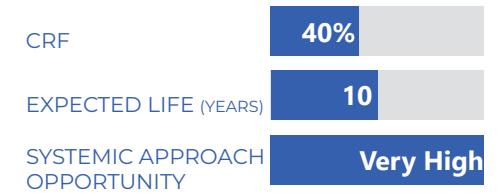
Traffic control signage, such as truck restriction signs, is installed along a street segment.

Crash Type: All



Additional or new signage with fluorescent sheeting can address collisions caused by lack of driver awareness or compliance of roadway signing, especially at night.

Crash Type: All



Installing chevron signs on roadways with an unacceptable level of collisions on relatively sharp curves during periods of light and darkness can improve driver awareness of upcoming curves and help prevent run-off-road collisions.



Reduced Speed School Zone



Speed Cushions, Speed Humps and Speed Tables



Install Edge Line Rumble Strips / Stripes



Vehicle Speed Feedback Sign

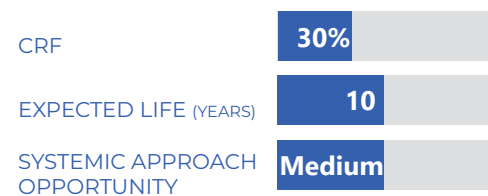


Install Delineators, Reflectors & Object Markers



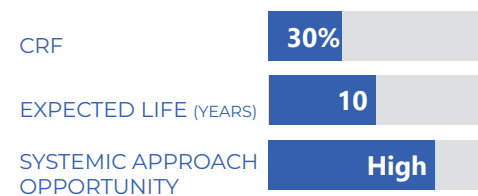
Install Edge Lines & Centerlines

Crash Type: All



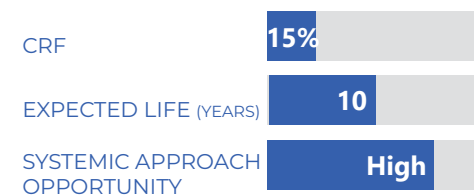
Reduction in speed limits in school zones brings significant safety benefits by reducing vehicular speeds and fatal and injury collisions.

Crash Type: All



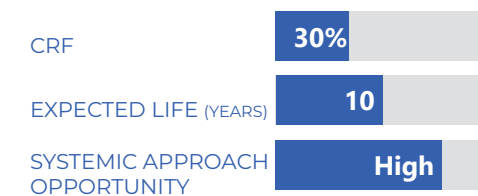
Speed tables are extended and wide speed humps with a flat top that may include a pedestrian crossing. Speed cushions are traffic calming devices that reduce vehicle speeds, and can be speed humps or speed tables with wheel cutouts for large vehicles. They are often used on emergency response routes.

Crash Type: All



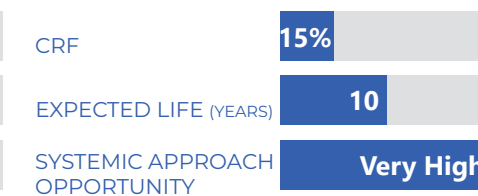
Shoulder and edge line milled rumble strips/stripes should be used on roads with a history of roadway departure collisions.

Crash Type: All



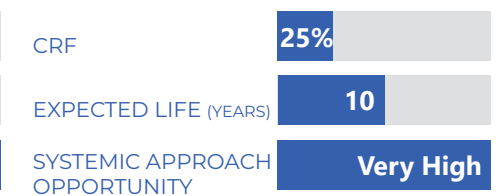
With the goal of improving drivers speed compliance while making streets safe, vehicle speed feedback signs use radar to ascertain the speed of the vehicle and provide information through LED signs.

Crash Type: All



Installation of delineators, reflectors and/or object markers are intended to warn drivers of an approaching curve or fixed object that cannot easily be removed.

Crash Type: All



Any road with a history of run-off-road right, head-on, opposite-direction-sideswipe, or run-off-road-left collisions is a candidate for edge line or centerlines should be installed where the existing lane delineation is not sufficient to assist the motorist in understanding the existing limits of the roadway. Depending on the width of the roadway, various combinations of edge line and/or center line pavement markings may be the most appropriate.



**Install Sidewalk / Pathway
(to Avoid Walking along
Roadway)**

Crash Type: P & B

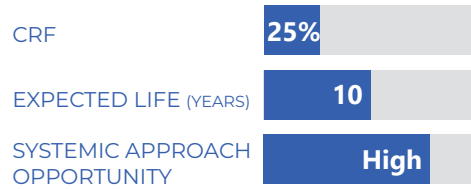


Areas noted as not having adequate or no sidewalks and a history of walking along roadway pedestrian collisions. In rural areas asphalt curbs and/or separated walkways may be appropriate.



Mid-Block Crosswalks

Crash Type: P & B

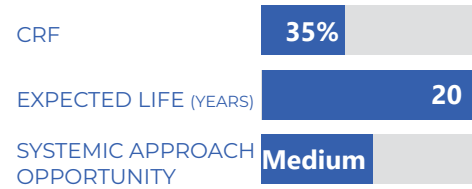


When incorporated with a pedestrian refuge island and appropriate signage and advance warning, mid-block crossings may increase safety by decreasing random and unexpected pedestrian crossings while allowing drivers to predict and expect pedestrian traffic.



**Install Raised Pedestrian
Crossing**

Crash Type: P & B

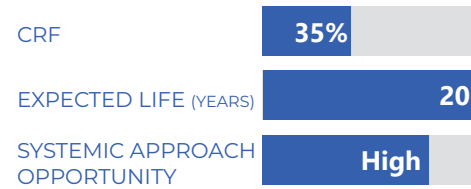


Installing raised pedestrian crossings on lower-speed roadways where pedestrians are known to be crossing roadways involving significant vehicular traffic can improve pedestrian visibility, slow traffic, and reduce the risk of pedestrian-vehicle collisions.



Install Bike Lanes

Crash Type: P & B

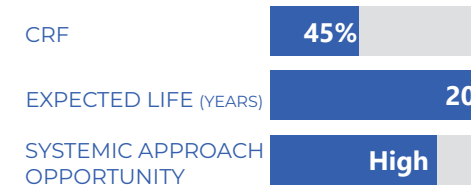


Installing bike lanes on roadway segments noted as having collisions between bicycles and vehicles, or collisions that may be preventable with a buffer/shoulder, can significantly improve bicycle safety and reduce the risk of these types of collisions.



Install Separated Bike Lanes

Crash Type: P & B



Separated bike lanes are most appropriate on streets with high volumes of bike traffic and/or high bike-vehicle collisions, typically in an urban or suburban area. Separation types range from simple, painted buffers and flexible delineators, to more substantial separation measures including raised curbs, grade separation, bollards, planters, and parking lanes.

**ADDITIONAL
COUNTERMEASURES**



Safe Routes Programs

Crash Type: All

Implement additional Safe Routes educational programming to include Safe Routes to Parks, Safe Routes for Seniors and Safe Routes for People with Disabilities to prioritize vulnerable population.



Community Partnership

Crash Type: All

Partner with School District to distribute targeted Vision Zero messaging for students and employees.



Vision Zero Training Manual

Crash Type: All

Develop a Vision Zero Training Manual and integrate Vision Zero traffic safety awareness and education into training employees who drive City vehicles on a daily basis or drive while on City business.



Share the Road Awareness Program

Crash Type: All

Create a Share the Road Awareness Program for motorists, bicyclists and pedestrians that is easily accessible.



Alcohol Use Disorder (AUD) Assessment & Treatment Programs

Crash Type: All

Long-term, tailored, and specialized treatment programs can serve as an opportunity to assess drinking habits and refer them for brief interventions or specialized treatment.



Targeted Enforcement

Crash Type: All

Police traffic officer patrols a location to monitor for speeding/unsafe driving.



Corridor Access Management

Crash Type: All

Access management refers to the design, application, and control of entry and exit points along a roadway. This includes intersections with other roads and driveways that serve adjacent properties.



High Visibility Enforcement

Crash Type: All

Direct traffic enforcement efforts to prioritize the most critical high-injury corridors identified in the City's Vision Zero Action Plan. Concentrate enforcement activities in areas of City where engineering and educational initiatives have already been implemented.



Appropriate Speed Limits for All Road Users

Crash Type: All

There is broad consensus among global roadway safety experts that speed control is one of the most important methods for reducing fatalities and serious injuries. Speed is an especially important factor on non-limited access roadways where vehicles and vulnerable road users mix.



Traffic Safety Diversion Program

Crash Type: All

Design a traffic safety diversion program specifically for bicycle and pedestrian traffic violations, with the primary goal of facilitating access to safety courses and programs centered on biking and walking.



Educational Initiatives over Citations

Crash Type: All

Prioritize educational initiatives while issuing citations during traffic enforcement by actively seeking opportunities to provide educational resources. This counter measurement's expected lifespan is 20 years.



Educational Campaign

Crash Type: All

Create and actively implement a branding, promotional, and educational campaign for Vision Zero to enhance knowledge and understanding of its principles. Work together with community organizations to distribute materials, spread messages, and organize public events that promote active transportation and transit as responsible choices.



Safe Routes to School Program

Crash Type: All

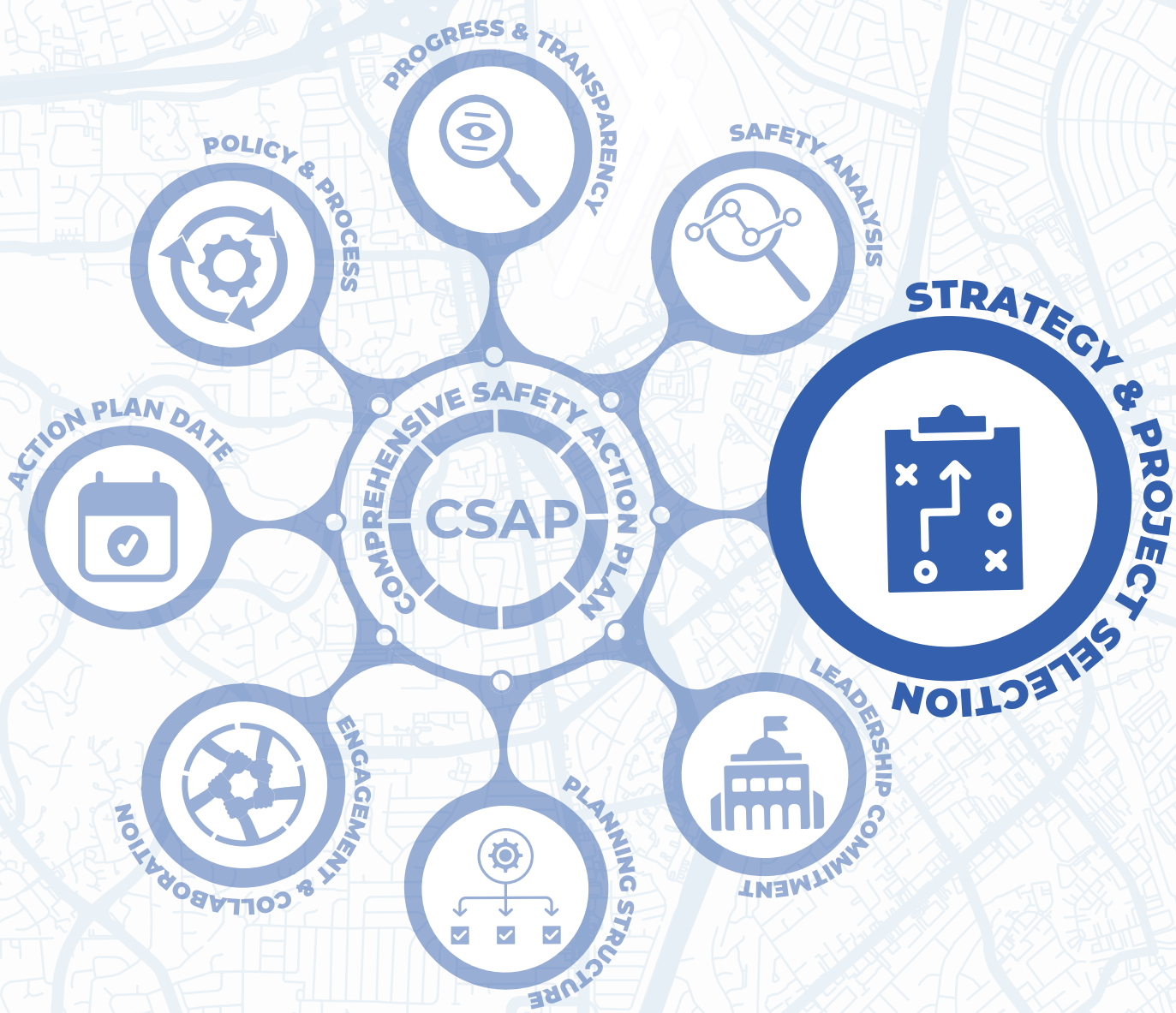
Expand the Safe Routes to School Program to include Vision Zero Training material for students, parents and teachers.



Rapid Response Safety Communication Protocol

Crash Type: All

Create a Rapid Response Safety Communication Protocol for Vision Zero. Implement a communication plan that addresses recent severe and fatal collisions, with a specific focus on promoting traffic safety and health-conscious behaviors to the community.



CONCORD

Comprehensive Safety Action Plan



CHAPTER SIX

Safety Projects

This chapter outlines a comprehensive, data-driven strategy to reduce traffic collisions, including fatalities and serious injuries within the City of Concord. Guided by the principles of the Safe System approach and informed by detailed collision analysis covering the period from January 2021 through December 2025, the recommended projects translate identified safety challenges into targeted, implementable improvements.

The proposed location-specific countermeasures respond directly to documented collision trends, including a high incidence of broadside and rear-end collisions, unsafe speed-related violations, vehicle-pedestrian conflicts, nighttime visibility concerns, and traffic signal and/or sign violations at both signalized and unsignalized intersections. These recommendations also reflect priorities identified through stakeholder engagement and community feedback.

To effectively address these safety challenges, the CSAP organizes recommended improvements into two categories:



Systemic Projects



Design Projects

Together, these approaches provide a balanced framework that addresses both widespread risk factors across the transportation network and location-specific collision patterns along high-injury corridors and intersections. This strategy enables the City to strengthen overall network safety while prioritizing investments in areas where they will have the greatest impact.

The Concord Comprehensive Safety Action Plan (CSAP) identifies 16 proposed projects organized into four categories: High Injury Network (HIN) Corridor Improvements, Complete Streets and Active Transportation, Citywide Safety Programs, and Planning and Policy Initiatives. These projects are designed to address collision patterns observed citywide during the study period, with a focus on corridors and locations where injury data indicates elevated risk for all roadway users.

All projects are conceptual and will require further feasibility analysis, preliminary engineering, and environmental review to define final scope, design, and cost. Implementation is contingent upon securing funding for both design and construction phases, and project prioritization may evolve based on additional technical analysis, community input, and emerging funding opportunities.

SYSTEMIC PROJECTS

Systemic projects consist of citywide initiatives designed to address recurring collision risk factors through consistent improvements across the transportation network. Rather than focusing on individual locations, these projects target common deficiencies that contribute to collisions throughout the city, such as pedestrian safety at signalized intersections and gaps in sidewalk infrastructure.

In Concord, systemic projects were identified based on recurring collision patterns observed in the five-year collision analysis. Community input reinforced these findings, with residents highlighting concerns related to pedestrian safety at signalized intersections and the need for improved and continuous sidewalks.

The systemic projects recommended in this CSAP include:

- 11 Citywide Pedestrian Sidewalk Improvements**
- 12 Citywide Pedestrian Signal Improvements**

DESIGN PROJECTS

While systemic projects address network-wide risks, design projects focus on specific corridors and intersections where collision concentrations and operational challenges are more pronounced. These targeted improvements respond to unique roadway conditions, traffic patterns, surrounding land uses, and multimodal travel demands.

Design projects were identified through a detailed evaluation of collision history, roadway characteristics, and community-identified safety concerns. High-injury corridors and areas near schools were prioritized due to their disproportionate share of severe collisions and their critical role within the City's transportation network.

The design projects recommended in this CSAP include:

- 1 High Injury Corridor Improvements**
(Monument Boulevard, Concord Avenue, Galindo Street, Willow Pass Road, Clayton Road)
- 2 Complete Streets Construction**
(Cowell Road and Galindo Street)

- 3** Safe Routes to School Improvements
- 4** Bicycle Safety Improvements at High Injury Network Corridors
- 5** Concord Boulevard Safety Improvements
- 6** Port Chicago Highway Safety Improvements
- 7** Willow Pass Road Northern Portion Improvements
- 8** Treat Boulevard Safety Improvements
- 9** Oak Grove Road Safety Improvements
- 10** Ygnacio Valley Road and Kirker Pass Road Safety Improvements

These corridors and locations account for a significant share of injury and KSI (Killed or Seriously Injured) collisions within the City. Corridors identified along the High Injury Network represent a disproportionate share of all KSI collisions citywide, underscoring the need for focused safety investments.

Unlike systemic projects, which address risks across the broader network, design projects deliver targeted solutions at locations where data indicates elevated safety risks. These interventions aim to reduce both the frequency and severity of collisions while improving accessibility, connectivity, and overall user comfort.



