



Partnership in Practice:

Validating Bellingham's Active
Transportation Pilot with
Continuous Safety Monitoring

City of Bellingham, Washington



Miovision Counts and Safety solutions used for Evaluation

Miovision **Scout Plus** captured multimodal **Turning Movement Counts (TMCs)**.

Miovision **Core DCM** and **SmartView 360 Camera** were installed to visualize **near-miss events** and trends, particularly **right-hook conflicts** between vehicles and cyclists.



Pilot Overview



Homelands of the Coast Salish Peoples

Whatcom County Seat

Last major city
before the Canadian
border

Gold-Level Bicycle Friendly Community

100+ miles of
bike facilities

Strong Multimodal Policies

Prioritize most
vulnerable users



Background:

Why start a pilot project?

Identified as a “further study needed” corridor since 2014.

Holly Street is the “the hardest working street in downtown Bellingham” because it serves commuters, shoppers, diners, business owners and employees, delivery drivers, bus riders, cyclists and pedestrians
~ **Joel Pfundt, Public Works Director**

Pilot project was implemented to demystify the real-world impacts on a complex urban corridor.

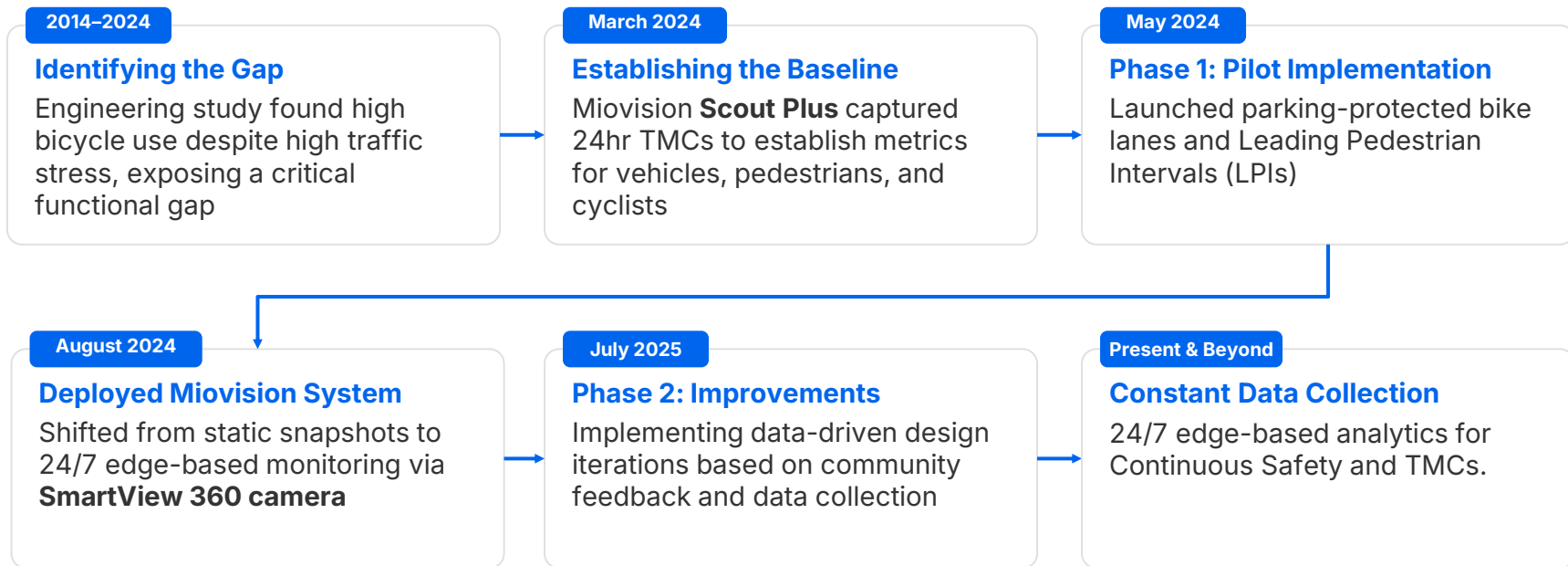
Bike lane implemented May 2024



Reference: [Holly Street, take three: Bellingham again alters bike lanes for safety | Cascadia Daily News](#)

