



MEMORANDUM - DRAFT

To: Charmine Solla
City of Hayward

From: Adam Dankberg, P.E.
Kimley-Horn and Associates, Inc.

Date: September 30, 2021

Subject: Patrick Avenue Safety Improvements Bikeway Design Options Review

Introduction

In October 2020, the City of Hayward implemented a road diet and bicycle lane project on 0.6 miles of Patrick Avenue between West Tennyson Road and Schafer Road as part of the City's annual pavement management program. The project was consistent with the recommendations included in the City's 2020 Bicycle and Pedestrian Master Plan Update (BPMP). The goal of the project was to create a complete street that was safer for users of all modes. Following project implementation, in response to community input, the City is considering modifications to the roadway design. The City retained Kimley-Horn to evaluate two roadway reconfiguration options. The first option was proposed by the City to the community in July 2021 and would change the current parking-protected Class IV bikeway to a buffered Class II bikeway with the parking along the curb. A second option has been proposed by Bike East Bay which includes a two-way Class IV cycle track on the east side of Patrick Avenue. This memorandum summarizes Kimley-Horn's review of the proposed design options. The review also summarizes feedback received from residents and key stakeholders, including Bike East Bay, based on conference calls held during September 2021.

Corridor Background

The Project focuses on Patrick Avenue between Tennyson Road and Schafer Road. Existing conditions (2019) included four auto lanes with no bicycle facilities. Patrick Avenue serves residential, religious institutions, primary grade schools, the Weekes Community Center Park, and the Weekes Branch Public Library. Baseline conditions have a posted speed limit of 25 mph and an 85th percentile speed of 37 mph for this 72-foot wide section. **Figure 1** shows the baseline roadway cross-section prior to Phase 1 implementation.

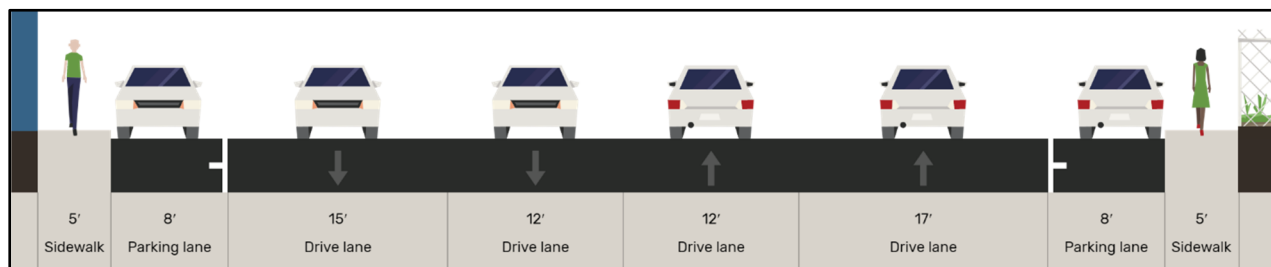


Figure 1. Roadway Cross-section prior to Phase 1 Implementation

The City implemented the first phase of the Patrick Avenue Safety Improvement Project (Project) in October 2020. **Figure 2** shows the implemented cross-section. Subsequent phase improvements, which were planned to include extending the improvement further north, providing green pavement markings, and adding typical Class IV protection treatments, have not yet been implemented.