INTEGRATED SAFETY STRATEGY

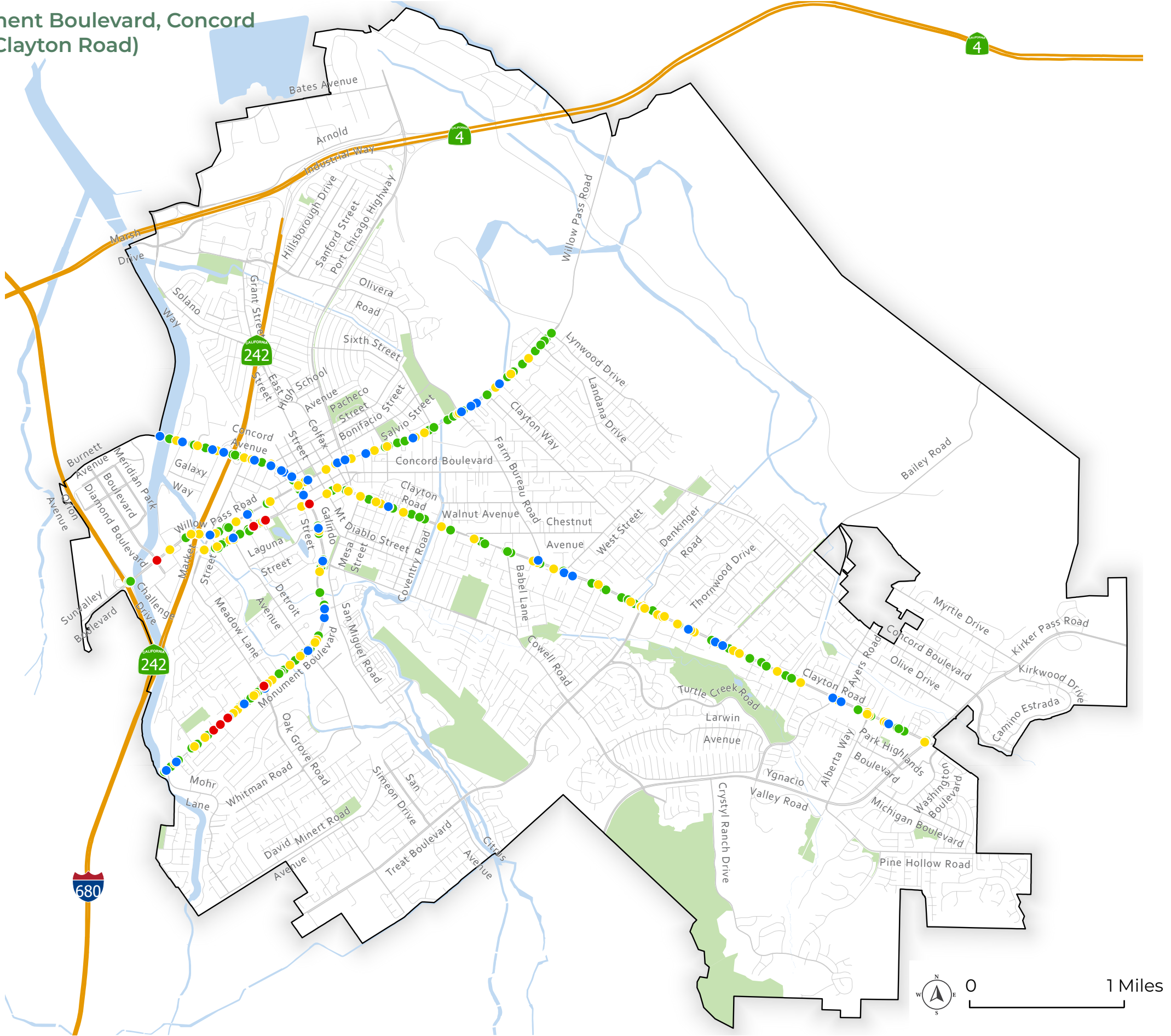
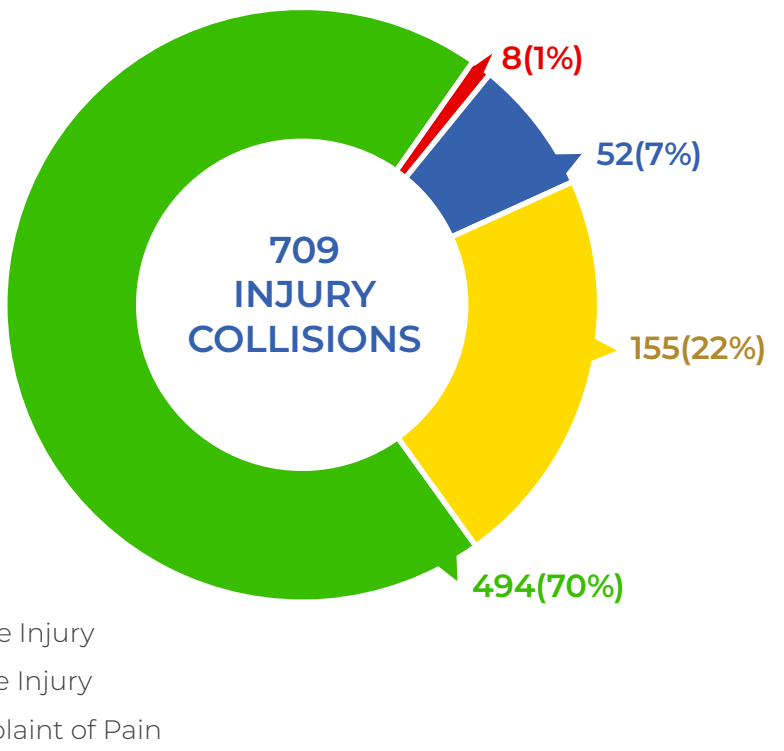
Together, systemic and design projects form a comprehensive safety framework for the City of Concord. Systemic projects address widespread collision risk factors across the transportation network, while design projects focus resources on high-injury corridors and intersections with documented safety concerns.

This integrated strategy ensures that safety investments are both proactive and responsive. Systemic improvements aim to prevent future collisions by addressing common roadway deficiencies, while design projects target locations with a demonstrated history of collisions. By combining detailed data analysis, engineering best practices, and community input, the City establishes a strategic roadmap for reducing fatalities and serious injuries across the transportation network.

1

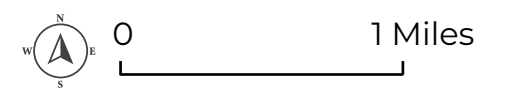
High Injury Corridor Improvements (Monument Boulevard, Concord Avenue, Galindo Street, Willow Pass Road, Clayton Road)

Project 1 would deliver targeted safety improvements along five HIN-priority corridors: Clayton Road (SR-242 to Washington Boulevard), Monument Boulevard (Cowell Road to Mohr Lane), Willow Pass Road (I-680 to Avila Road), Concord Avenue (John Glenn Drive to Salvio Street), and Galindo Street (Salvio Street to Cowell Road). Potential improvements identified for further design evaluation include speed feedback signs, enhanced street and intersection lighting, pedestrian passive detection, leading pedestrian intervals (LPI), high-visibility crosswalks, ADA-compliant curb ramps, curb reconfiguration, sidewalk gap closures, access management medians, high-friction surface treatment (HFST), intersection safety analytics, protected intersection design, connected vehicle (C-V2X) technology, and emergency vehicle preemption (EVP GPS) at priority intersections. Collectively, these five corridors are associated with 687 injury collisions over the study period, including 8 fatalities and 52 severe injuries.

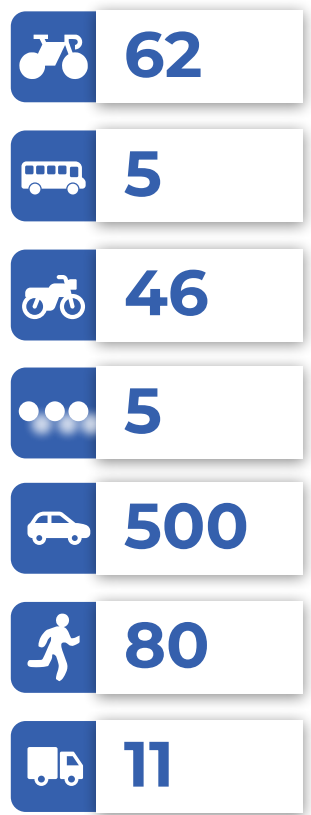


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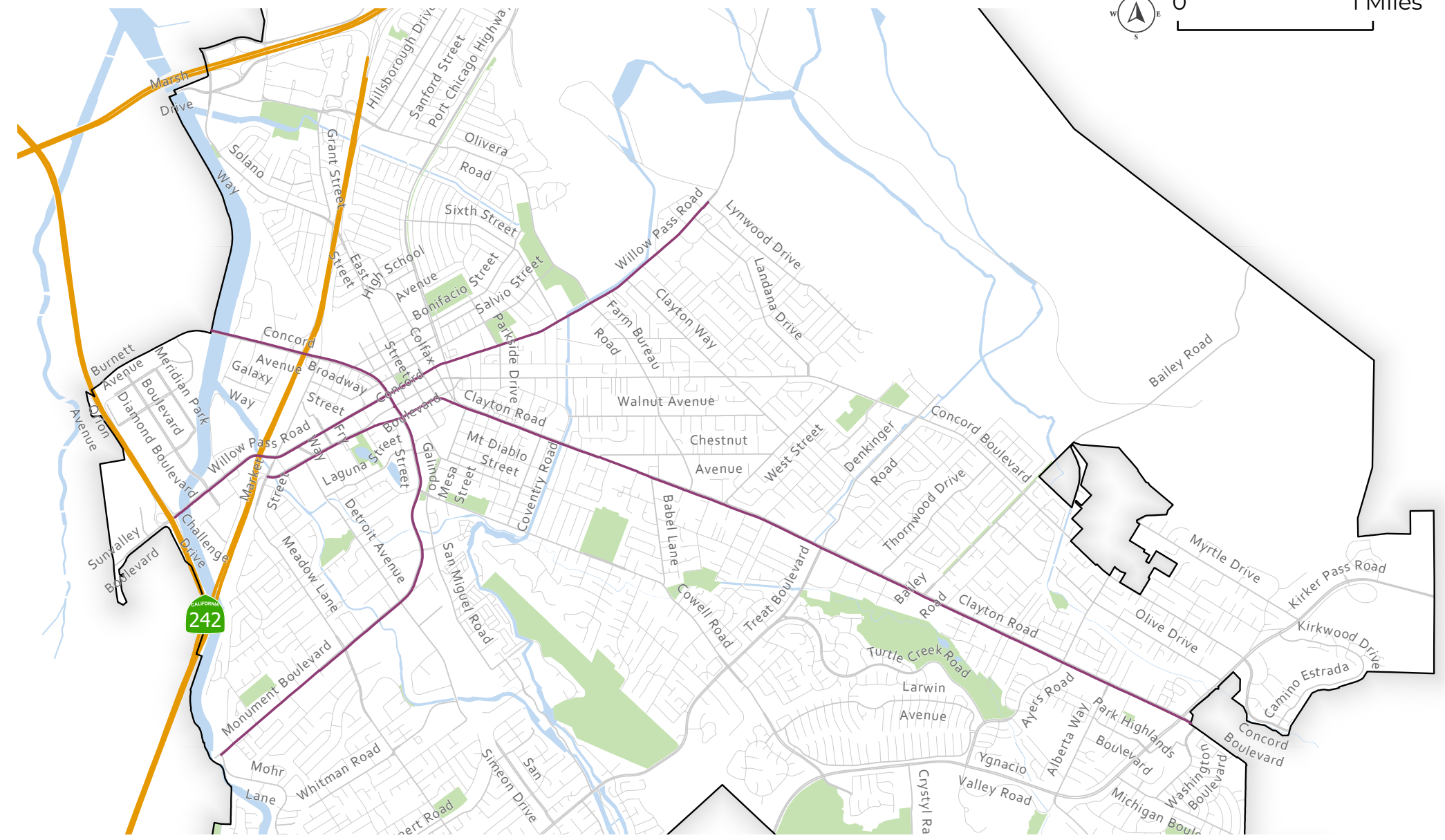
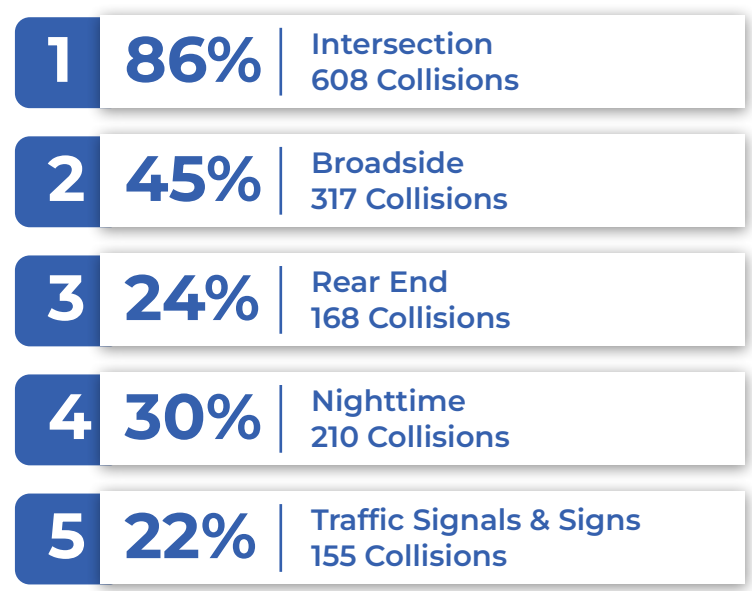
High Injury Corridor Improvements (Monument Boulevard, Concord Avenue, Galindo Street, Willow Pass Road, Clayton Road)



MODE



COLLISION TRENDS

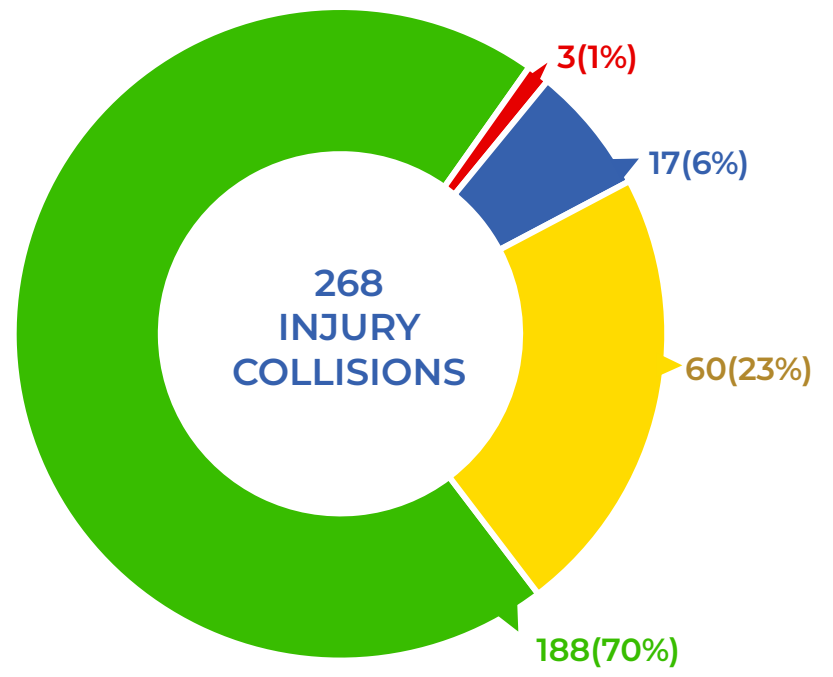


IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Clayton Rd Safety Improvements	Clayton Rd: SR-242 to Washington Boulevard	\$5,497,100
Monument Boulevard Safety Improvements	Monument Boulevard: Cowell Road to Mohr Lane	\$2,609,700
Willow Pass Rd Safety Improvements	Willow Pass Rd: I-680 to Avila Road	\$2,003,000
Concord Ave Safety Improvements	Concord Ave: John Glenn Drive to Salvio Street	\$1,146,400
Galindo St Safety Improvements	Galindo St: Salvio St to Cowell Rd	\$3,234,500
Contingency Cost		\$2,898,000
Engineering Cost		\$5,216,000
Total Cost		\$22,605,000

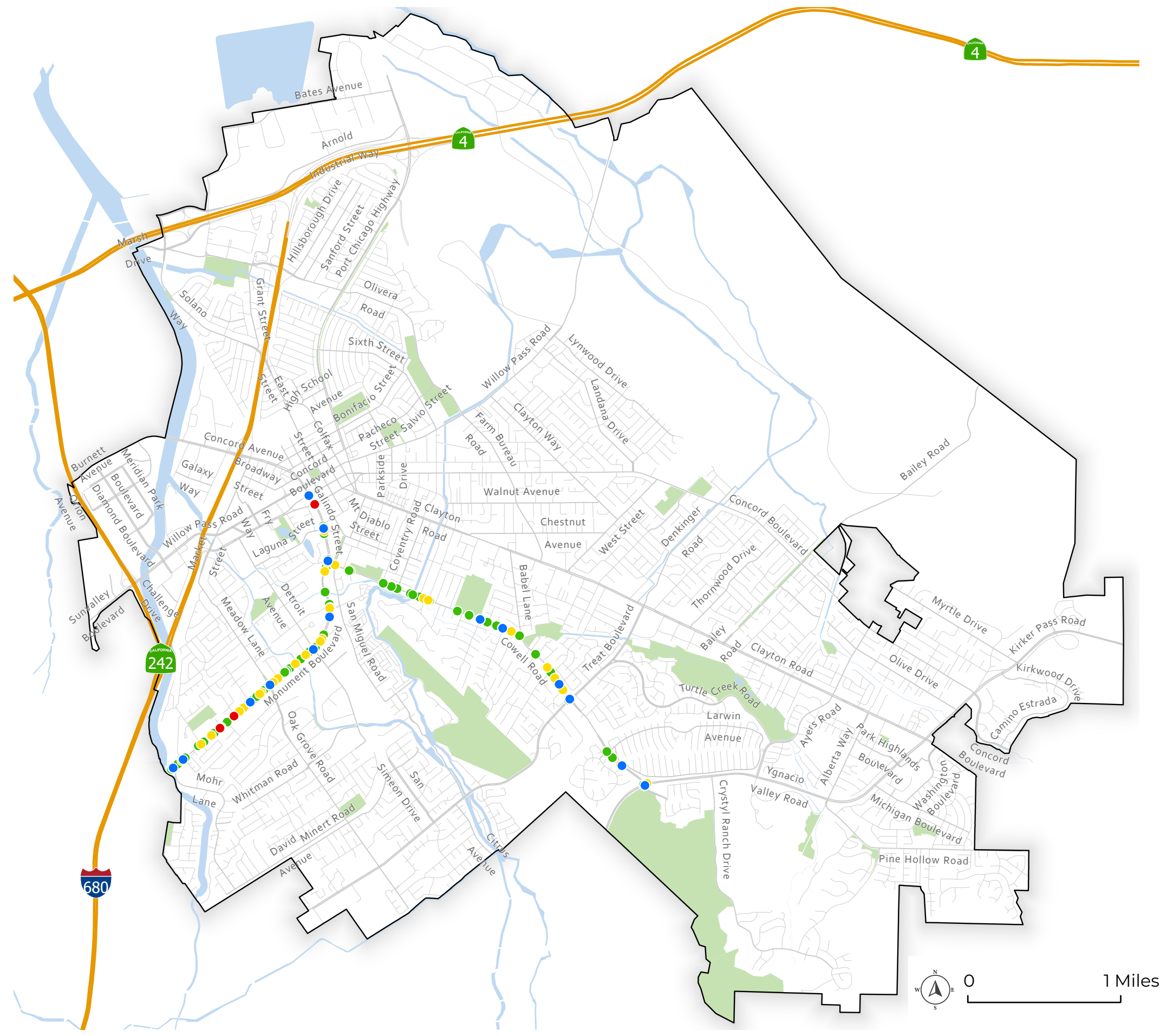


2 Complete Streets Construction (Cowell Road and Galindo Street)

Project 2 would advance the design and potential construction of complete street improvements on three corridors: Monument Boulevard (Iron Horse Trail to Walters Way), Cowell Road (Monument Boulevard to Ygnacio Valley Road), and Galindo Street (Concord Boulevard to Cowell Road), building on an existing feasibility study. Potential improvements include bicycle and pedestrian safety enhancements and transit connection and circulation improvements, with prioritization informed by proximity to schools and parks.