Key Milestones:

The Holly Street Bike Lane Pilot



Phase 1: Pilot Goals & Initial Improvements

BICYCLE SAFETY

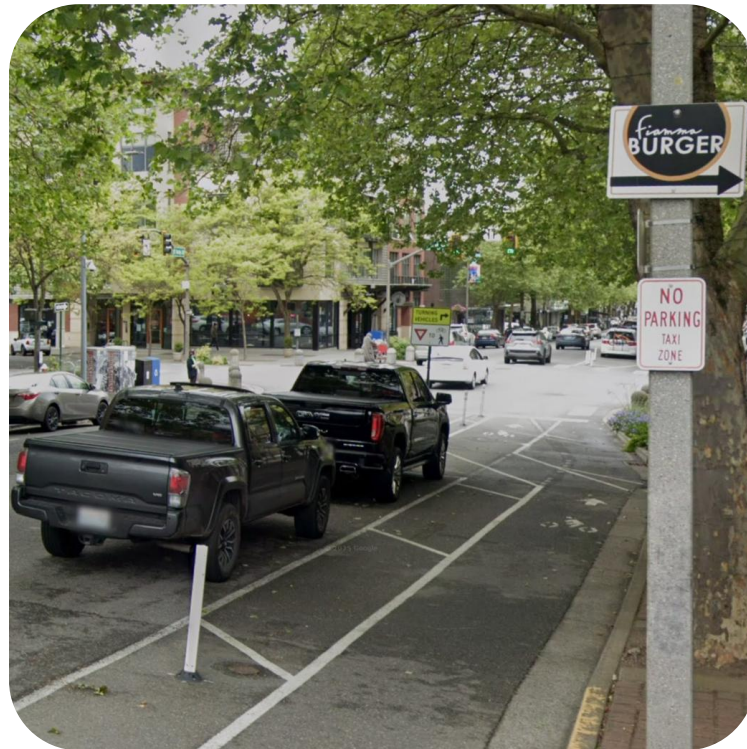
Separated Bike Lane: Parking-protected lane from State Street to Bay Street for enhanced protection.

PEDESTRIAN SAFETY

Leading Pedestrian Intervals (LPIs): Deployed along Holly Street to improve safety and comfort.

OPTIMIZATION

Signal & Signage: Timing adjustments to optimize traffic flow and accommodate new configurations.