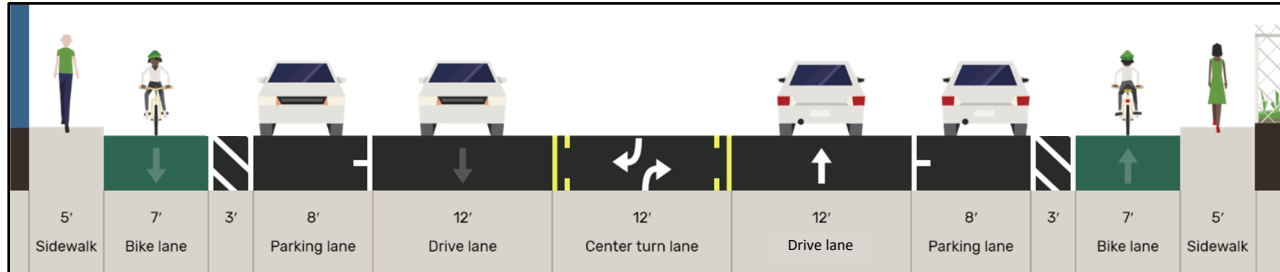


Figure 2. Phase I Implemented Cross-section

After Phase I implementation in October 2020, the community, represented by residents, schools, the library, churches, and local businesses, raised significant concerns with the implemented configuration. The City conducted a series of community meetings between February and June 2021 to hear these concerns. Primary issues raised from the community stakeholders regarding the current configuration are as follows:

- Back-up and merging confusion at Tennyson Road
- Inconvenience of current parking placement
- Site visibility from driveways and side streets
- Pick-up and drop-off issues at St. Bede's Catholic Church and Parochial School
- Pedestrian visibility at the uncontrolled crosswalks, particularly near St. Bede's Parochial School
- Parking violations from trucks near Yeyo's Market
- Queuing and back-ups between Roosevelt Ave and Gomer Street at South Hayward Parish Food Drive

In response to the community feedback received, the City prepared a revised roadway design concept to return on-street parking to curb side and convert the parking-protected bikeway to buffered bike lanes, as shown in **Figure 3**. The City presented the revised concept to the community in July 2021 at an in-person community meeting and to the Council Infrastructure Committee also in July 2021. The community positively received the revised design concept and generally accepted that it represented a compromise configuration that accommodated both a bicycle facility and addressed their primary concerns regarding the initial Phase 1 design. The community most appreciated that parking would be shifted back to the curb and the start of the lane reduction on Patrick Avenue would be shifted north, further away from West Tennyson Road.

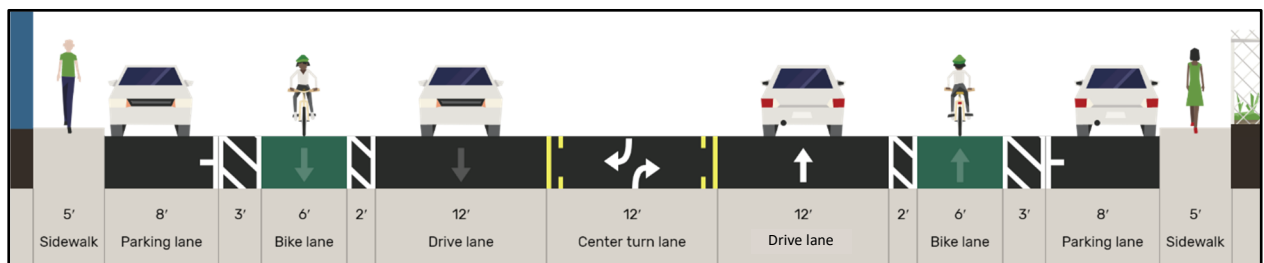


Figure 3. Phase II Re-design Cross-section

Summary of Bike East Bay Proposal

During the public review process of the alternative corridor design, Bike East Bay prepared a proposal to relocate the bike facility to the east side of the roadway as part of a two-way Class IV cycle track design. This concept is summarized in a memo provided by Bike East Bay to the City of Hayward Public Works on September 7, 2021. The design for the bike facility is a two-way cycle track with protected buffer on the east side of Patrick Avenue, as shown in **Figure 4**.