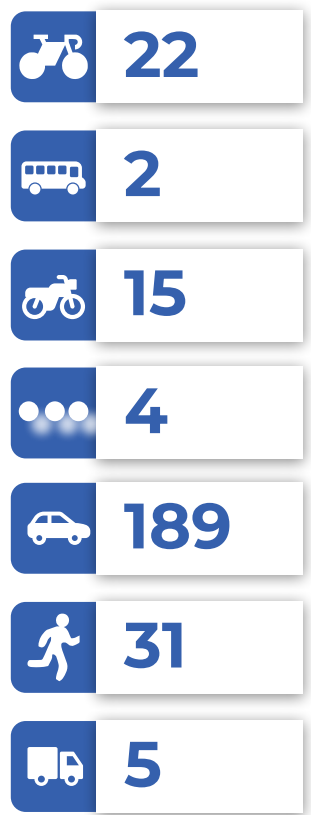
- Fatal
- Severe Injury
- Visible Injury
- Complaint of Pain



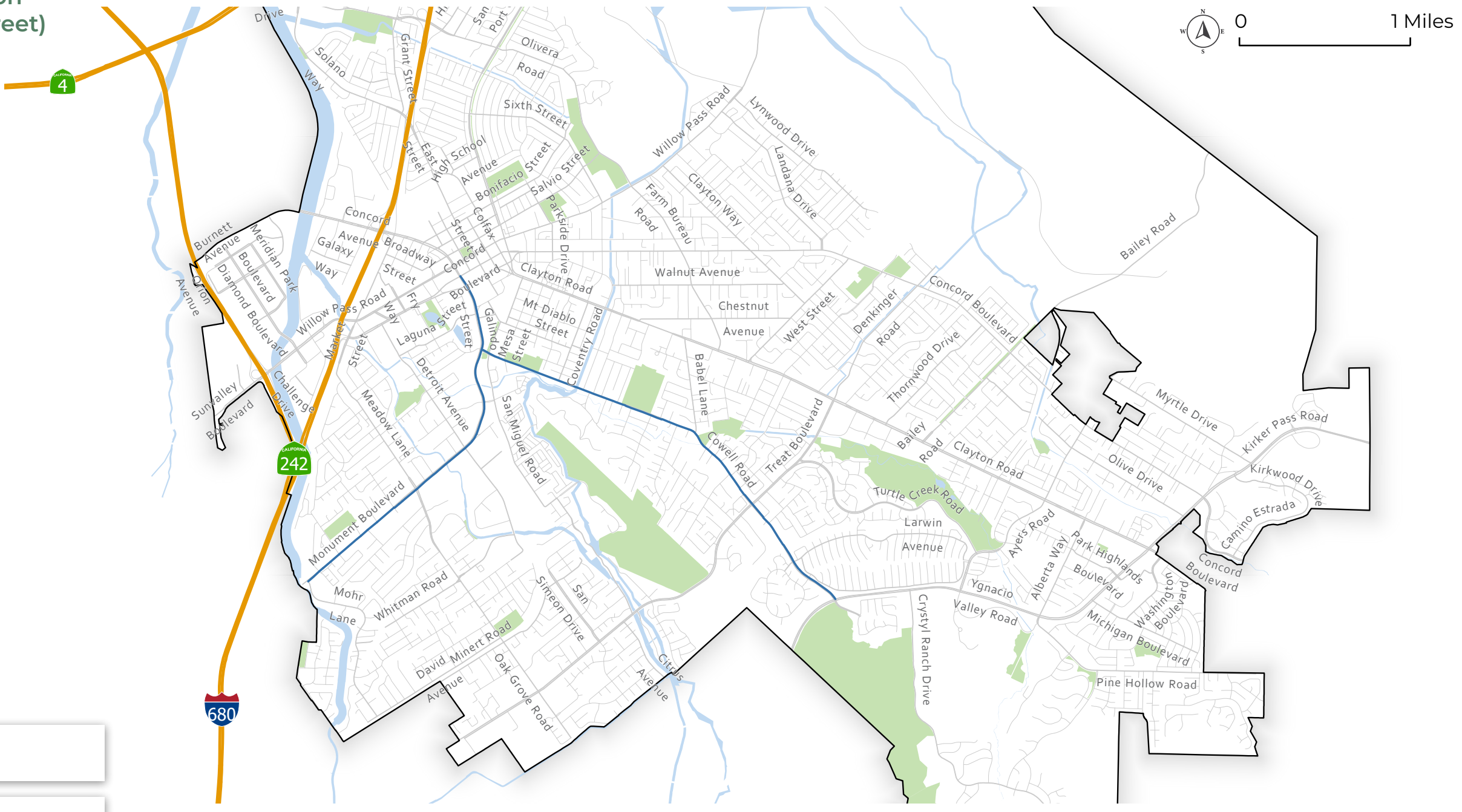
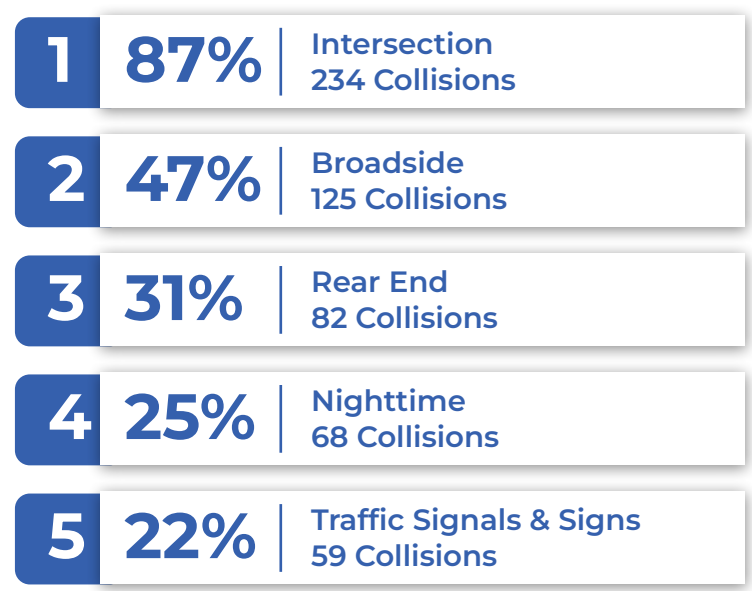
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Complete Streets Construction (Cowell Road and Galindo Street)

MODE



COLLISION TRENDS



IMPROVEMENTS

- Cowell Rd Complete Streets Improvements
- Monument Boulevard Complete Streets Improvements
- Galindo St Complete Streets Improvements

LOCATIONS

- Cowell Rd: Monument Boulevard to Ygnacio Valley Road
- Monument Boulevard: Cowell Road to Mohr Lane
- Galindo Street: Concord Boulevard to Cowell Road

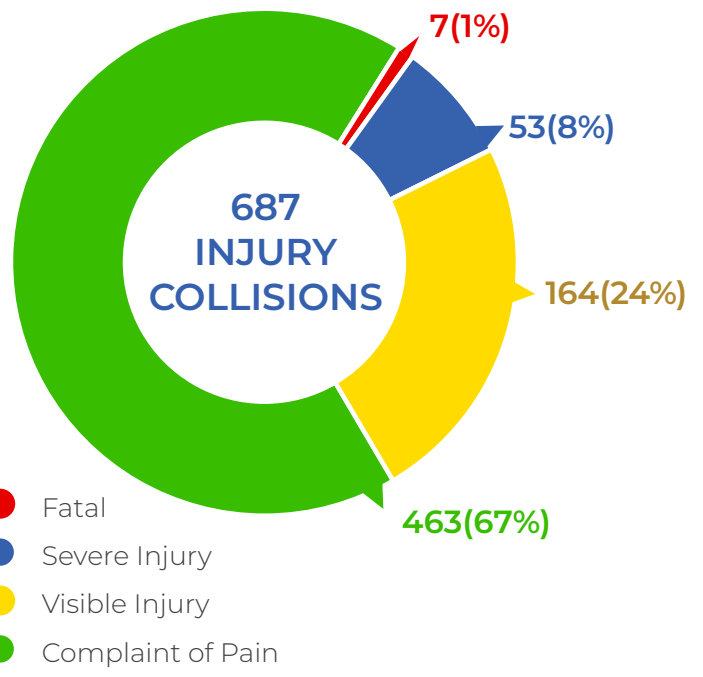
ESTIMATED COST

Cowell Rd: Monument Boulevard to Ygnacio Valley Road	\$10,000,000
Monument Boulevard: Cowell Road to Mohr Lane	\$30,000,000
Galindo Street: Concord Boulevard to Cowell Road	\$5,000,000
Contingency Cost	\$9,000,000
Engineering Cost	\$18,900,000
Total Cost	\$72,900,000



3 Safe Routes to School Improvements

Project 3 would implement a Safe Routes to School program in school proximity areas citywide, informed by the City's 2024 SS4A grant proposal. Potential improvements identified for further evaluation include curb reconfiguration, high-visibility crosswalks with advance stop bars, raised crosswalks, dynamic warning signage, bike lanes, and enhanced school zone circulation improvements. Collision data indicates 131 pedestrian and bicycle collisions in school proximity areas over the study period, including 4 fatalities and 21 severe injuries.



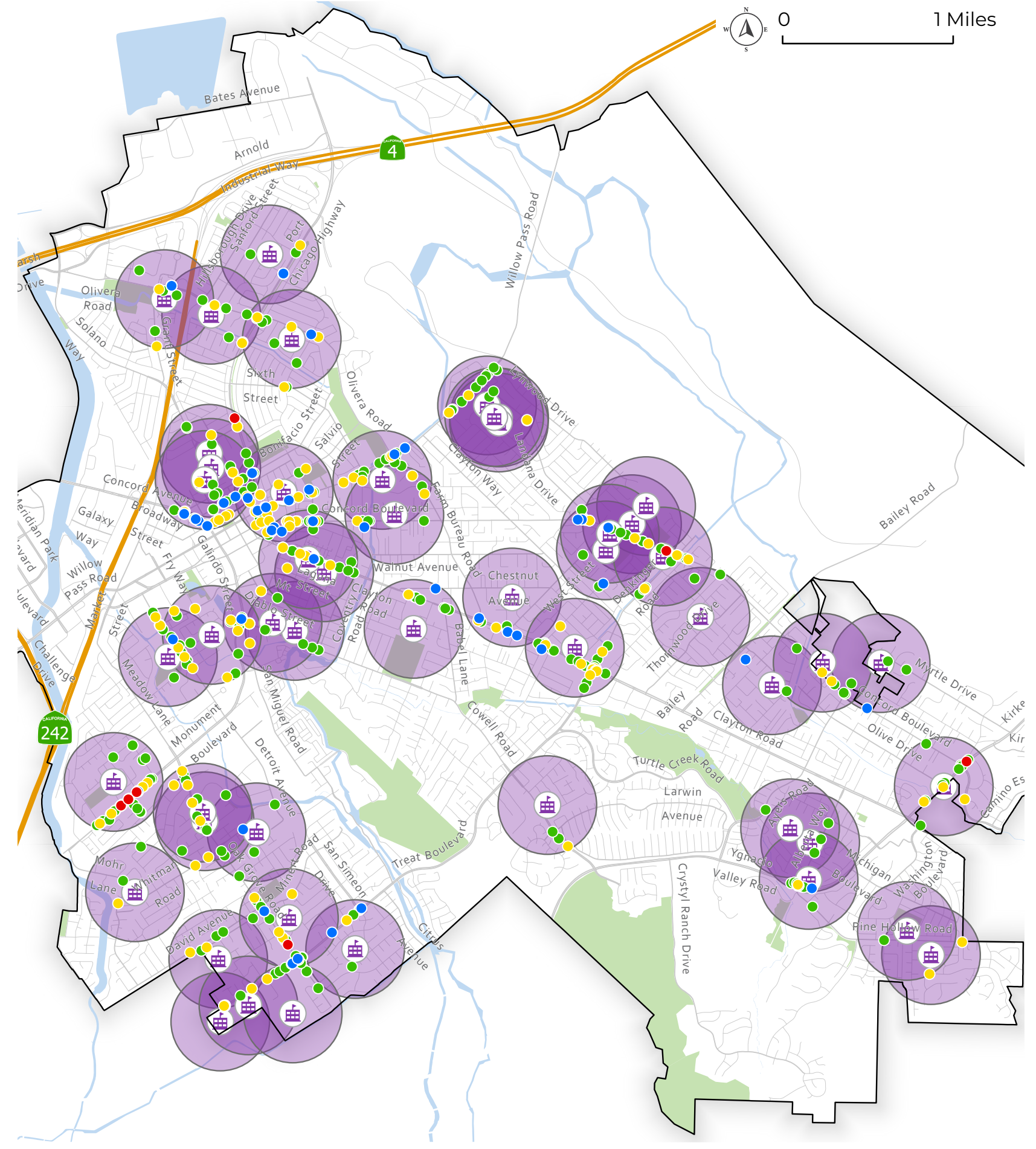
- #### IMPROVEMENTS
- High Visibility Crosswalks
 - Advanced Stop Bars
 - Raised Crosswalks
 - Dynamic Warning Signs
 - Bike Lanes
 - Enhanced School Zone Circulation

MODE

	53
	3
	44
	4
	488
	77
	18

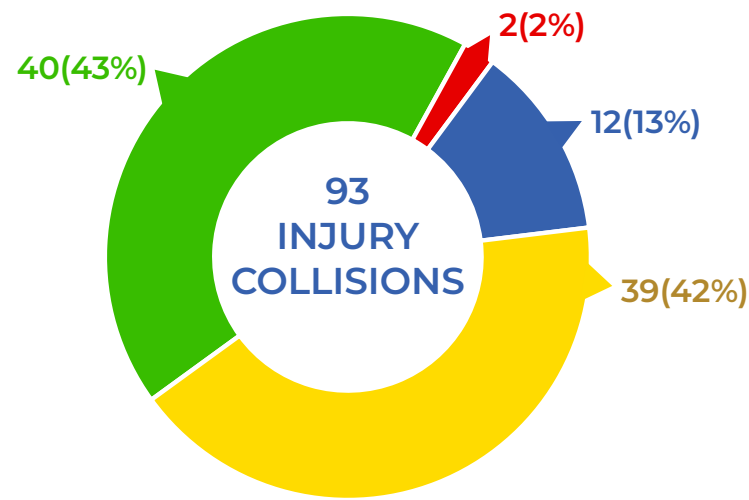
COLLISION TRENDS

1	36%	Broadside 246 Collisions
2	30%	Nighttime 207 Collisions
3	25%	Rear End 169 Collisions
4	23%	Unsafe Speed Violations 155 Collisions
5	12%	Intersection 85 Collisions