Community Feedback

Engage Bellingham Survey after initial Pilot implementation, Spring 2024

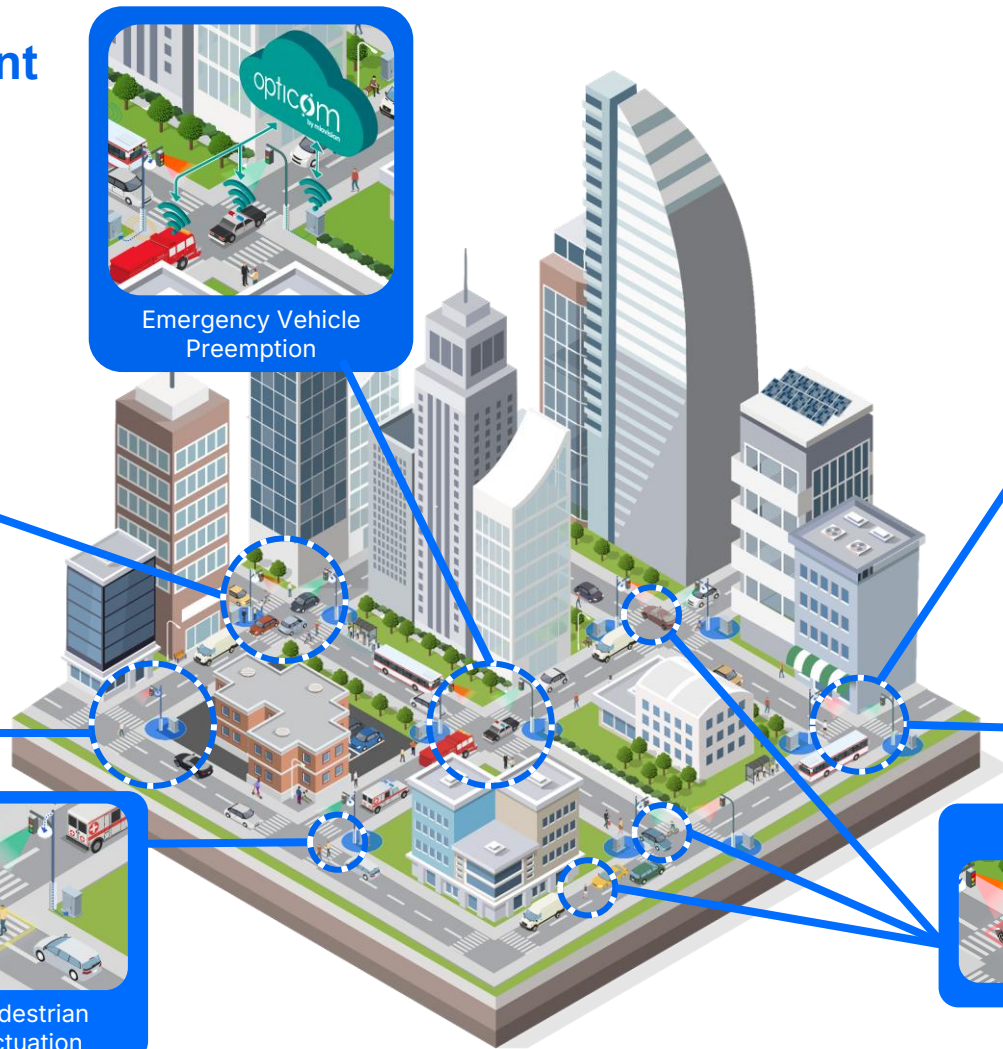
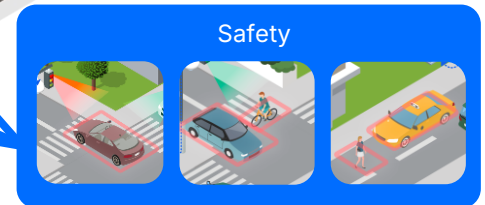
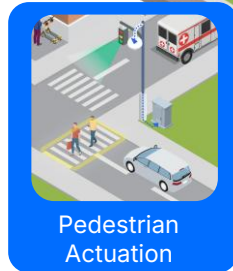
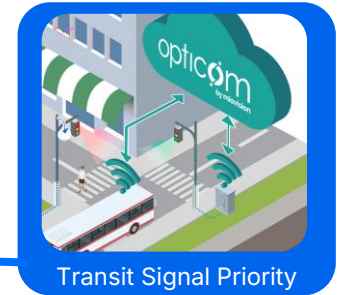
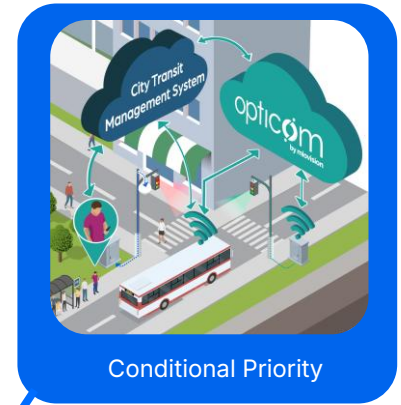
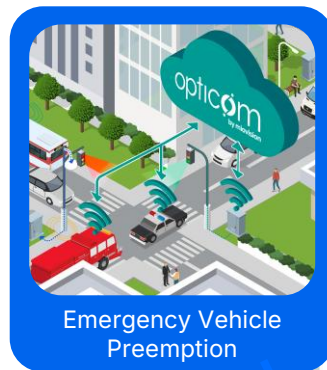
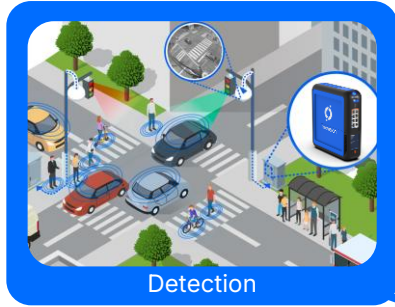
- **1189** survey responses
- **43%** of cyclists reported feeling **very unsafe**
- **35%** of pedestrians reported feeling **somewhat or very unsafe**

"The problem is that the cars parked between the bike lane and the right-hand lane on Holly obstruct the view of drivers turning right from Holly."

