City of Bellevue

CITY COUNCIL AGENDA TOPIC

Resolution authorizing execution of a grant agreement (and supplements if necessary) with the Washington State Department of Transportation (WSDOT) to accept up to $540,000 in state Video Analytics Program funding to support implementation of the Video Analytics Screening for Road Safety Audits Project, part of the Vision Zero Rapid Build Data Driven Safety Program (CIP Plan No. PW-R-205).

Andrew Singelakis, Director, 452-6468
Chris Long, Assistant Director, 452-6013
Franz Loewenherz, Mobility Planning and Solutions Manager, 452-4077
Darcy Akers, Senior Transportation Engineer, 452-6140
Eric Miller, Implementation Planning Manager, 452-6146
Mia Waters, Grant Program Manager, 452-4859
Transportation Department

EXECUTIVE SUMMARY

ACTION	This Resolution for the Video Analytics Screening for Road Safety Audits Project authorizes acceptance of $540,000 in state Video Analytics Program grant funding, execution of the grant agreement (and supplements if necessary) to implement collection of traffic and traffic conflict data as well as analyze the data for use with road safety audits at various city-wide locations.

RECOMMENDATION

Move to adopt Resolution No. 10452

BACKGROUND/ANALYSIS

As part of the 2023-24 State Transportation budget, the Washington State Legislature provided the Washington State Department of Transportation (WSDOT) with a one-time $1 million grant program to fund video analytics projects within the state. WSDOT released this program for applications in July 2024 as an open call, where responsive proposals would be funded until the $1 million was fully committed.

The intent of this funding is to implement network-wide traffic conflict screening programs using video analytics at controlled intersections with disproportionate numbers of traffic violations and injuries to active transportation users to reduce fatalities and serious injuries in accordance with Target Zero. Video analytics is a use of computer vision and artificial intelligence algorithms to process and analyze site specific video footage. This technology has opened a multitude of opportunities to improve safety measures, enhance roadway traffic management, and optimize traffic flow.

The City's Video Analytics Screening for Road Safety Audits Project funds collection of video analytics data to screen signalized intersections on 13.7 miles of the Bellevue's High Injury Network (HIN). These HIN roadways will be evaluated through the City's Road Safety Audits (RSAs) funded through

Bellevue's Safe Access for Everyone (B-SAFE) project through the US Department of Transportation (USDOT) / Federal Highway Administration (FHWA) Safe Streets and Roads for All (SS4A) grant program (reference Bellevue Resolution No. 10425, passed on October 22, 2024.

The City's project will conduct video analytics screening at 79 intersections to support and provide additional data for the B-SAFE project RSA work. Examples of the types of data collected include volumes (vehicles, pedestrians, and bicyclists), conflicts, red light violations, speed and more. The data will be collected for two weeks in total; one week (24 hours/7 days) in the winter of early 2025 and one week (24 hours/7 days) in summer 2025 to understand the influence of seasonality changes on intersection traffic conflicts and exposure. The data collected will inform the city's RSA work by providing consistent and detailed insights to inform the identification of safety countermeasures for implementation.

Video analysis results are anticipated to provide answers to the following representative safety considerations:

- *Road user classifications and counts:* the evaluation of traffic flows for different road users by day and time of day and provide answers to questions like: Where and when are pedestrians most active? On which approach are bicyclists present?
- *Average speeds and speed percentiles of road users:* Are specific road users speeding? Are certain times of day worse than others? Is a particular approach or direction prone to speeding? Are speed differentials significant at certain intersections?
- *Road user violations:* Are there wrong way driving, U-turns, turning from an incorrect lane or similar unplanned actions? These insights will provide answers to questions like: Are pedestrians walking outside of marked crossings and committing spatial violations? What percentage of road users are speeding?
- *Road user trajectories*: Are cyclists and vehicles crossing paths on a regular basis? Are articulated trucks crossing the median or clipping the sidewalk? Are pedestrians using the crosswalks? Are cyclists staying in their designated cycle lanes?
- *Conflict severity:* Documentation of conflicts that are likely to lead to severe injuries and fatalities from those that are likely to lead to property damage only crashes.
- *Risk profile benchmarking:* Which signalized intersection is most risky for pedestrians? Which site has the greatest risk for motorcyclists?

Work on this project would be conducted from 2025 to 2026.

POLICY & FISCAL IMPACTS

Policy Impact

Acceptance of this grant and authorization of the funding agreement with WSDOT is consistent with the following policies in the Transportation Element of the Comprehensive Plan:

- TR-55. Maintain and enhance safety for all users of the roadway network.
- TR-122. Improve the opportunities for pedestrians to safely cross streets at intersections and designated mid-block locations.
- TR-137: Seek state and federal funds for transportation capital, maintenance, and operations.

- TR-138. Provide and prioritize transportation funding to meet Performance Targets for people walking, biking, riding transit, and travelling in a car.

Fiscal Impact

Executing this grant agreement will provide, on a reimbursable basis, up to $540,000 in state Highway Video Analytics funding to support the implementation of the Video Analytics Screening for Road Safety Audits Project as part of Vision Zero Rapid Build Data Driven Safety Program (CIP Plan No. PW-R-205). The total cost to implement this project is estimated at $540,000. There is no minimum matching requirement for this grant; this project will be 100 percent grant funded. This grant will be leveraged as local match for the City's SS4A grant program funding accepted by the City Council on October 22, 2024.

OPTIONS

1. Adopt the Resolution authorizing execution of a grant agreement (and supplements if necessary) with the Washington State Department of Transportation (WSDOT) to accept up to $540,000 in state Video Analytics Program funding to support implementation of the Video Analytics Screening for Road Safety Audits Project, part of the Vision Zero Rapid Build Data Driven Safety Program (CIP Plan No. PW-R-205).
2. Do not adopt the Resolution and provide alternative direction to staff.

ATTACHMENTS

A. Vicinity Map
B. CIP Project Description (PW-R-205)
Proposed Resolution No. 10452

AVAILABLE IN COUNCIL LIBRARY

WSDOT Grant Award Letter
WSDOT State Funding Agreement (draft)