4 Bicycle Safety Improvements at High Injury Network Corridors

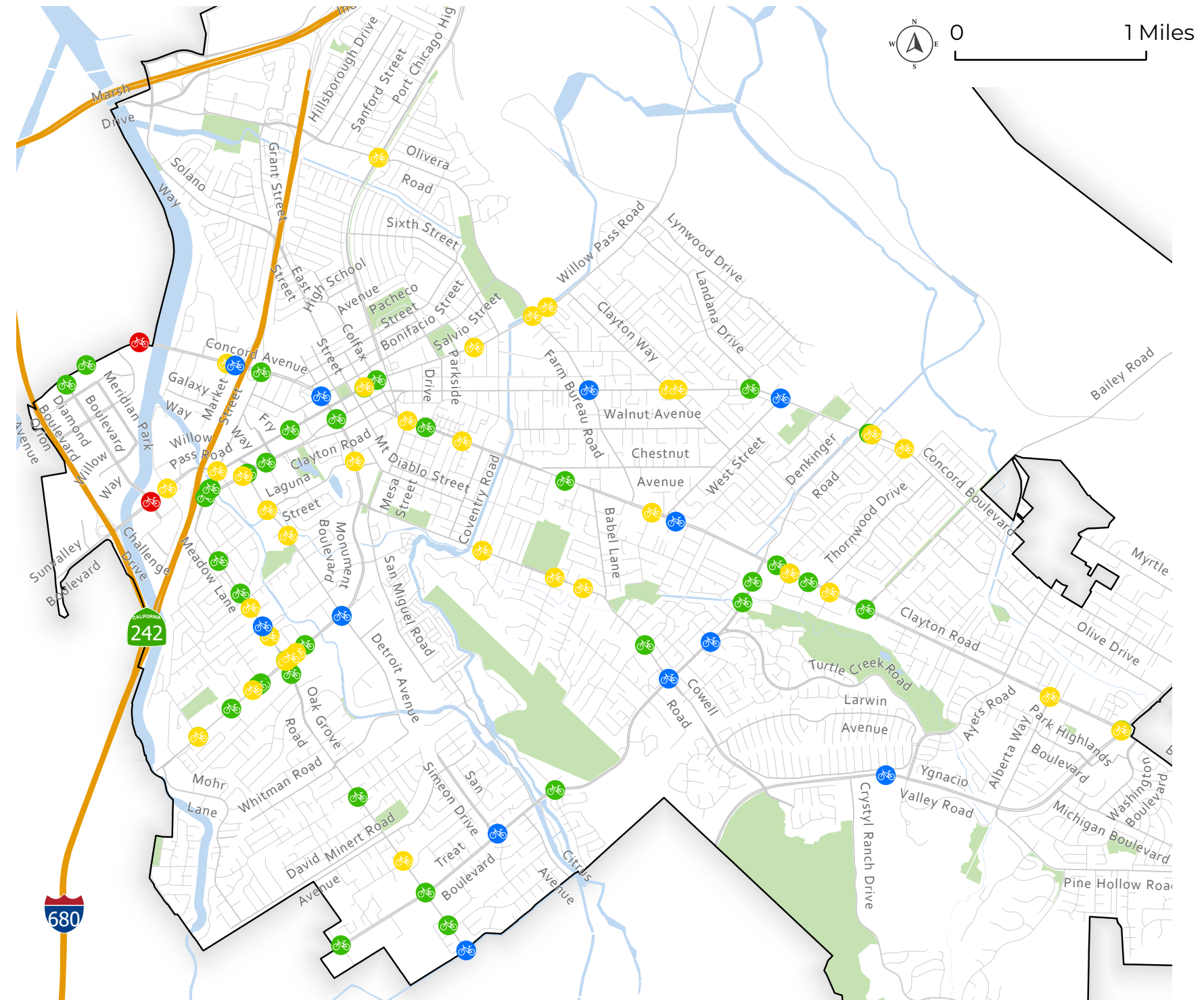
Project 4 would deliver bicycle safety improvements across multiple HIN corridors and citywide locations, potentially including Class I shared-use path enhancements, protected bike lane intersection treatments, bike lane gap closures, and crossing improvements at major intersections. Corridors and locations identified for further evaluation include Monument Boulevard (Systron Drive to Mohr Lane), Cowell Road, Galindo Street, Diamond Boulevard, Market Street, and Clayton Road. Over the study period, 149 bicycle collisions were recorded citywide, with multiple severe injuries at locations identified as candidates for gap improvements.



COLLISION TRENDS

1	91%	Intersection 85 Collisions
2	65%	Broadside 60 Collisions
3	24%	Nighttime 22 Collisions
4	16%	Improper Turning 15 Collisions
5	14%	Automobile Right of Way 13 Collisions

- Fatal
- Severe Injury
- Visible Injury
- Complaint of Pain



IMPROVEMENTS

- Protected Bike Lane Intersections
- Bike Lane Improvements

LOCATIONS

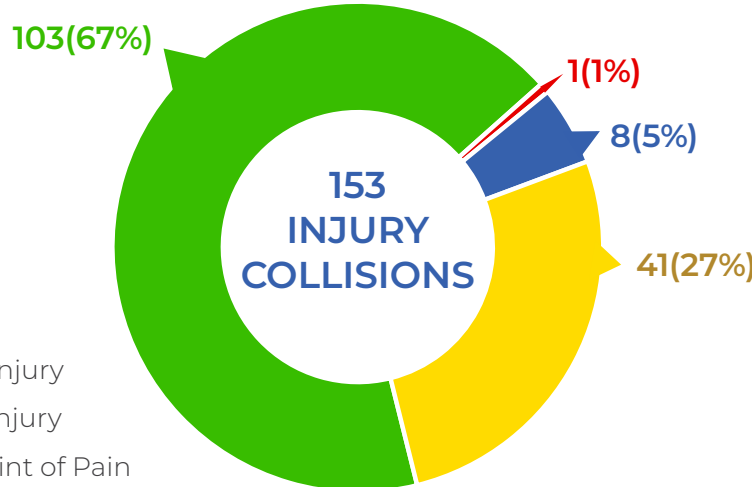
- Various Signalized Intersections along Concord Boulevard
- High Injury Network Corridors with Bicycle Collisions

ESTMATED COST

	\$1,660,000
Contingency Cost	\$18,877,600
Engineering Cost	\$22,842,900
Total Cost	\$88,108,400

5 Concord Boulevard Safety Improvements

Project 5 would address safety and active transportation connectivity considerations along Concord Boulevard (SR-242 to Kirker Pass Road). Improvements identified for design consideration include sidewalk gap closures, crosswalk enhancements — including potential HAWK signal conversions and LED beacon installations — sight triangle clearance and speed feedback signs. This corridor is associated with 35 collisions where unsafe speed was identified as a contributing factor and 29 rear-end collisions, with noted pedestrian activity in proximity to two schools.

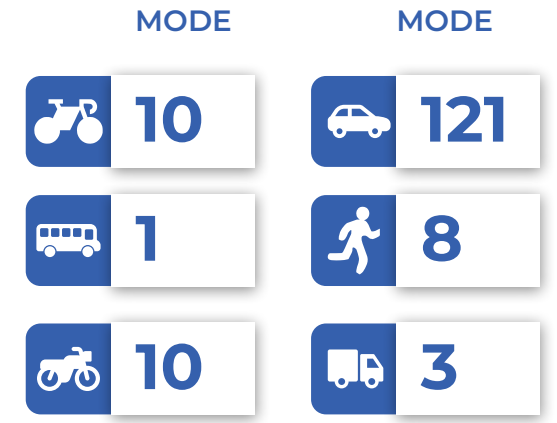


IMPROVEMENTS

- Fill Sidewalk Gaps
- Enhance Pedestrian Crossings
- Sight Distance Improvements
- Speed Feedback Signs

COLLISION TRENDS

- 95%** | Intersection
146 Collisions
- 42%** | Broadside
65 Collisions
- 25%** | Unsafe Speed
39 Collisions
- 25%** | Nighttime
38 Collisions
- 22%** | Traffic Signals & Signs
34 Collisions

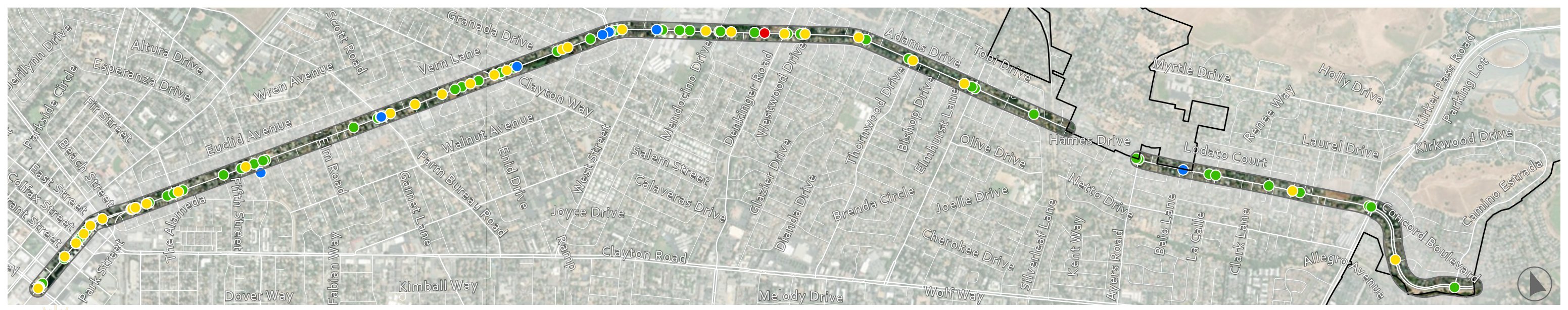


LOCATIONS

- West of Alary Dr to Woodside Ct
- Sutter St to Galindo St
- 2nd St
- Contra costa Trail Crossing
- Intersections along Corridor
- Highway 242 to Kirker Pass Rd

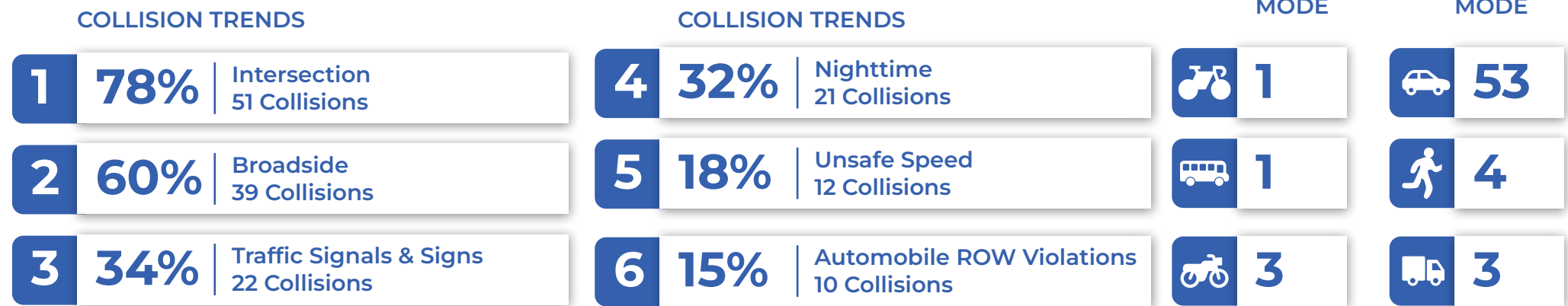
ESTMATED COST

Fill Sidewalk Gaps	\$442,700
Enhance Pedestrian Crossings	\$684,600
Sight Distance Improvements	\$100,000
Speed Feedback Signs	\$150,000
Contingency Cost	\$276,000
Engineering Cost	\$579,000
Total Cost	\$2,300,000



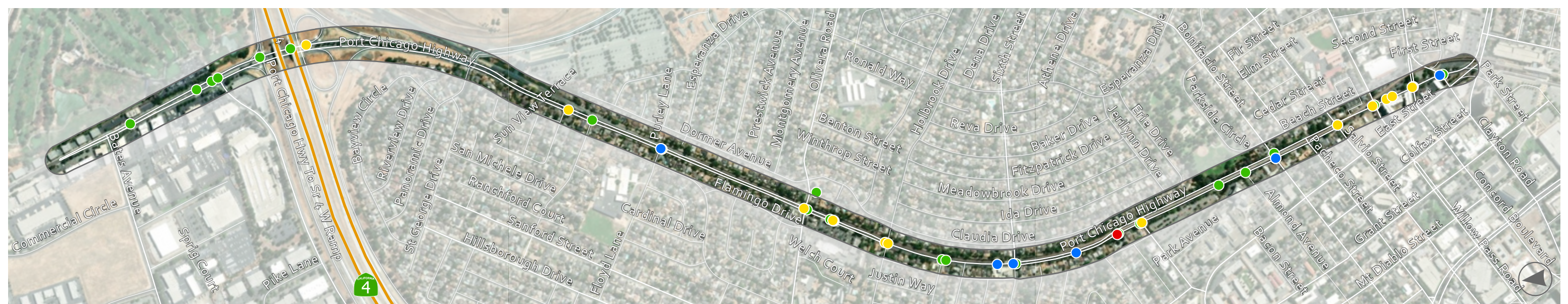
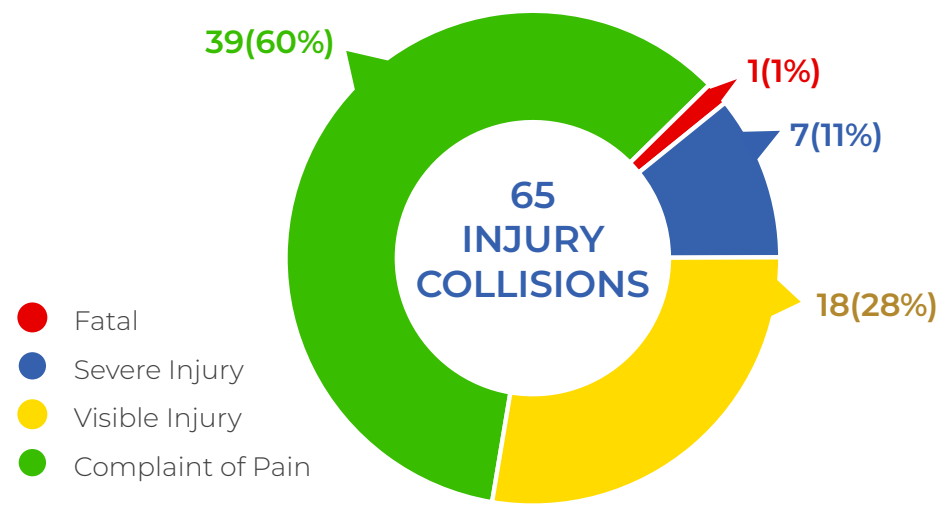
6 Port Chicago Highway Safety Improvements

Project 6 would evaluate and implement safety improvements along Port Chicago Highway (north of High School Avenue to the City Limits), including at Bonifacio Street, East Olivera Road, and North 6th Street. Potential improvements identified for design consideration include median expansion and curb extensions, speed feedback signs, signal timing modifications, protected left-turn phasing, leading pedestrian intervals, high-visibility crosswalks, and ADA-compliant curb ramps. Collision data indicates a pattern of 13 broadside collisions on this segment, including 4 at the 6th Street intersection and 1 pedestrian severe injury at Bonifacio Street.



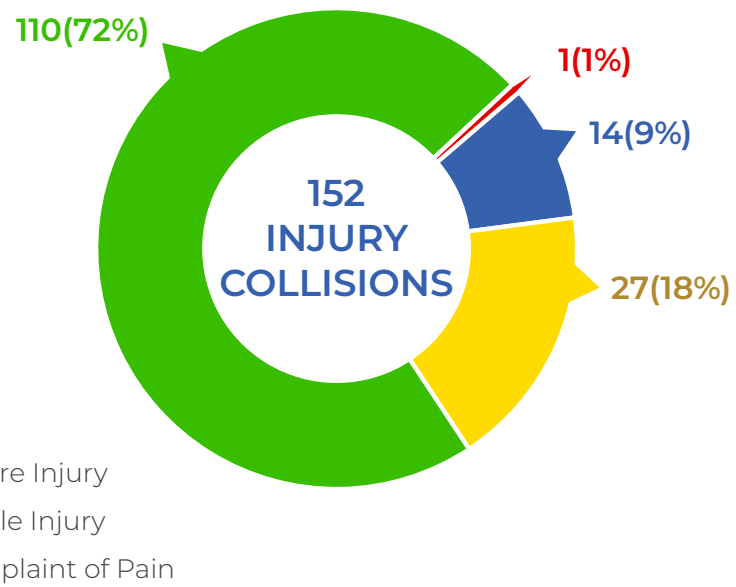
IMPROVEMENTS	LOCATIONS	ESTMATED COST
Speed Feedback Signs	North of High School Ave	\$30,000
Sight Distance Improvements	North of High School Ave	\$50,000
Median and Access Management	North of High School Ave	\$200,830
Modify Signal Timing and Hardware	Traffic Signals	\$121,000
Protected Left Turn	N 6th St	\$20,000
Pedestrian Crossing Improvements	Bonifacio St E Olivera Rd	\$48,440

Contingency Cost	\$94,000
Engineering Cost	\$197,000
Total Cost	\$761,000

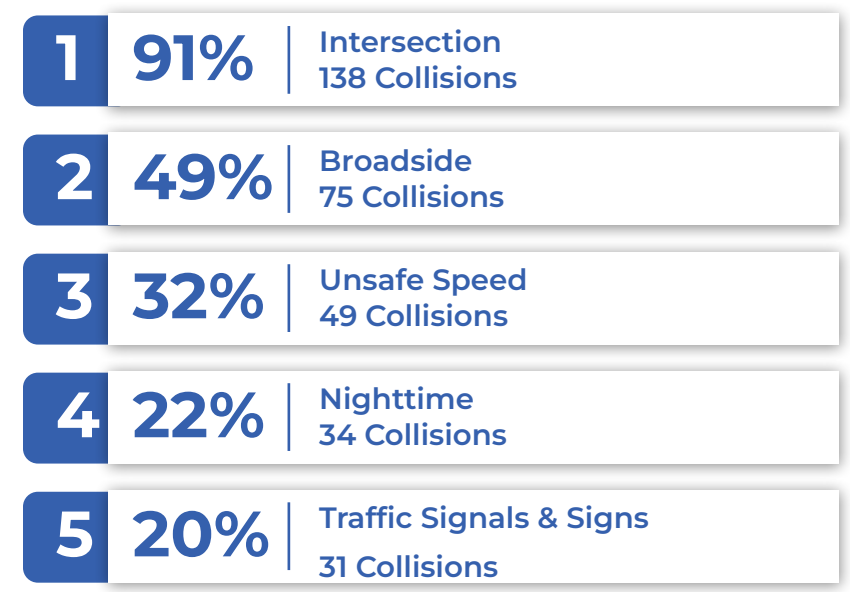


7 Willow Pass Road Northern Portion Improvements

Project 7 would address delineation and roadway edge treatment considerations along Willow Pass Road from north of Lynwood Drive to the City Limits. Potential improvements identified for further evaluation include median delineators to discourage unsafe passing, enhanced curve delineation, widened edge lines, object markers, rumble strips, and streetlight upgrades.