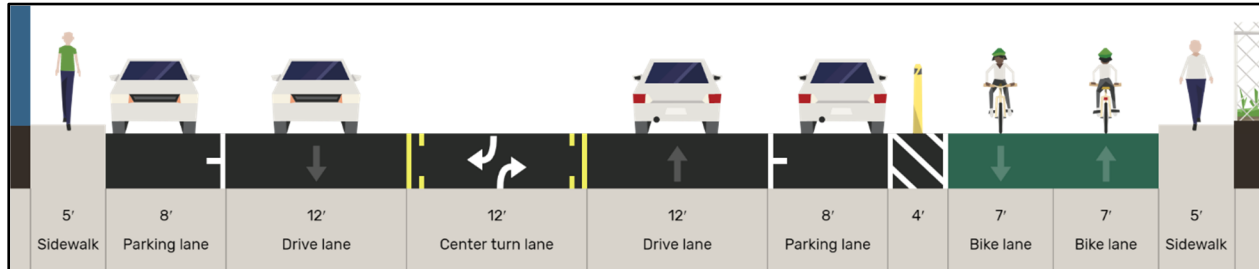


Figure 4. Bike East Bay Proposed Cross-section

Bike East Bay has indicated the following benefits of the two-way cycle track design:

- Preserves the provision of a Class IV facility, which provides a higher level of user comfort given the auto volumes and speeds on Patrick Avenue. This higher level of comfort is particularly beneficial given the number of schools in the area and desired use of the facility by school children.
- Allows parking to be preserved along the curb along the west side of Patrick Avenue by placing the bike facility on the east side where fewer conflicts exist, such as driveways and cross-streets
- Provides a two-way connection to key destinations on the east side, namely Weekes Branch Library, Weekes Community Center Park, St. Bede's School and Church, Community Bible Chapel, and Gateway Care & Rehab Center on the north end of the study segment
- Avoids issues with the high volume of southbound right-turns from Patrick Avenue to West Tennyson Road, including the provision of dual southbound right-turn lanes
- The wider bicycle facility allows a bike to travel around a car that has pulled out of a driveway and is waiting to turn onto Patrick Avenue

Stakeholder Discussion

Kimley-Horn participated with City staff in two calls with stakeholders on September 3, 2021. The first call was held with representatives from St. Bede's Catholic Church and Parochial School and local residents. The second call was held with representatives from Bike East Bay. The calls were held to discuss both the City's proposed re-configuration of the roadway and Bike East Bay's proposed two-way cycle track concept. The City had shared Bike East Bay's memorandum with residents before the time of the call and attendees were familiar with the concept being proposed. The attendees for both calls are listed in Attachment A. The call summaries are provided below:

St. Bede's and Community Residents:

- Comments regarding the two-way cycle track:
 - A two-way cycle track would be very confusing to drivers
 - Concerns about driver visibility of cyclists
 - Concerns about access to the two-way cycle track for bike users
 - Concerns about exiting the school campus across the bike facility
 - Concerns about vehicles parking in the cycle track
 - Concerns about proximity of vehicle parking to moving auto traffic in lanes

- Concerns about access to school loading area
- Concerns about the northern limit of the cycle track around the roadway curve near Yeyo's Market and Gading Road
- Support for the compromise solution presented by City staff in July
- Support in particular for the compromise's solution ability to handle school loading queuing
- Need for signage regarding reduction in travel lanes northbound

Bike East Bay Representatives:

- Some of challenges of existing facility would be addressed by providing raised protection of the cycle track, including parking in the bike lane
- Concerns regarding high turning movements at West Tennyson Road
- Merits of the two-way east-side facility, as noted above
- Recognition that challenges with the two-way bicycle facility include the KFC and the bus stop near West Tennyson Road. They proposed a bus stop configuration that places the bike facility through the bus stop area
- Need for better signage for turns from West Tennyson Road to avoid floating parking lane
- Observations of limited driveway access activity
- Identification of potential solutions to accessing the two-way bike facility at West Tennyson Road
- Identification of a potential need to do bus stop consolidation to limit conflicts with the two-way bike facility
- Emphasis of consistency of protected bike lane solution with recent planning efforts, including the Tennyson Corridor Engagement Plan, Patrick Avenue/Tennyson Avenue Walk Audit, and Hayward BPMP.

Consultant Consideration of Alternatives

Kimley-Horn evaluated the two alternative configurations provided and has identified the following benefits and drawbacks of each alternative.

