

TOWN OF WINDSOR AGENDA REPORT

Joint Windsor Town Council, Windsor Redevelopment Successor Agency and Windsor Water District Meeting Date: April 15, 2026

To: Mayor and Town Council
From: Alejandro Perez, Senior Civil Engineer
Subject: Old Redwood Hwy at Lakewood Drive Class IV Bicycle Lane Pilot Program

Recommendation to Council:

By motion, approve the Old Redwood Hwy at Lakewood Drive Class IV Bicycle Lane Pilot Program.

Strategic Plan Element:

The recommended action supports the goal of Infrastructure. Goal Statement: Through a lens of sustainability and innovation, invest in the Town's infrastructure and public facilities to meet the needs of future generations.

Background:

The intersection of Old Redwood Highway and Lakewood Drive serves as a critical connection between regional traffic on Old Redwood Highway and local access along Lakewood Drive, including nearby schools, residential neighborhoods, and major commercial destinations. The westbound approach on Old Redwood Highway consists of two travel lanes, with the outside lane accommodating both through movements and right turns onto Lakewood Drive.

Due to constrained roadway width, a dedicated right-turn only lane is not provided at this location. To improve multimodal safety, prior striping modifications introduced a Class II buffered bicycle lane and green pavement conflict marking near the intersection to increase visibility of bicyclists. In accordance with California Vehicle Code Section 21209(a)(3), motorists may merge into a bicycle lane when preparing for a right turn within a distance of 200 feet from the intersection, provided they yield to bicyclists. Signage instructing motorists to yield to bicyclists is posted approximately 100 feet in advance of the intersection.

Despite these measures and provisions, vehicle queueing and turning activity have created operational challenges. During peak periods, vehicles waiting to turn right frequently queue in the outside lane. As queues extend, some drivers enter the bicycle lane in advance of the designated merge area to bypass stopped traffic and position for the turn, with queues at times extending more than 200 feet from the intersection and blocking Fourth Street. This behavior reduces the usable space for bicyclists and introduces conflicts near the intersection.

Discussion:

Observed driver behavior at this location presents safety and operational concerns for multiple roadway users. When vehicles enter the bicycle lane prematurely or without yielding, bicyclists may be forced to slow, stop, or merge unexpectedly into adjacent traffic lanes, increasing the likelihood of conflicts.

Early entry into the bicycle lane also contributes to erratic vehicle movements near the intersection. Drivers adjusting positions between lanes or attempting to merge back into the through lane can create

conditions that increase the potential for sideswipe and rear-end collisions. While reported collisions have been limited, observations from the Windsor Police Department indicate that near-conflict and minor incidents occur with some frequency but are often unreported.

These conditions are largely influenced by the absence of a dedicated right-turn lane and the high demand for right-turn movements at this location. As queues grow, some drivers adopt positioning that are inconsistent with the intended lane configuration. This diminishes the effectiveness of the existing buffered bicycle lane and pavement markings, which are intended to provide separation and improve visibility.

To address this issue, vertical delineators have been incorporated into the planned Old Redwood Highway Downtown Undercrossing Project, funded through the Town's Capital Improvement Program (CIP), to prohibit vehicle entry into the bicycle lane. However, in response to recent observations and input from the Windsor Police Department, Town staff recommend further evaluation to determine whether this treatment will effectively address the observed conditions or if alternative approaches should be considered.

A pilot program is proposed to assess the effectiveness of vertical delineators under existing conditions. The pilot would involve installation of flexible delineator posts to convert the existing Class IIB bicycle lane into a Class IV separated bicycle lane, preventing vehicles from entering the bicycle lane to queue for right turns. Implementation would require relocation of one bus stop on Old Redwood Highway to maintain transit operations.

Because near collisions are not captured through traditional reported collision data, the pilot study will rely on near-collision analysis in addition to traditional collision analysis. Video data would be collected before and after installation and analyzed to identify observable conflicts, such as abrupt breaking, evasive maneuvers, or vehicles encroaching into the bicycle lane in a manner that creates risk for other users. These metrics will provide quantitative data to assess the effectiveness of this treatment in improving safety, while also evaluating its operational performance, including whether delineators contribute to longer queues and increased peak-hour delay. If the presence of delineators results in queues extending further along Old Redwood Highway and causing longer delays, the delineators may be removed from the scope of the Old Redwood Highway Downtown Undercrossing Project.

Pre-installation data collection is proposed prior to implementation for two weeks from April 26th through May 9th, 2026, followed by installation of delineators in May or June, 2026. The full bicycle lane improvements, shown in Attachment A, will be installed by the Town's Street Maintenance Division and will include flexible post delineators and striping modifications, including converting dashed buffer striping to solid and modifying existing green conflict markings by removal or conversion to solid markings. Post-installation data would then be collected for two weeks from September 20th through October 3rd, 2026, and compared to assess changes in traffic operations, driving behavior, and safety outcomes.

Construction of the Old Redwood Highway Downtown Undercrossing Project is currently scheduled for summer 2027. The pilot program is not expected to conflict with construction activities, as final permanent striping and delineator installation will occur after the pilot results have been evaluated. These findings will guide whether the delineator treatment is implemented as part of the Old Redwood Highway Downtown Undercrossing Project.

Fiscal Impact:

Sufficient appropriations are included in the Fiscal Year 2025-2026 Gas Tax Fund to fund to support

the Town's Street Maintenance Division in installing the bicycle lane improvements as part of the Old Redwood Highway at Lakewood Drive Pilot Program. Additionally, the Town's current on-call Traffic Engineering Services contract includes sufficient appropriations to purchase near-collision data.

Environmental Review:

This action does not constitute a "project" within the meaning of California Environmental Quality Act (CEQA) Guidelines Section 15378 and requires no environmental review.

Attachment(s):

- 1. Old Redwood Highway at Lakewood Drive Bike Improvements Schematic
- 2. Memorandum for Old Redwood Highway at Lakewood Drive Intersection
- 13.1 Correspondence Received (Distributed 2026.04.14)
- 13.1 PowerPoint (Distributed 2026.04.14)

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