COLLISION TRENDS



MODE



IMPROVEMENTS

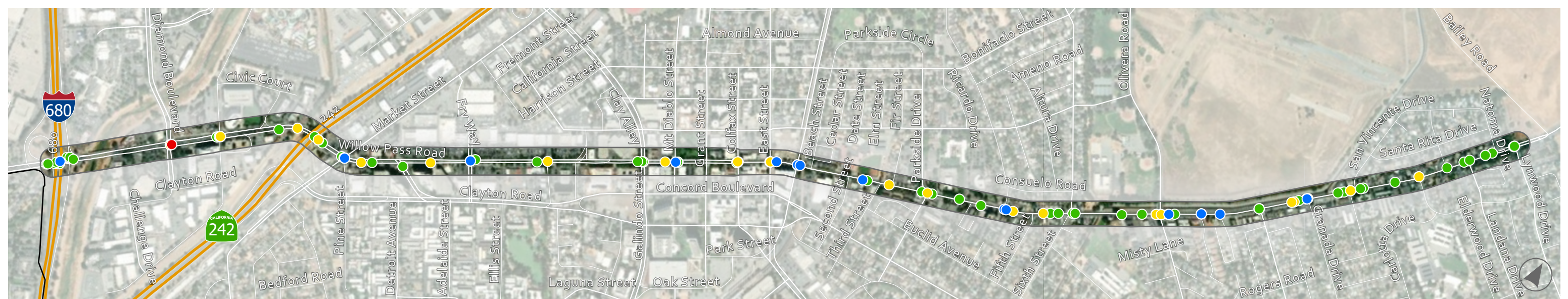
Delineators, Wider Edgeline, and Rumble Strips
Street Lighting
Enhance Curve Delineation
Signs and Object Markers

LOCATIONS

North of Lynwood to City Limits
North of Lynwood to City Limits
North of Lynwood to City Limits
North of Lynwood to City Limits

ESTIMATED COST

	\$197,900
	\$178,500
	\$34,350
	\$7,500
Contingency Cost	\$83,000
Engineering Cost	\$175,000
Total Cost	\$677,000

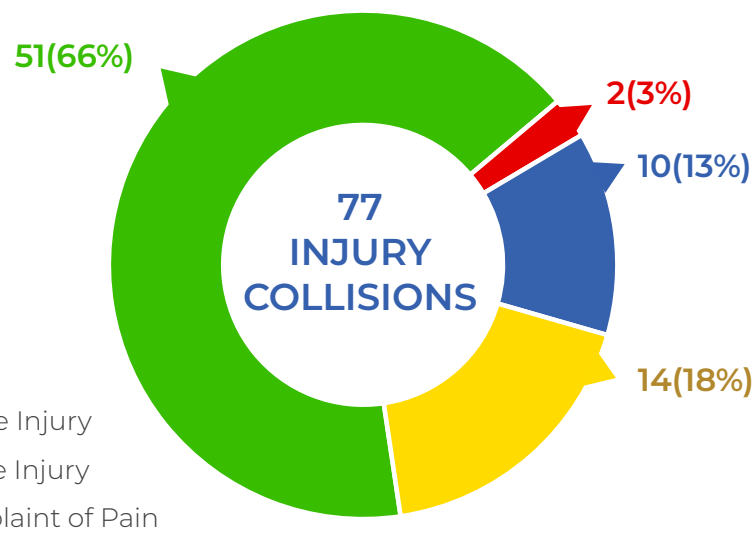
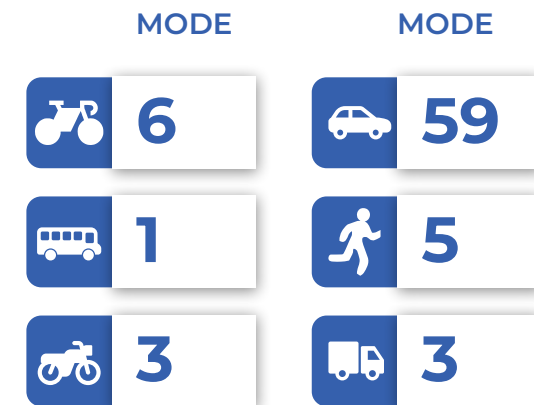
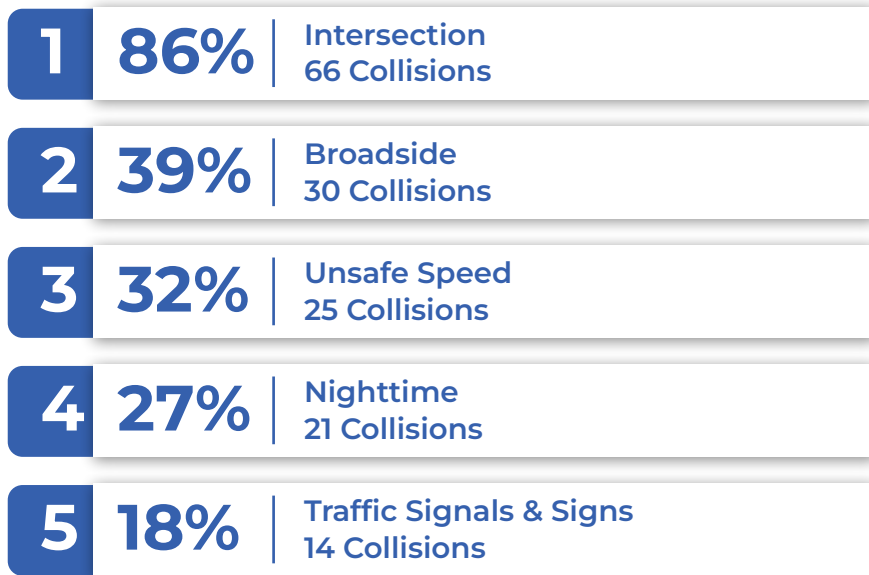


8

Treat Boulevard Safety Improvements

Project 8 would address the Treat Boulevard corridor (Winton Drive to Clayton Road, approximately 3.1 miles) through a combination of planning and physical improvements. Potential elements identified for design consideration include a complete street feasibility study and preliminary design, mast-arm signal head upgrades, sidewalk improvements and gap closures, HAWK signal installation, leading pedestrian intervals (LPI) corridor-wide, speed feedback signs, and curve safety treatments including high-friction surface treatment (HFST) and warning beacons. Evaluation of a bicycle and pedestrian connection between San Miguel Road and Marietta Circle is also identified for further study. This corridor is associated with 76 total injury collisions over the study period, including 5 pedestrian-involved, 5 bicycle-involved, and 1 bus-involved collision.

COLLISION TRENDS



IMPROVEMENTS

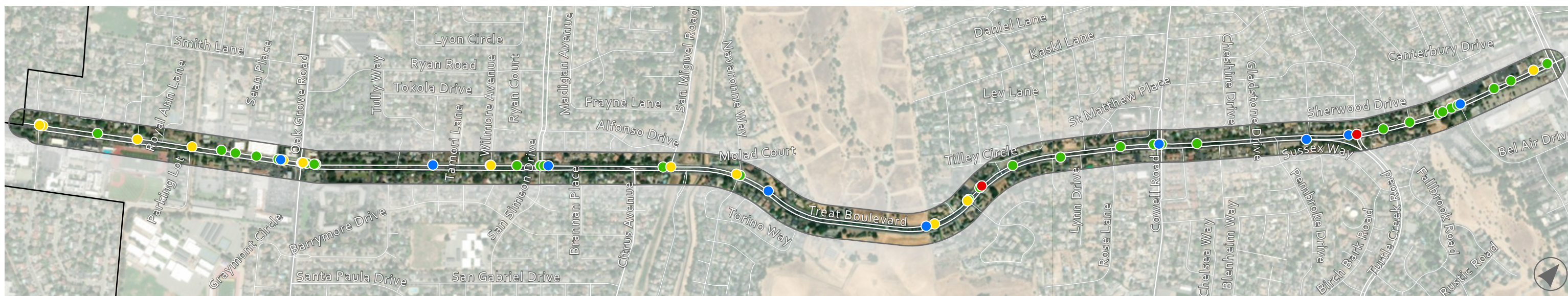
- Upgrading pedestal mounted left turn heads to mast arm mounted
- Fill Sidewalk Gaps / Shared Path
- Advanced Traffic Signal Beacon
- Leading Pedestrian Interval
- HAWK Signal
- Speed Feedback Signs
- Enhance Curve Delineation

LOCATIONS

- Various Signalized Intersections
- Lancelot Drive to San Miguel Rd
- Treat Boulevard and Navaronne Way
- Various Signalized Intersections
- Treat Boulevard and Blarney Ave
- Argonne Dr to Clayton Rd
- Curve Locations

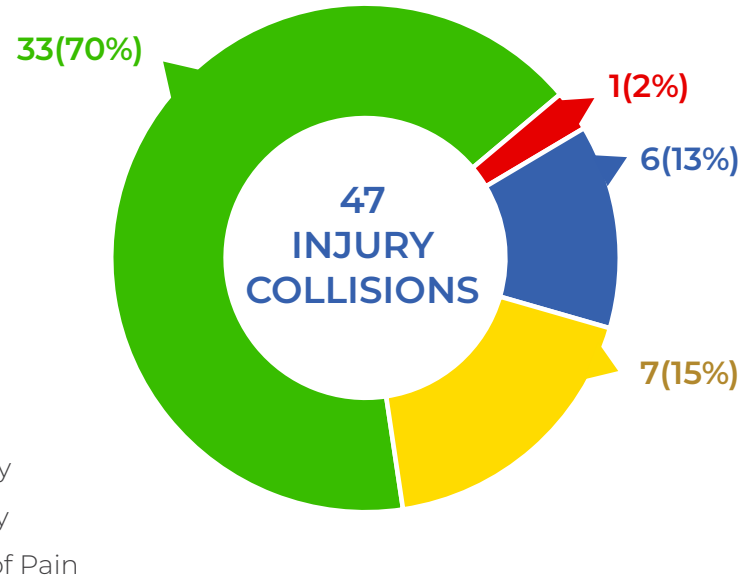
ESTIMATED COST

Contingency Cost	\$887,000
Engineering Cost	\$1,864,000
Total Cost	\$7,191,000



9 Oak Grove Road Safety Improvements

Project 9 would evaluate safety improvements along Oak Grove Road (City Limits to Monument Boulevard), including raised median installation, speed feedback signs, crosswalk enhancements at various locations — including the Contra Costa Trail crossing — and sight distance improvements. Collision data indicates elevated speed and sight distance considerations along this corridor.



- Fatal
- Severe Injury
- Visible Injury
- Complaint of Pain

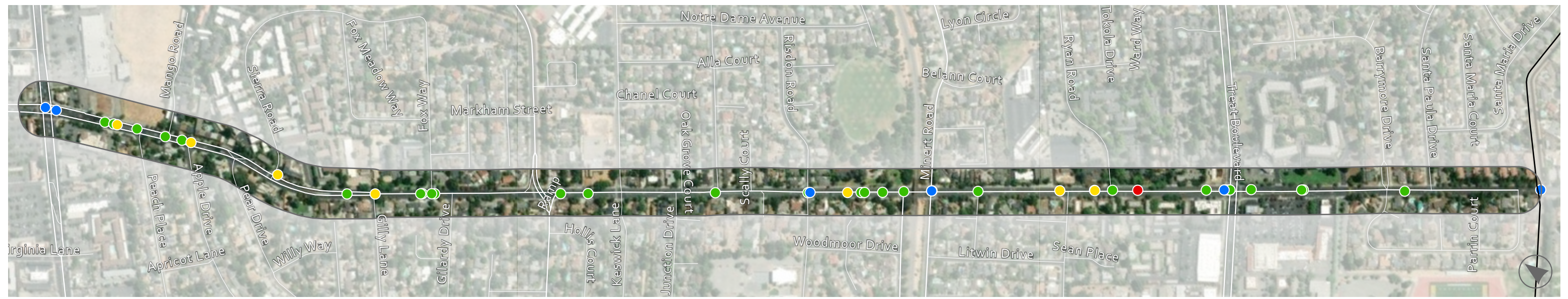
COLLISION TRENDS

- 1 83%** | Intersection
39 Collisions
- 2 34%** | Broadside
16 Collisions
- 3 32%** | Unsafe Speed
15 Collisions
- 4 30%** | Nighttime
14 Collisions
- 5 28%** | Traffic Signals & Signs
13 Collisions

	MODE	MODE
	6	
	1	
	1	

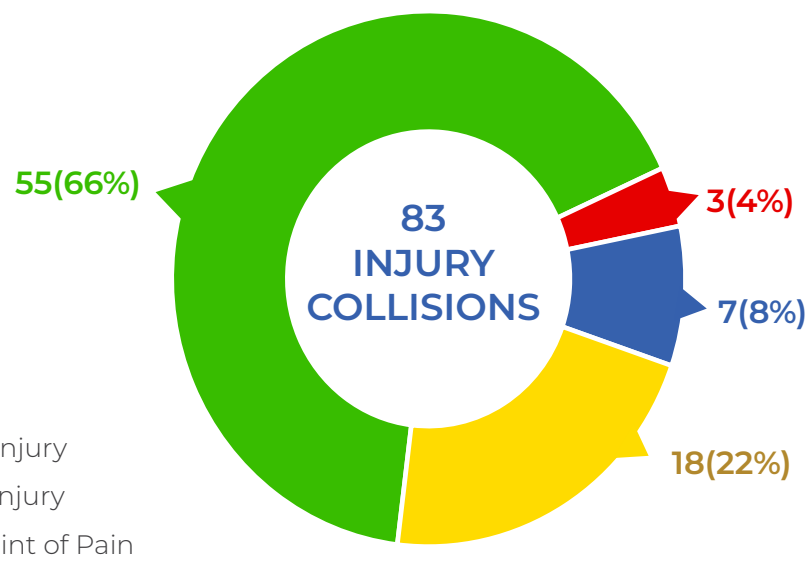
IMPROVEMENTS	LOCATIONS	ESTIMATED COST
Median and Access Management	Gilly Ln to City Limits	\$2,235,440
Speed Feedback Signs	City Limit to Monument Boulevard	\$90,000
Sight Distance Improvements	City Limit to Monument Boulevard	\$80,000
Pedestrian Crossing Enhancements	Various Locations including Contra Costa Trail Crossing	\$41,000

Contingency Cost	\$489,000
Engineering Cost	\$1,027,000
Total Cost	\$3,963,000



10 Ygnacio Valley Road and Kirker Pass Road Safety Improvements

Project 10 would identify and address geometric, striping, and roadway safety considerations along Ygnacio Valley Road (Alberta Way/Pine Hollow Road to Park Highlands Boulevard) and Kirker Pass Road (Concord Boulevard to the City Limits). Potential improvements identified for design consideration include geometric revisions to curb radii and striping, sidewalk and shared path gap closures, overhead signal warning beacons, high-friction surface treatment (HFST), raised median or barrier installation, median street lighting, full corridor restriping, guardrail, and Impact Attenuator. Collision data indicates elevated speed and sight distance considerations on these high-speed segments, particularly on downhill curves.