"As a bike, I can't see if a car's blinker is on to turn right. It feels scary because I'm traveling fast down the hill and I'm not sure those cars will really stop to look for me."

Intelligent Mobility Platform Overview

Miovision Intelligent Mobility Platform



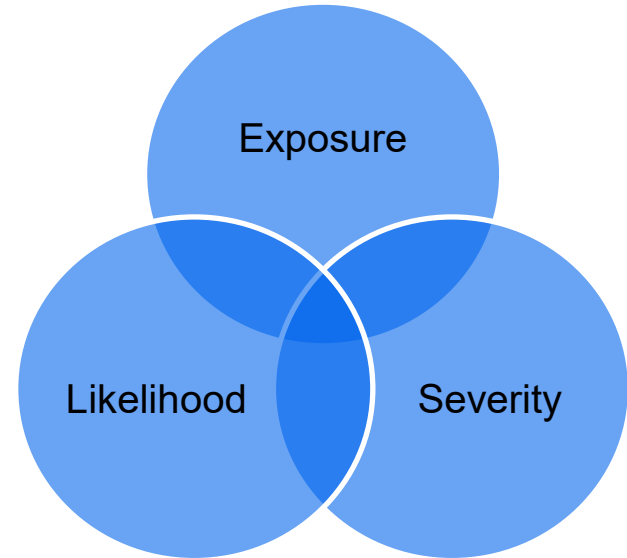
Smarter Approach to Road Safety

Near-miss analysis provides a method of using sensor technology to measure the frequency and severity of near-misses and is proven to be a very reliable predictor of severe crashes.

Miovision defines near-miss events by:

- Speed
- Impact Angle
- Temporal Separation
- User Type/ Vulnerability
- Order of Interaction

Our goal is to eliminate fatal and serious injury collisions across all transportation networks by focusing on:



By measuring near-misses, we **proactively** and **precisely** diagnose risks to empower effective road safety improvement planning

Continuous Safety Monitoring

Proactively monitor intersection safety with near-miss analysis.

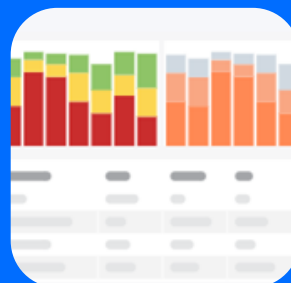


Overview Dashboard



- How many near misses?
- What type?
- When and where?
- How serious they are?

Signal Phase Dashboard



- What the traffic phase was at the time
- Jay walking? Red Light Running?

Conflict Clips*



- What factors contributed to this near miss?
- Context to inform countermeasure selection

Evaluation Confirmed Continued Conflicts

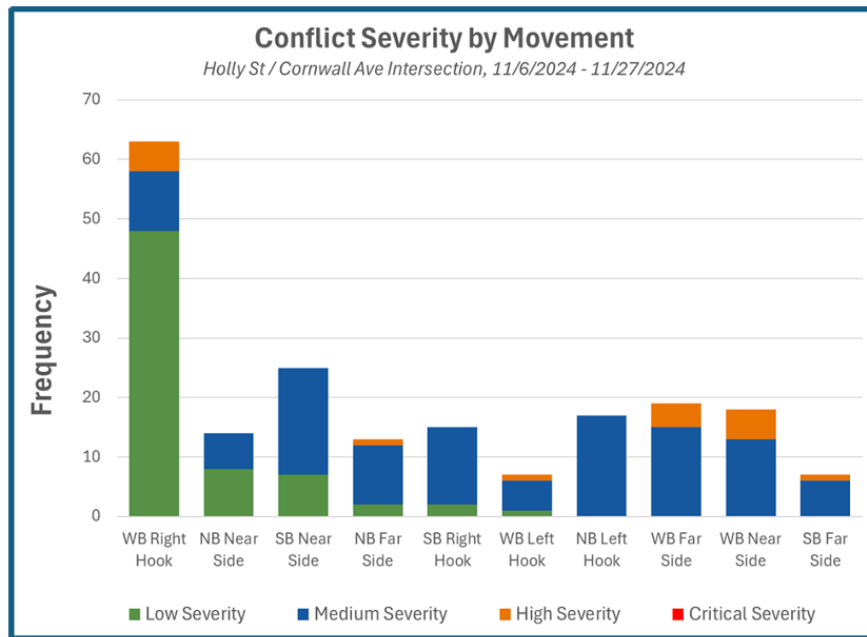
Visibility Concerns and Right Hook Conflict Hotspots