- Fatal
- Severe Injury
- Visible Injury
- Complaint of Pain

COLLISION TRENDS

1	77%	Intersection 64 Collisions
2	48%	Broadside 40 Collisions
3	45%	Unsafe Speed 37 Collisions
4	35%	Nighttime 29 Collisions
5	19%	Traffic Signals & Signs 16 Collisions

MODE

	2
	1
	6
	68
	6

IMPROVEMENTS

Fill Sidewalk Gaps

Traffic Signal Warning Beacons

High Friction Surface Treatment

Raised Median or Barrier

Street Lighting

Upgrade Striping

Install Guardrail

Impact Attenuator

LOCATIONS

Sidewalk Gaps

Cowell Rd

Cowell Rd \ Ayers/Alberta \ Myrtle to City Limits

City Limits to Michigan Boulevard

City Limits to Michigan Boulevard

Whole Corridor

SB on Kirker Pass North of Clearbrook Dr

Before median barrier on Kirker pass

ESTIMATED COST

\$3,864,100

\$85,500

\$564,400

\$1,625,000

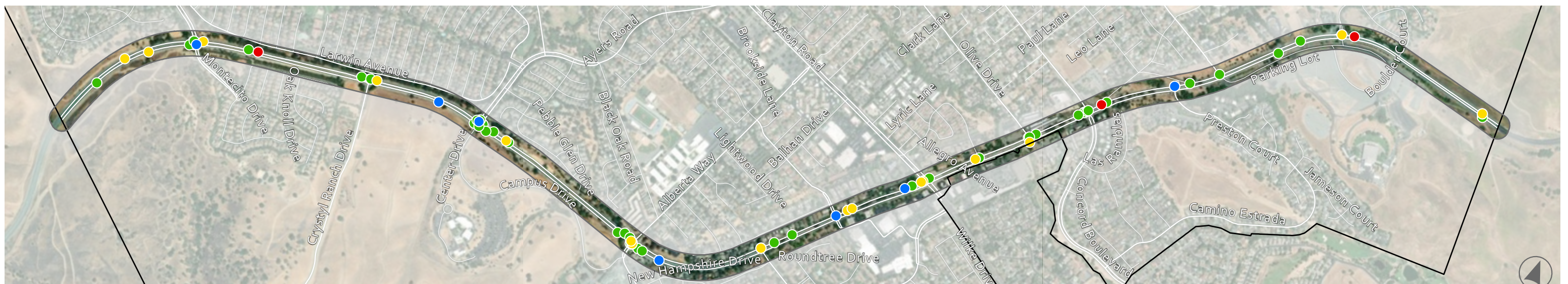
\$2,504,000

\$514,800

\$31,000

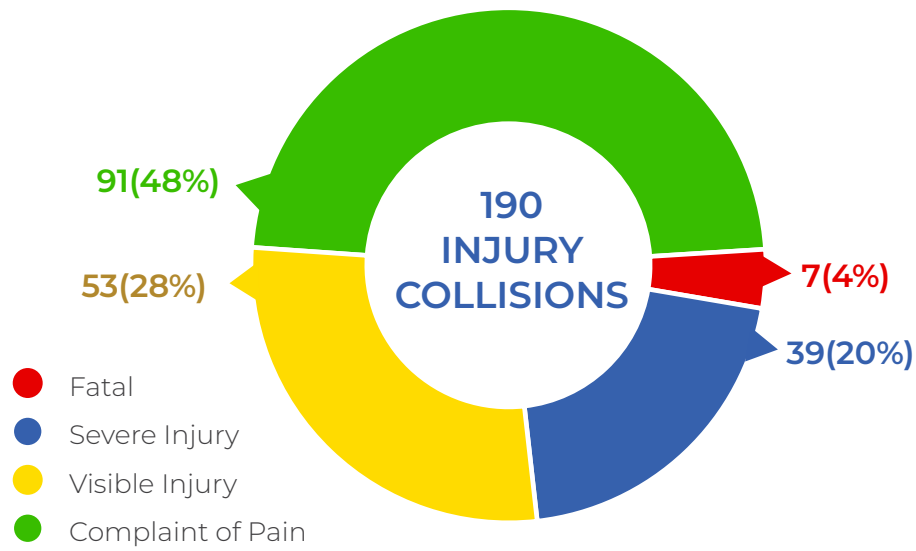
\$197,000

Contingency Cost \$1,877,000
Engineering Cost \$3,942,000
Total Cost \$15,205,000



11 Citywide Pedestrian Sidewalk Improvements

Project 11 would address sidewalk gaps citywide, with prioritization informed by HIN corridor collision data and pedestrian collision history. Priority segments identified for further evaluation include Clayton Road (Fabian Way to Barbis Way), 6th Street (Willow Pass Road to Alameda Avenue), and Cowell Road (Galindo Street to Treat Boulevard), among others. Citywide pedestrian-involved collision data reflects 187 collisions over the study period, including 7 fatalities and 37 severe injuries.



COLLISION TRENDS

1	95%	Vehicle / Pedestrian 181 Collisions
2	86%	Intersection 163 Collisions
3	39%	Pedestrian Right of Way 75 Collisions
4	32%	Nighttime 60 Collisions
5	25%	Pedestrian Violation 48 Collisions

IMPROVEMENTS

Fill Sidewalk Gaps Citywide

ESTMATED COST

\$156,119,000

Contingency Cost

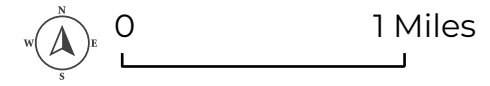
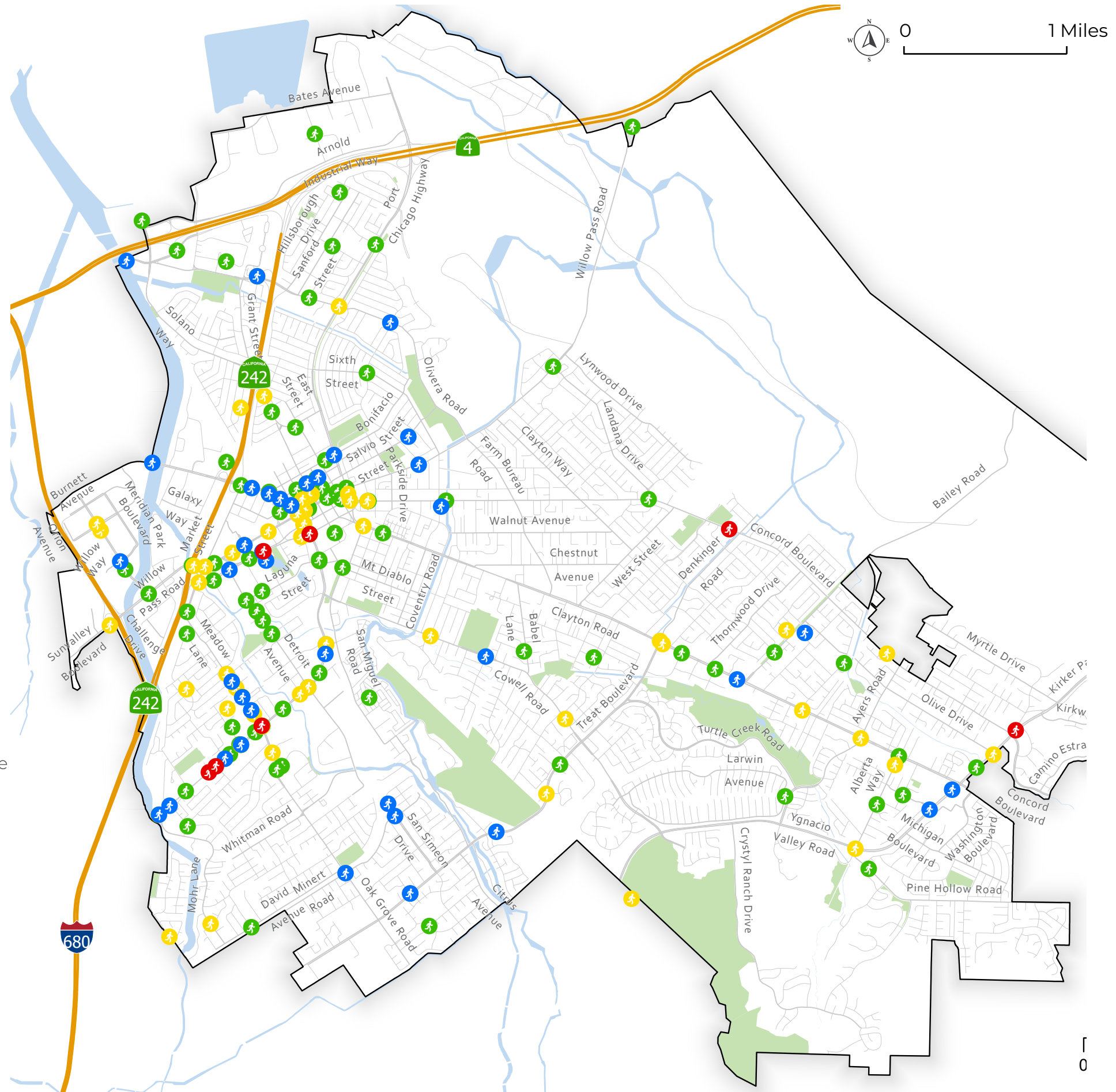
\$31,223,000

Engineering Cost

\$65,570,000

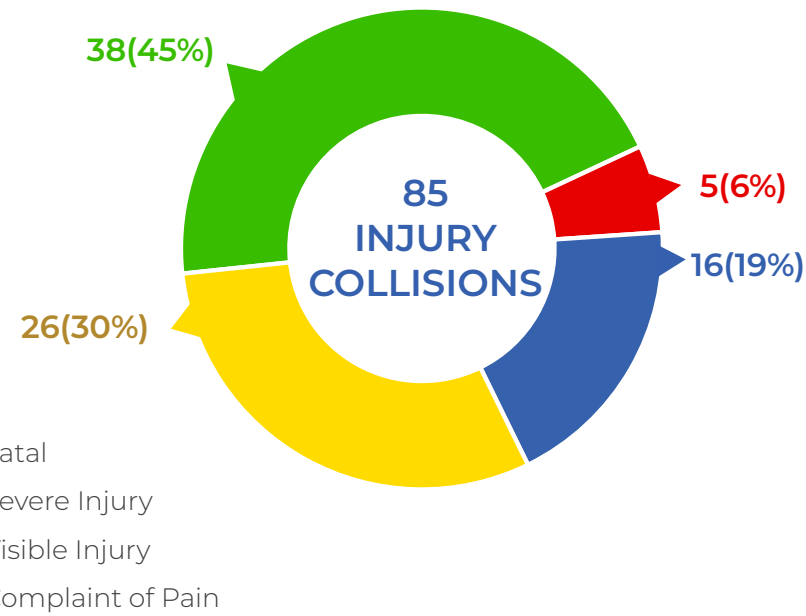
Total Cost

\$252,912,000



12 Citywide Pedestrian Signal Improvements

Project 12 would evaluate the installation of leading pedestrian intervals (LPI) and right-turn-on-red restrictions at approximately 15 locations where pedestrian severe-injury collisions have been recorded at intersections citywide. Pedestrian-involved intersection collision data indicates 159 collisions over the study period, including 6 fatalities and 31 severe injuries.



COLLISION TRENDS

1	100%	Intersection 85 Collisions
2	99%	Broadside 84 Collisions
3	51%	Unsafe Speed 43 Collisions
4	32%	Nighttime 27 Collisions
5	20%	Traffic Signals & Signs 17 Collisions

IMPROVEMENTS

Leading Pedestrian Interval

ESTMATED COST

\$180,000

Contingency Cost

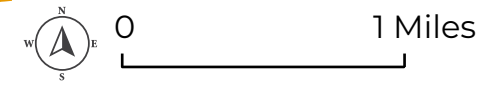
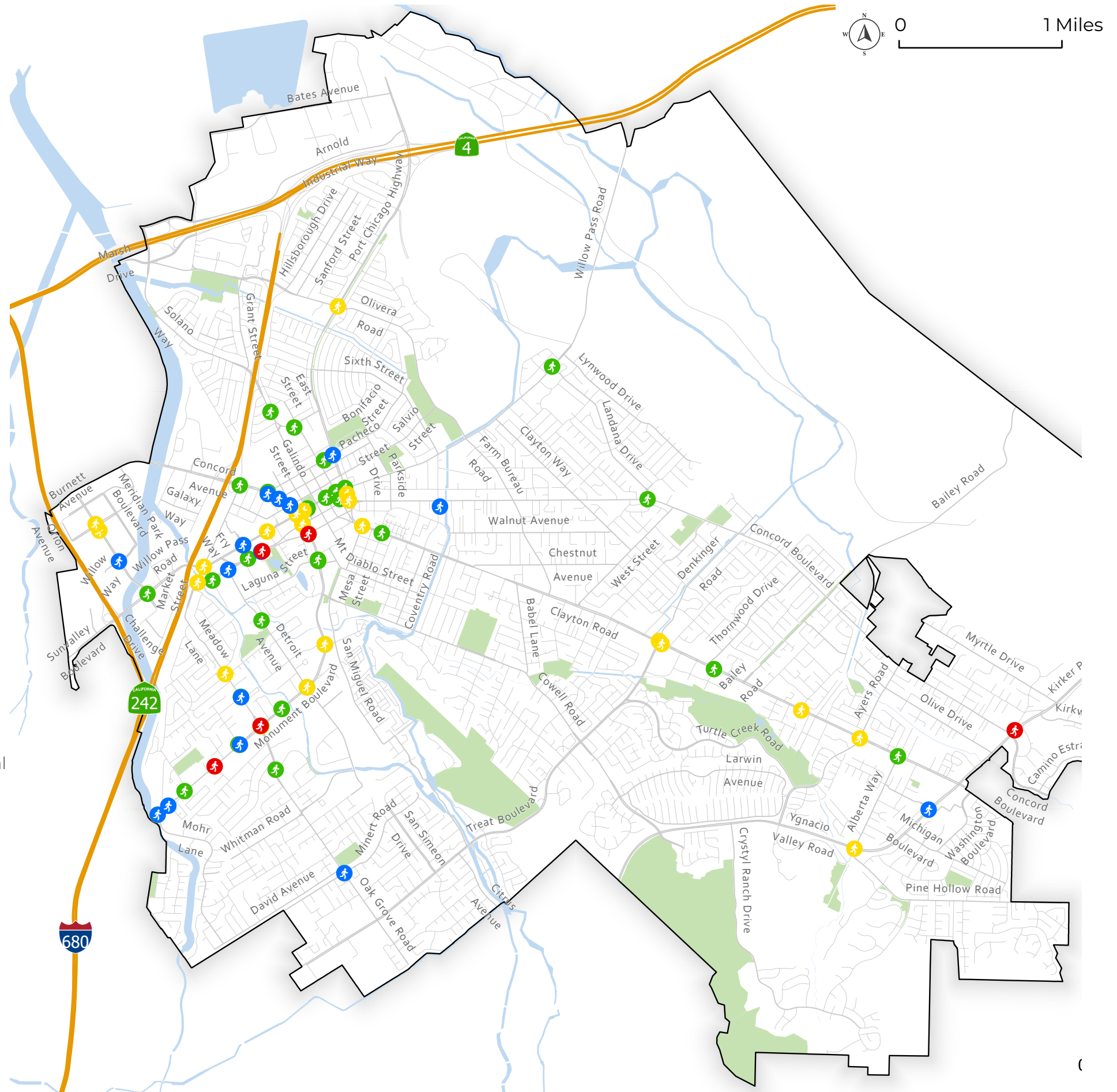
\$36,000

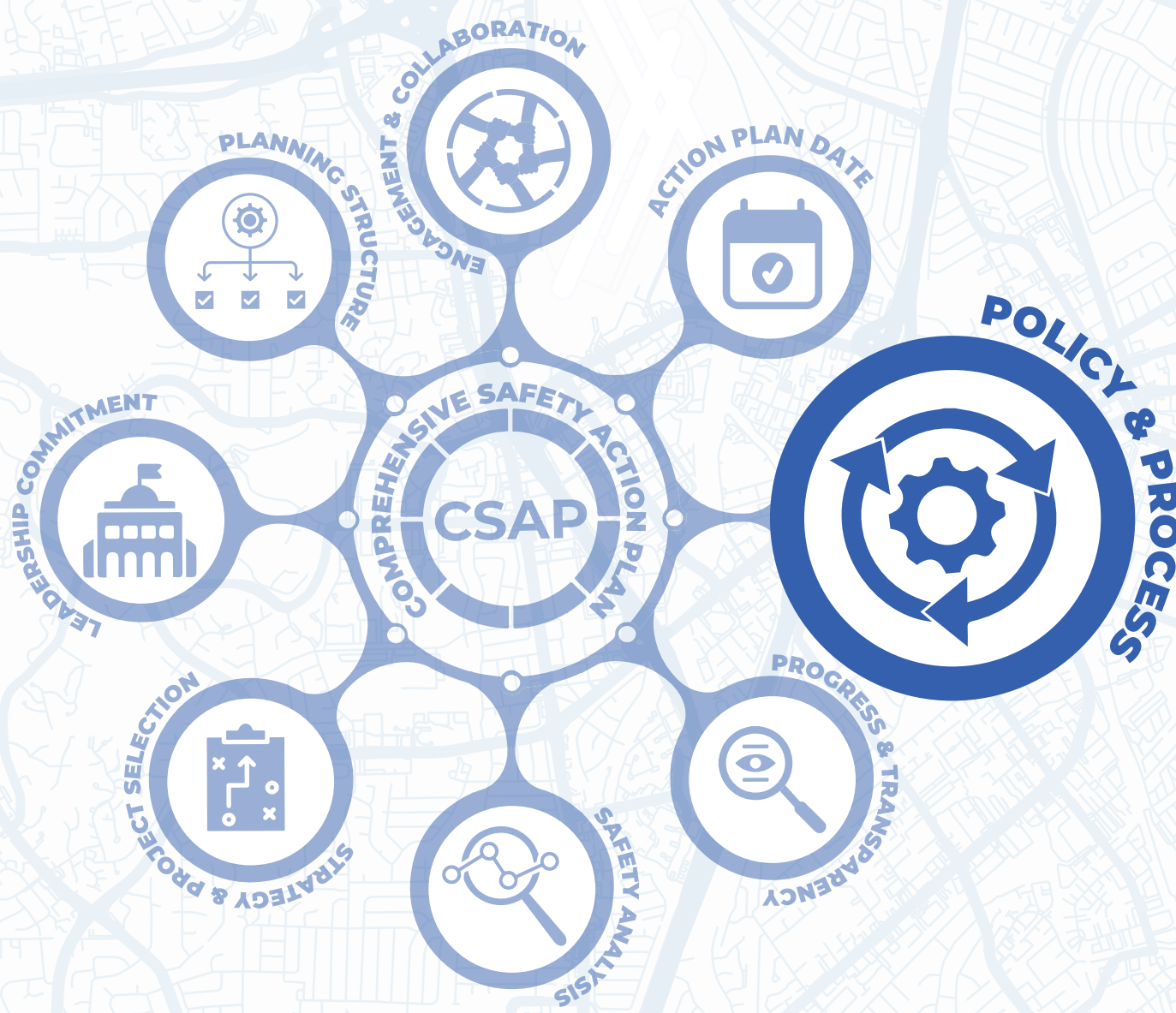
Engineering Cost

\$75,000

Total Cost

\$291,000





CONCORD
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CHAPTER SEVEN

Policy & Process Changes

Transforming Concord's transportation system into one that is safe by design requires more than capital investment. It requires that the policies, standards, and procedures governing how the City plans, reviews, and delivers transportation projects be aligned with Safe System principles. This chapter presents recommended planning and policy initiatives that address identified gaps in Concord's current regulatory and operational framework, spanning speed management, street design standards, active transportation planning, traffic analysis, and performance monitoring. Each initiative is grounded in existing municipal authority and is structured to strengthen the City's competitiveness for state and federal safety grant programs. Together, these initiatives form the institutional foundation upon which the capital improvements and programs described throughout the CSAP can be delivered, sustained, and evaluated over time.

SUMMARY OF RECOMMENDED POLICY INITIATIVES

The following table summarizes the 19 recommended policy initiatives, identifying lead department, target adoption year, primary adoption vehicle (resolution, code amendment, or operational policy), and the federal or state grant programs each initiative most directly supports. Detailed narrative for each item follows.

#	Policy Initiative	Lead	Target	Adoption Vehicle	Primary Grant Alignment
1	Safe Routes to School Coordination	Public Works (PW) + MDUSD	2027	Inter-agency MOU + SRTS Master Plan	ATP, OTS
2	Corridor Speed Management Program	PW	2027	PW Policy + CIP integration	SS4A, HSIP
3	Transit-Oriented Development	Planning	2027	CDC 18.105 amendment + CRP Specific Plan	OBAG, AHSC
4	Access Management	PW + Planning	2028	New Corridor Access Management Policy	HSIP, SS4A
5	Complete Streets & Context-Sensitive Design	PW + Planning	2026	Council Resolution + design references	SS4A, ATP, OBAG
6	Transportation Demand Management	Planning	2028	CMC 19.35 update	TFCA, MTC
7	Multimodal Active Transportation Planning	PW + Planning	2028	New Active Transportation Plan	ATP, SS4A
8	Marked Crosswalk Installation Policy	PW	2026	PW Policy (per CMC 10.50.010)	HSIP, SS4A, OTS
9	Traffic Impact Analysis & VMT Modernization	PW + Planning	2027	P&P 144 update (per CMC 19.30)	SB 743 compliance
10	Engineering Design Standards Update	PW	2027+	CMC 12.05.010 + Standard Plans update	HSIP, SS4A
11	Proactive Safety Analysis & Smart Infrastructure	PW	2026+	Operational pilot → scale 2027–28	SS4A, HSIP
12	Traffic Calming Policy Update	PW	2027	PW Policy (existing-streets retrofit)	SS4A, ATP
13	Quick-Build & Demonstration Project Policy	PW	2026	PW Policy (per CMC 10.10.070)	SS4A, ATP, OTS
14	Street Lighting & Nighttime Visibility Policy	PW	2027	PW Policy + IES RP-8 reference	HSIP, SS4A
15	Post-Crash Response & Systemic Review Protocol	PW + PD	2026	Inter-departmental Protocol (per CMC 10.10)	SS4A foundational
16	Curb Management & Daylighting Policy	PW	2026	CMC 10.30 amendment	AB 413, SS4A
17	Performance Monitoring & Open Data Policy	PW + PD	2026	Council Resolution + dashboard maintenance	SS4A, FHWA SPM
18	Safety Investment Prioritization Methodology	PW	2026	Council Resolution	SS4A, ATP, HSIP



1 SAFE ROUTES TO SCHOOL COORDINATION & MASTER PLAN

Concord has established uniform 25 mph speed limits in school zones citywide through Council action, providing a consistent standard across all K-12 campuses and replacing the prior segment-by-segment approach. The 2025 citywide speed limit update applied AB 43 flexibilities to standardize school zone speeds and improve driver expectancy. Building on this foundation, the City should formalize a memorandum of understanding (MOU) with Mt. Diablo Unified School District (MDUSD) to coordinate Safe Routes to School (SRTS) programming, and pursue a citywide SRTS Master Plan that aligns engineering treatments, education, and encouragement activities across all campuses within Concord.

Implementation note: With uniform school zone speeds already in place, the remaining policy work is institutional (MOU) and programmatic (SRTS Master Plan), neither requires additional code changes, and both strengthen competitiveness for SRTS-eligible state and federal funding.

2 CORRIDOR SPEED MANAGEMENT PROGRAM

Through Council action, Concord recently completed a comprehensive citywide speed limit update grounded in updated Engineering and Traffic Survey data and AB 43 flexibilities, establishing current posted speed limits across all functional classifications. Posted speeds, however, are only one element of corridor-level speed management; sustained operating-speed reduction typically requires the integration of self-enforcing roadway design, traffic calming measures, and targeted enforcement. The City should develop a Corridor Speed Management Program that builds on the recent posted-speed update by adding a tiered countermeasure toolkit organized by functional classification and target speed, with priority given to corridors on the High Injury Network (HIN).

Implementation note: With posted speeds already updated through the recent citywide action, the corridor program focuses on physical and operational measures — not signage — and can be phased over multiple capital cycles.

3 TRANSIT-ORIENTED DEVELOPMENT

Transit-oriented development (TOD) in Concord is supported by a strong foundation, including the 2014 Downtown Specific Plan and the Transit Station Overlay District (TSOD) under CDC 18.105. However, CDC 18.105.020 expressly excludes the study district adjacent to the North Concord BART station from TSOD applicability, and the City has not completed a formal compliance submittal under the Metropolitan Transportation Commission's (MTC) Transit-Oriented Communities (TOC) Policy.

The City has taken a significant step toward achieving TOC compliance through the successful award of an MTC TOC Planning/Rezoning Technical Assistance grant. This grant will fund targeted amendments to the 2030 General Plan, Downtown Concord Specific Plan, and Development Code to increase minimum residential densities and commercial intensities within the Concord BART station area, conduct community engagement, and complete any necessary environmental review. The effort is specifically intended to bring the Concord TOC area into compliance with MTC's TOC Policy requirements, including minimum density and floor area ratio thresholds, while advancing implementation of the Downtown Specific Plan.

Building on this funded effort, the City should continue advancing full TOC Policy compliance for both BART station areas, extend TSOD or equivalent overlay zoning to North Concord through the forthcoming Community Reuse Project Specific Plan, and integrate active transportation safety and multimodal access standards into that plan.

Implementation note: The awarded MTC grant provides near-term capacity and funding to achieve TOC compliance for the Concord BART station area in the next 18 months, positioning the City more competitively for future MTC One Bay Area Grant (OBAG) and Affordable Housing and Sustainable Communities (AHSC), and other regional funding programs while ensuring that planned growth is anchored by safe, multimodal access.

4 ACCESS MANAGEMENT

Access management at the parcel level is well-established in Concord through CDC 18.160.110 (Driveways and Site Access), CDC 18.160.100 (Curb Cuts and Parking Lots), and CMC 12.25.010 (driveway widths and separation). Together these provisions limit driveway and curb-cut frequency by frontage, require a minimum 28-foot separation centerline to centerline between driveways and a minimum 60-foot setback from intersections, mandate median strips for parking entrances serving more than 25 vehicles, and differentiate driveway widths by speed limit on the abutting street. CMC 17.20.030(b)(12) further restricts direct residential access to community and regional streets in new subdivisions. What is not currently codified is a corridor-level access management framework, including arterial median typology, a redevelopment-triggered driveway consolidation program, and a High Injury Network (HIN) screening trigger that flags access decisions on the City's most collision-prone corridors. The City should adopt a corridor-level Access Management Policy that builds on these existing parcel-level provisions and addresses these three remaining elements.

Implementation note: Building on existing parcel-level provisions limits new policy work to corridor-scale analysis and coordination, avoiding duplication of code already in force.

5 COMPLETE STREETS & CONTEXT-SENSITIVE DESIGN

Concord has substantial Complete Streets foundations in place. CMC 17.20.030(b)(2) requires new subdivision streets to comply with the City's Complete Streets policies and to meet the needs of motorists, bicyclists, pedestrians, transit users, and persons of different physical capabilities. CMC 17.20.040 requires bicycle, pedestrian, and transit facilities for new subdivisions, including marked crosswalks, curb extensions, refuge islands, and lighting, per the 2016 Bicycle, Pedestrian and Safe Routes to Transit Plan. CDC 18.150.050 (Frontage Improvements) requires curbs, sidewalks, paving, lighting, and planting on all planning permits, and CDC 18.155.L applies pedestrian-friendly design (including curb bulbs, raised crosswalks, and roundabouts) to small lot subdivisions. What is missing is a standalone Complete Streets Resolution aligned with MTC Resolution 4493 (2022), formal adoption of the NACTO Urban Street Design Guide and FHWA Proven Safety Countermeasures as governing references for safety improvement projects, and consistent application to retrofit and Capital Improvement Program (CIP) projects on existing streets. The City should adopt this resolution and design-reference framework to extend the existing parcel-level requirements to the rest of the network.

Implementation note: Adopting design references by resolution and applying a project review checklist to CIP projects avoids duplicating the substantial Complete Streets requirements already in CMC 17.20.

6 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) in Concord is governed by CMC Chapter 19.35, adopted in 1997 to align with state legislation eliminating mandatory employer-based trip reduction. The chapter establishes goals and objectives but does not impose project-level requirements or mode share targets. On the development-code side, CDC 18.160.050(H) provides up to a 25 percent parking reduction for projects that implement a TDM program, and CDC 18.160.060(B)(2)(d) allows downtown in-lieu parking fees to fund TDM efforts. The City currently relies primarily on countywide programs, including 511 Contra Costa and the Bay Area Commuter Benefits Program, to support TDM delivery. The City has taken a significant step toward modernizing its TDM framework through the successful award of an MTC TOC Parking Management Implementation grant. This grant will fund development of a comprehensive parking and transportation demand management (PTDM) policy applicable to both Concord and North Concord BART station areas, including updates to parking requirements, evaluation of parking supply and demand, establishment of parking maximums, and creation of a toolbox of TDM strategies with associated monitoring and performance metrics. The effort also includes community and stakeholder engagement and is intended to bring the City into compliance with the MTC TOC Policy's parking management and TDM requirements.

Building on this funded effort, the City should update CMC 19.35 to codify a project-level TDM Ordinance that includes mode share targets, monitoring requirements, and graduated trip reduction expectations for major developments, while aligning with the broader parking management framework being developed through the grant.

Implementation note: The awarded MTC parking management grant provides near-term funding and technical support to develop and implement a comprehensive TDM and parking policy framework within approximately 18 months, positioning the City to achieve full TOC Policy compliance while reducing vehicle miles traveled and supporting higher-density, transit-oriented growth.

7 MULTIMODAL ACTIVE TRANSPORTATION PLANNING

Multimodal active transportation in Concord is guided by the 2016 Bicycle, Pedestrian, and Safe Routes to Transit Plan, which remains the City's primary active transportation document nearly a decade after adoption with no update currently underway. In parallel, BART's Safe Streets and Roads for All (SS4A) planning effort "Safe Trips to BART" identifies Concord Station as a Focus Station Area and includes targeted countermeasure recommendations that have not yet been formally incorporated into City plans. The City should update its Active Transportation Plan, integrate BART's Safe Trips to BART recommendations, and establish a Vision Zero target as the overarching framework for all multimodal capital and planning investments.

Implementation note: The updated plan should be calibrated to current Caltrans Active Transportation Program (ATP) competitive scoring criteria so that subsequent project applications are pre-aligned with state funding priorities.

8 COMPLETE STREETS & CONTEXT-SENSITIVE DESIGN

Marked crosswalk installation in Concord is authorized under CMC 10.50.010, which empowers the Director of Public Works to establish, designate, and maintain crosswalks at intersections and other locations upon determination of need, with mid-block crosswalks limited to blocks of 400 feet or longer. There is, however, no formal citywide policy establishing engineering warrants, default treatment standards, or evaluation criteria for community requests; requests are received informally through the Concord Connect portal. The City should adopt a Marked Crosswalk Installation Policy based on FHWA STEP (Safe Transportation for Every Pedestrian) guidance and NCHRP Report 562, establish high-visibility continental markings as the default treatment, and integrate AB 413 daylighting requirements (no parking within 20 feet of a crosswalk approach).

Implementation note: Building on the existing CMC 10.50.010 authority allows immediate adoption through a Public Works policy without requiring code amendments; a published decision matrix tied to roadway speed, ADT, and number of lanes provides a consistent, defensible response framework.

9 TRANSPORTATION DEMAND MANAGEMENT

Traffic impact analysis in Concord is governed by CMC Chapter 19.30 (Land Development and Transportation Improvements), which is administered through Policy and Procedure No. 144 (CMC 19.30.020) and implemented through the City's Transportation Impact Analysis (TIA) Guidelines. While the framework continues to include a vehicle level-of-service (LOS) approach for local operational analysis, the City has already incorporated vehicle miles traveled (VMT) analysis for CEQA compliance consistent with SB 743 through its adopted TIA Guidelines. Specifically, discretionary projects are required to evaluate VMT impacts, apply screening criteria, and assess consistency with adopted thresholds aligned with state guidance.

In addition, the TIA Guidelines include multimodal analysis requirements, such as pedestrian, bicycle, and transit assessments, as well as safety-related components including collision analysis, site access review, and evaluation of potential hazards. However, these elements are not yet fully integrated into a unified Safe System-based screening framework or tied to a formal High-Injury Network (HIN) prioritization process.

Building on the City's existing VMT-compliant framework, the City should update P&P 144, and CMC 19.30 if needed, to formalize VMT as the primary CEQA metric in policy language, clarify the role of LOS as an operational (non-CEQA) tool, and integrate a Safe System-based safety screening step. This could include incorporating HIN-based screening criteria that trigger a focused safety assessment for projects within or adjacent to high-injury corridors, as well as strengthening multimodal level-of-service or person-throughput considerations in project review.

Implementation note: The City already has a strong foundation through its adopted TIA Guidelines, which require VMT analysis and multimodal review. Updating the referenced policy framework to explicitly reflect this practice, and to incorporate Safe System principles, can be accomplished through targeted revisions to P&P 144 without requiring a full ordinance update, aligning the City with state-mandated practices and evolving best practices in transportation safety and performance.

10 ENGINEERING DESIGN STANDARDS UPDATE

Engineering design standards in Concord are defined through the City of Concord Standard Specifications referenced in CMC 12.05.010 (dated January 1990) and the CA-series Standard Plans. Engineering design standards in Concord are defined through the City of Concord Standard Specifications, as referenced in Concord Municipal Code (CMC) Section 12.05.010 (dated January 1990), along with the CA-series Standard Plans. The City also maintains a publicly accessible library of Standard Plans and Specifications on its website, which includes commonly used details such as curb, gutter, and sidewalk improvements (e.g., Standard Plan S-3), driveway approaches (S-7), and traffic calming elements such as speed humps/raised crosswalks (S-42). These documents provide a strong baseline for typical infrastructure improvements.

However, the current standards do not include standard details for several widely accepted and proven safety countermeasures. These include, but are not limited to, curb extensions (bulb-outs), hardened centerlines, protected intersection geometry, and vertical bikeway separation treatments.

In addition, the City has not formally adopted nationally recognized design guidance documents—such as the NACTO Urban Bikeway Design Guide or FHWA Proven Safety Countermeasures—as governing or reference standards. As a result, implementation of these treatments often requires project-specific engineering justification, which can add time and complexity to project delivery.

The City should update its Standard Specifications and expand its Standard Plans library, including those maintained on the City's website, to incorporate priority safety countermeasures, while also formally adopting applicable national design guidance by resolution. This approach would streamline project delivery, improve consistency across projects, and support the City's broader safety objectives.

Implementation note: The updated plan should be calibrated to current Caltrans Active Transportation Program (ATP) competitive scoring criteria so that subsequent project applications are pre-aligned with state funding priorities.

11 PROACTIVE SAFETY ANALYSIS & SMART INFRASTRUCTURE

Traffic safety analysis in Concord is anchored in CMC 10.10.060, which directs the Traffic Engineer to conduct engineering analyses of traffic accidents and devise remedial measures. This framework is currently reactive, drawing on reported collision data; proactive tools such as conflict analysis and AI-based near-miss video analytics are not part of standard practice. The City has also not widely deployed advanced traffic management technologies, such as adaptive signal control, real-time monitoring, or connected vehicle systems, to support data-driven safety interventions. The City should incorporate AI-based near-miss video analytics into its safety toolkit, beginning with a pilot at HIN intersections, and continue investment in advanced traffic management systems that enable real-time monitoring, proactive signal performance review, and improved multimodal safety outcomes.

Implementation note: A pilot-first approach builds on the Traffic Engineer's existing CMC 10.10.060 analytical authority; SS4A and HSIP funding can offset initial deployment costs.

12 TRAFFIC CALMING POLICY UPDATE

Traffic calming for new development is partially codified: CMC 17.20.030(b)(10) authorizes traffic management techniques such as traffic circles, narrow lanes, and bulb-outs in residential subdivisions, and CMC 17.20.030(b)(13) lists specific design features for speed control, including jogs, traffic circles, narrowed streets, neck-downs, and median islands. CDC 18.155.L further encourages curb bulbs, raised crosswalks, and roundabouts in small lot subdivisions. What is not currently in place is a comprehensive citywide policy applicable to existing streets and request-driven retrofit installations. The City should adopt a Traffic Calming Policy for existing streets that establishes clear eligibility criteria, a transparent prioritization process, and a toolkit of context-appropriate measures organized by street type. Implementation should prioritize locations on the HIN and in school zones.

Implementation note: A standalone existing-streets policy complements the in-place new-development requirements in CMC 17.20 and CDC 18.155, providing residents with a predictable, equitable pathway for retrofit consideration.