Some cyclists *opted to ride outside protected lanes due to **reduced visibility***.

Near-miss data affirmed **right-hook conflicts as the dominant concern**—corroborating cyclist feedback.

Collision data showed 5 bicycle collisions in 6 months following countermeasures.

The data helped the engineering team **develop interim countermeasures**.



Near-miss data showed the westbound right-hook was the most common conflict, making up **over 31%**—nearly three times more than any other type.

Phase 2: Iterative Safety Improvements

BEND-OUTS

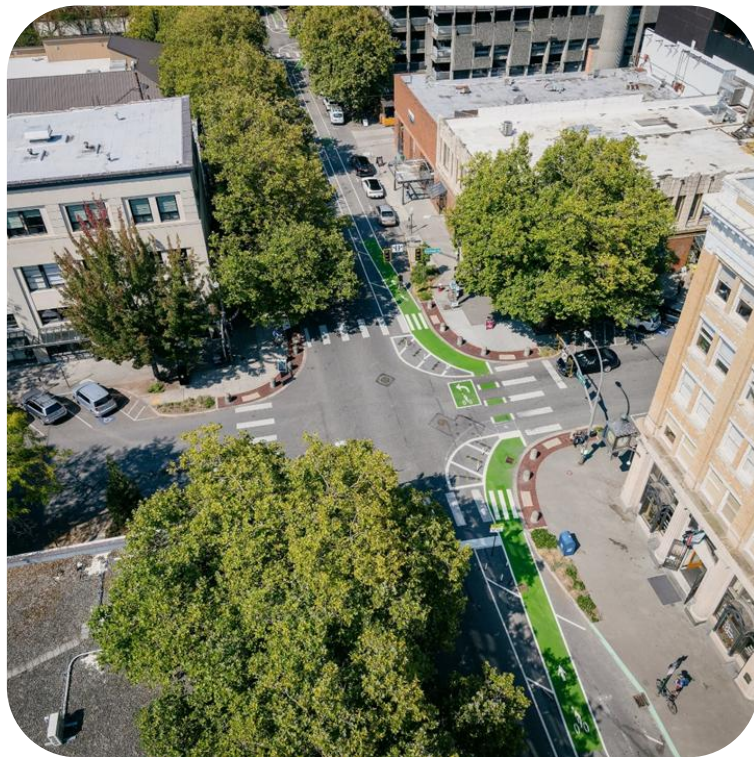
Bend-outs: Shifts bike lane away from the vehicle lane to improve bicyclist visibility

VISUAL CUES

Green Paint & Hardened Edge Lines: Visual cues to define space and highlight conflict zones

PHYSICAL SEPARATION

Traffic Buffers & Turn Wedges: Physical separation and geometry adjustments for safer turns



Long-Term Trends

Monthly Total Bicycle Volume



Monthly Total VRU Near-Miss Conflicts



Bicycle Conflicts vs. Bicycle Volume



Average Post-Encroachment Time (PET)



Key Takeaways



Iterative Process

Projects require multiple iterations of countermeasure deployment and evaluation to reach Vision Zero goals.



Data-Driven

Validate Interventions and measure impact within your community through Near-Miss and Traffic Count data.



Community Impact

Stay connected with resident needs and concerns through outreach activities and community surveys.



Thank you!
Questions?