13 QUICK-BUILD & DEMONSTRATION PROJECT POLICY

CMC 10.10.070 already empowers the Director of Public Works to make temporary or experimental regulations and to test traffic control devices under actual conditions of traffic, providing the underlying authority for quick-build and demonstration projects. What the City lacks is a formal policy structure that defines project scope, materials, evaluation period, and pathway to permanent installation. Quick-build projects are increasingly favored by SS4A Implementation Grants, ATP, and OTS because they accelerate benefit delivery and provide field-tested designs prior to permanent construction. The City should adopt a Quick-Build and Demonstration Project Policy that builds on the existing CMC 10.10.070 authority, defines administrative review for time-limited demonstrations, allows the use of CA-MUTCD interim treatments, and requires pre/post evaluation.

Implementation note: Building on existing experimental authority allows administrative implementation without a code amendment; treating demonstrations as evaluation rather than capital construction limits City exposure.

14 STREET LIGHTING & NIGHTTIME VISIBILITY POLICY

Site and subdivision lighting in Concord is well-covered: CDC 18.150.110 establishes outdoor lighting standards (full cut-off luminaires, glare control), CDC 18.160.100(D) requires 0.5–3.0 foot-candle illuminance in parking lots serving 10 or more vehicles, and CMC 17.20.030(b)(15) and 17.20.040(g)(3) require subdivision street lighting per City standard plans, including lighting tied to pedestrian improvements. The City also maintains adopted street lighting design standards and details that establish illumination levels, pole spacing, and design criteria for roadway and pedestrian environments.

These existing standards provide a technical foundation for the design and installation of street lighting. However, they function primarily as design criteria and do not establish a citywide Street Lighting and Nighttime Visibility Policy that prioritizes lighting improvements based on safety outcomes. In particular, the City does not currently define targeted minimum illuminance and uniformity expectations for high-priority safety locations such as High Injury Network (HIN) corridors and intersections, marked crosswalks, transit stops, and school approaches.

The City should adopt a Street Lighting and Nighttime Visibility Policy that builds on its existing standards and establishes prioritized, safety-based lighting targets consistent with IES RP-8 guidance. The policy should also include a programmatic upgrade strategy tied to the HIN and incorporate lighting evaluation into project scoping for roadway and corridor improvements.

Implementation note: Building on the City's existing lighting standards allows the new policy to focus on prioritization and safety performance rather than baseline design requirements; lighting upgrades are eligible for HSIP, SS4A, and Caltrans Local Highway Safety Improvement funding.

15 POST-CRASH RESPONSE & SYSTEMIC REVIEW PROTOCOL

Concord has a long-standing post-crash framework in CMC Title 10 that pre-dates the modern Safe System Approach: CMC 10.10.020 directs the Police Department to cooperate with Public Works in conducting accident studies and determining remedial measures; CMC 10.10.030 establishes the accident-report filing system; and CMC 10.10.040 requires the Police Department to annually prepare a traffic safety report including fatalities, injuries, and recommendations for future safety activities. What this framework lacks is alignment with current Safe System practice: defined timelines for site review and interim countermeasure consideration following fatal and severe-injury collisions, multi-disciplinary review participation beyond Police and Public Works (e.g., emergency response, public health), and a public-facing summary product. The City should adopt a Post-Crash Response and Systemic Review Protocol that formalizes these elements within the existing CMC 10.10 authority structure.

Implementation note: The protocol formalizes existing CMC 10.10.020–040 authorities rather than creating new ones; existing collision data sources support implementation, and an annual public summary supports grant-application reporting.

16 CURB MANAGEMENT & DAYLIGHTING POLICY

Concord has a mature curb-management framework in CMC Title 10. CMC 10.30.250 establishes the curb color/marketing hierarchy (red, yellow, white, green) governing parking, commercial loading, passenger loading, and time-limited parking; CMC 10.30.240 authorizes loading zones; CMC 10.30.300 authorizes bus zones; and CMC 10.30.305 authorizes valet loading zones. CMC 10.30.040(8) prohibits parking within 20 feet of a crosswalk or intersection where so marked, and CMC 10.30.340–360 authorize Vision Safety Parking Zones for visibility at intersections, driveways, and other areas requiring unobstructed visibility, providing the underlying daylighting authority. CDC 18.150.170 separately addresses sight-distance triangles on private property. What is not currently codified is recognition of AB 413’s default 20-foot daylighting rule (effective January 1, 2025), an active marking program to physically establish daylighting at HIN locations, and a published curb-use prioritization hierarchy for resolving competing demands. The City should adopt a consolidated Curb Management and Daylighting Policy that updates CMC 10.30 to recognize AB 413, establishes a HIN-prioritized marking program, and publishes a curb-use prioritization hierarchy.

Implementation note: AB 413 codification can be implemented as a CMC 10.30 amendment; HIN-prioritized marking is operational rather than regulatory and can be phased through routine striping cycles.

17 PERFORMANCE MONITORING & OPEN DATA POLICY

CMC 10.10.040 already requires the Police Department to annually prepare a traffic safety report, filed with the City Manager, which includes fatalities, injuries, accident counts, safety activities, and plans/recommendations for future activities. This is the foundational element of the performance-monitoring commitment that federal and state grant programs increasingly expect. The current report is internal, not modally disaggregated, and not aligned with current Safe System metrics. Concord also publishes selected safety information through the CSAP and concordsafestreets.org, but no formal policy commits to sustained public reporting. The City should adopt a Performance Monitoring and Open Data Policy that updates the existing CMC 10.10.040 annual report to include KSI rates by mode, HIN coverage, and project delivery metrics, and that commits to a maintained public dashboard at concordsafestreets.org consistent with FHWA Safety Performance Management practice.

Implementation note: Building on the existing CMC 10.10.040 annual report and the concordsafestreets.org infrastructure keeps ongoing maintenance cost low while substantially strengthening grant-application reporting.

18 SAFETY INVESTMENT PRIORITIZATION METHODOLOGY

Federal and state safety grant programs increasingly expect a transparent, repeatable basis for project ranking. To support consistent decision-making across the City’s safety project pipeline, capital programming, grant applications, and operational deployment, the City should adopt a published Safety Investment Prioritization Methodology. The methodology should anchor the High Injury Network (HIN) as the primary investment geography, weight collision frequency and severity using FHWA Safety Performance Management practice (with severe-injury and fatal outcomes weighted significantly higher than property-damage-only outcomes), incorporate exposure (vehicle volume, pedestrian volume, and mode share) as a normalizing factor, and integrate community-reported safety concerns from the CSAP survey as a separate, documented input. Once adopted, the methodology should be applied consistently across SS4A, ATP, HSIP, and OTS applications, providing reviewers a single, defensible basis for project ranking that does not require re-justification with each new application cycle.

Implementation note: The methodology should rely on existing collision and CSAP survey datasets to keep ongoing maintenance cost low, and should be adopted by Council resolution to provide multi-year grant-application durability across funding cycles.



CONCORD
Comprehensive
Safety Action Plan



CHAPTER EIGHT

Implementation, Evaluation & Funding Strategy

This chapter establishes the framework for implementing, monitoring, and evaluating the Comprehensive Safety Action Plan (CSAP) to ensure continued progress toward the City of Concord's safety goals. Consistent with the Safe Streets and Roads for All (SS4A) program and the Safe System Approach, CSAP is intended to function as a living document. Regular evaluation and periodic updates, recommended every two to five years will be conducted to assess effectiveness, incorporate new data, and refine strategies in response to evolving community needs and emerging best practices.

IMPLEMENTATION FRAMEWORK

CSAP identifies a comprehensive set of countermeasures spanning engineering, education, enforcement, and emergency response to reduce fatal and serious injury collisions. These strategies are organized across five key areas: Safe Roads, Safe Road Users, Safe Speeds, Safe Vehicles and Emergency Response, and Program Initiatives and Evaluation.

Implementation of CSAP recommendations will be coordinated with the City's Capital Improvement Program (CIP) and other planned infrastructure investments to ensure efficient delivery and maximize cost-effectiveness. Project prioritization will be guided by a data-driven methodology that emphasizes collision frequency and severity, with a focus on locations identified within the City's High Injury Network (HIN).

In addition to safety performance data, prioritization will incorporate equity considerations, including the needs of disadvantaged communities and vulnerable road users. Other key factors include the cost-effectiveness of proposed countermeasures, project readiness, and consistency with community-identified priorities.

Effective implementation will require clearly defined roles and responsibilities across City departments, including Public Works and the City Manager's Office, as well as coordination with external partners such as Caltrans District 4, the Contra Costa Transportation

Authority (CCTA), and the Metropolitan Transportation Commission (MTC). The City will also continue to engage community stakeholders, including the Concord Unified School District, to support coordinated and context-sensitive delivery of safety improvements.

MONITORING & EVALUATION

To ensure accountability and continuous improvement, the City will establish a performance monitoring framework aligned with SS4A objectives. This framework will include tracking key safety measures, such as reductions in fatal and serious injury collisions, as well as implementation progress for prioritized projects and programs.

Ongoing data collection and analysis will inform periodic evaluations of CSAP effectiveness. Findings will be used to adjust strategies, refine prioritization criteria, and identify additional safety needs. Regular reporting will support transparency and maintain alignment with federal and state safety performance expectations.

FUNDING STRATEGY

Securing sustainable funding is essential to the successful implementation of CSAP. The Safe Streets and Roads for All (SS4A) program, administered by the Federal Highway Administration (FHWA) and the U.S. Department of Transportation (USDOT), represents a primary funding opportunity for implementation activities. This CSAP satisfies SS4A Action Plan requirements and positions the City of Concord to compete for SS4A Implementation Grant funding.

In addition to SS4A, the City will pursue a diversified funding strategy that includes federal, state, regional, and local sources. Table in the next page identifies potential grant programs and funding opportunities that align with CSAP's safety objectives and project types, including infrastructure improvements, behavioral safety programs, and emergency response enhancements.

By leveraging multiple funding sources and aligning project delivery with available resources, the City will advance implementation of the CSAP in a strategic and fiscally responsible manner.



POTENTIAL FUNDING SOURCES

Funding Source	Funding Agency	Amount Available	Next Call for Projects*	Applicable E's	Notes
Safe Streets and Roads for All (SS4A)	USDOT	Up to \$993.5M total (FY 2026)	May 26, 2026	Engineering, Education, Enforcement, Emergency Response	Primary funding vehicle for CSAP implementation. Implementation grants range \$2.5M-\$25M (80/20 Fed/local split). FY26 adds priority for Public Safety Infrastructure, directly supporting LA County Fire/EMS improvements. Planning grants may be used to update the CSAP.
Highway Safety Improvement Program (HSIP)	Caltrans	Varies; distributed through Caltrans cycle-based solicitations	TBD; most recent in 2024	Engineering, Education, Enforcement, Emergency Response	Data-driven program aligned with FHWA Proven Safety Countermeasures. Primary source for HIN engineering improvements.
Active Transportation Program (ATP)	Caltrans / California Transportation Commission (CTC)	~\$540M statewide in Cycle 7 (2024); next cycle TBD	TBD; most recent in 2024	Engineering, Education	Funds bicycle and pedestrian infrastructure, Safe Routes to School programs, and safety education.
Office of Traffic Safety (OTS) Grants	California Office of Traffic Safety	Varies by grant type	Annual; applications close January 31	Education, Enforcement, Emergency Response	Eligible public agencies may apply annually. Supports DUI checkpoints, speed enforcement saturation patrols, pedestrian and bicycle safety campaigns, and EMS training. Applications must be supported by local collision data aligned with OTS priority program areas.
RAISE Grant	U.S. DOT	~\$1.5B total	TBD	Engineering, Education	Discretionary federal grant for larger infrastructure investments. Supports projects that improve safety, sustainability, quality of life, and economic competitiveness. Best suited for corridor-scale capital improvements.
Local Streets and Roads Maintenance and Rehabilitation (SB 1 / RMRA)	CTC (distributed by formula to local agencies)	Varies; allocated by formula	Distributed annually; deadline May 1	Engineering	Formula-based funds for road maintenance and rehabilitation. CSAP countermeasures such as restriping, bulb-out construction, signal timing upgrades can be bundled into SB 1-funded resurfacing projects to minimize unit costs and accelerate delivery.
Contra Costa Transportation Authority (CCTA) Measure J / Measure X	CCTA	Formula-based	Ongoing (annual allocations)	Engineering	Local sales tax funding for transportation improvements in Concord
Surface Transportation Block Grant (STBG)	FHWA / MTC (ACTC suballocated)	Varies	Annual RTIP programming cycle	Engineering	Flexible federal funds for roadway safety capital improvements programmed through the Metropolitan Transportation Commission (MTC) and Alameda-Contra Costa Transit District (ACTC) Regional Transportation Improvement Program. Best suited for long-term safety capital projects.
Affordable Housing and Sustainable Communities Program (AHSC)	Strategic Growth Council and CA Department of Housing and Community Development	~\$380M in Cycle 6 (FY 2024-25)	TBD; Cycle 6 most recent in 2024	Engineering, Education	Requires connection to affordable housing development. Applicable where safety projects are sited proximate to affordable housing areas in Concord. Eligible for active transportation and pedestrian safety infrastructure as co-benefits.
Sustainable Transportation Equity Project (STEP)	California Air Resources Board (CARB)	~\$32.6M per program cycle	TBD; most recent cycle 2023	Engineering, Education	Targets transportation equity improvements in Disadvantaged Communities (DACs) and Severely Disadvantaged Communities (SDACs). Strong nexus with lower-income Census tracts within Concord. Supports active transportation safety infrastructure, pedestrian safety programs, and community engagement.
One Bay Area Grant (OBAG) Program	Metropolitan Transportation Commission (MTC)	\$750M - \$800M per Cycle	OBAG Cycle 4, April to October 2026	Engineering, Planning	Major regional funding source for local streets and active transportation
Carbon Reduction Program (CRP)	FHWA / MTC	Varies	Programmed through regional cycles	Engineering	Funds projects that reduce emissions, including active transportation improvements
Transportation Alternatives Program (TAP)	Caltrans / MTC	~\$1.5B total for 2026	Cycle-based (last: 2023; next expected early 2026)	Engineering, Education	Supports active transportation and Complete Streets improvements

Next Call for Projects*: Most Recent Call



MONITORING, EVALUATION & PLAN UPDATES

Consistent with the Safe Streets and Roads for All (SS4A) program and the Safe System Approach, the City of Concord will implement a comprehensive monitoring and evaluation framework to ensure the effectiveness of the Comprehensive Safety Action Plan (CSAP) and support continuous improvement over time. This framework emphasizes data-driven decision-making, accountability, and transparency in advancing roadway safety outcomes.

ONGOING MONITORING & PERFORMANCE TRACKING

The City will establish quantifiable performance measures to track progress toward reducing fatal and serious injury (KSI) collisions. Key indicators will include, but are not limited to, total and KSI collisions, traffic citation data, observed operating speeds, and community feedback. A standardized data collection protocol will be implemented citywide to ensure consistency and reliability.

Data sources will include the Statewide Integrated Traffic Records System (TIMS/SWITRS), roadway condition assessments, 85th percentile (P85) speed studies, enforcement data from the Concord Police Department, and public input mechanisms. A designated lead entity, such as CSAP Task Force, will be responsible for coordinating data collection and reporting across departments, including Public Works, Engineering, Planning, Community Development, and the City Manager's Office, with support from external partners such as Caltrans District 4 and public safety agencies.

To support ongoing monitoring, the City will develop and maintain a GIS-based dashboard to track implementation progress and safety performance trends over time. Both output-based measures (e.g., number of countermeasures implemented) and outcome-based measures (e.g., reductions in KSI collisions, particularly along the High Injury Network [HIN]) will be evaluated.

PROJECT-LEVEL EVALUATION METHODOLOGY

For location-specific and higher-cost safety improvements, the City will conduct rigorous before-and-after evaluations to assess effectiveness. Prior to implementation, baseline data will be collected, including collision characteristics, traffic volumes, multimodal activity levels, operating speeds, and observed user behavior.

Post-implementation data will be collected after an appropriate observation period, typically one to three years, using consistent methodologies to ensure valid comparison. Where feasible, shorter or longer evaluation periods may be applied based on traffic volumes and statistical significance.

The City will apply established statistical techniques, including Empirical Bayes methods and regression analysis, consistent with the FHWA Highway Safety Manual (HSM), to account for regression-to-the-mean and other confounding factors. Performance will be evaluated by comparing predicted and observed outcomes, including changes in total collisions, KSI collisions, collision types, operating speeds, and multimodal conflicts. Observed results will be compared against established Crash Modification Factors (CMFs) and Crash Reduction Factors (CRFs) to assess effectiveness.

PERFORMANCE REPORTING & DOCUMENTATION

Each evaluated project will be documented in a formal Project Evaluation Report. These reports will include a description of the project scope and countermeasures, implementation costs and funding sources, data collection and analytical methodologies, and before-and-after performance outcomes. Reports will also identify lessons learned and provide recommendations to inform future project delivery, policy development, and design practices.

Findings will be made publicly available through the City's website and incorporated into annual CSAP progress reporting, supporting transparency and ongoing stakeholder engagement.

CONTINUOUS IMPROVEMENT & ADAPTIVE MANAGEMENT

The City will establish a recurring schedule for monitoring and reporting, including the preparation of an annual CSAP Progress Report. Findings from performance evaluations will be used to refine implementation strategies, adjust prioritization criteria, and reallocate resources toward the most effective safety interventions. This adaptive management approach ensures that CSAP remains responsive to changing conditions and maximizes safety benefits.

PLAN UPDATES

The CSAP will be updated on a regular cycle of approximately two to five years to maintain relevance and effectiveness. Updates will incorporate the latest collision data, reassess safety trends, evaluate the status and performance of implemented projects, and reflect evolving best practices and funding opportunities.

The update process will include stakeholders and community engagement to ensure that the plan continues to address the needs of all users, particularly disadvantaged communities and vulnerable road users. Maintaining an up-to-date CSAP will also support the City's continued eligibility for competitive funding programs, including SS4A Implementation Grants.

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