City-Proposed Modified Configuration

Benefits:

- Preserves a buffered bicycle lane along the full extent of the corridor
- Preserves the safety and traffic calming benefits of the road diet
- Shifts parking to the curb to reduce driver confusion and likelihood of bike lane blockage
- Eliminates concerns regarding the short merge distance for turning movements from West Tennyson Road
- Improves queuing space for both school pick-up/drop-off and the food drive
- Provides improved visibility for the unsignalized pedestrian crossing near St. Bede's
- Provides an improved transition for the bicycle facility at the northern limit near Schafer Road
- Maintains a buffer to increase the width between bicyclists and autos
- Expands no parking red curb to increase daylighting at driveways and crossings
- Better facilitates left-turn movements from Gading Road
- Addresses the conflict between cyclists and southbound right-turning vehicles from Patrick Avenue to West Tennyson Road

Drawbacks:

- Places bicyclists closer to moving traffic and between parked cars and traffic, but still separated by a buffer

- Maintains a conflict between northbound cyclists and buses at bus stops on Patrick Avenue

Bike East Bay-Proposed Configuration

Benefits:

- Provides a higher quality (Class IV) bicycle facility to maximize comfort and protection for cyclists
- Reduces the number of conflicts between autos and bicyclists by placing all cyclists on the east side of the road
- Avoids conflicts between cyclists and southbound right-turning vehicles from Patrick Avenue to West Tennyson Road
- Provides more direct access for cyclists in both directions to attractions on the east side of the road, including Weekes Community Center Park, Weekes Branch Library and St. Bede's

Drawbacks:

- Adds additional complexity to conflicts between bicycles and turning movements to streets and driveways on the east side of Patrick Avenue, including KFC. Atypical conflicts for drivers at crossing locations of the two-way bicycle facility could result in driver error or deficient yielding.
- Creates a conflict between bus loading and two-way bicycle movements at bus stops near West Tennyson Road and Roosevelt Road, including introducing potential visibility issues for the bicycle facility
- May create confusion regarding vehicle queuing and driveway movements at St. Bede's
- Additional complexity for cyclists accessing/egressing the two-way cycle track at either end at West Tennyson Road and Schafer Road
- More difficult to access bicycle facility for residents on the west side of Patrick Avenue
- Does not address community concerns regarding floating parking

Assessment Findings

In assessing the alternatives, Kimley-Horn notes that the community concerns with the configuration implemented in October 2020 are effectively addressed as part of the City's July 2021 reconfiguration. We believe that the reconfiguration option will improve visibility at driveways and crossing streets and provides a vehicle queuing and loading configuration for St. Bede's and the food drive that will increase driver adherence and predictability.

While we recognize that the Bike East Bay proposal provides a bicycle facility that for much of the segment would likely increase comfort for through cyclists, we would not recommend the solution due to challenges at key pinch points that would increase conflict risks for all roadway users. Two-way cycle tracks are most effective and commonly implemented along roadway stretches with minimal to no conflicting driveways or streets. Examples include along Shore Line Drive in Alameda and Bancroft Way in Berkeley. However, the stretch of Patrick Avenue between West Tennyson Road and Rieger Avenue includes six residential driveways, the heavily utilized KFC driveway, and a bus stop on the east side of the street. Adding two-way cyclists at the several driveways introduces additional risk for conflicts with autos turning into/out of those driveways. Drivers are not expecting to look for cyclists approaching in both directions, which is particularly concerning for the KFC driveway which attracts motorists that may not be familiar with the corridor. Visibility at this driveway is additionally impacted when a bus is dwelling at the adjacent bus stop. In addition, while AC Transit bus service along Patrick Avenue is not frequent, there is not sufficient space to provide separate facilities for bus loading and bicycle through movements, which is particularly concerning given the complexity, limited site distance, and number of conflicts

between West Tennyson Road, the bus stop, and the KFC driveway. We are not familiar with another location within the AC Transit system where space for bus passenger loading is shared with a two-way bicycle facility.

Auto conflicts with two way cycle tracks are particularly undesirable where left-turn movements cross the cycle track due to with reduced bicycle visibility and driver expectations. This would occur at three roadways – Rieger Avenue, Westwood Street, and St. Bede Lane. Bike East Bay is recommending providing an all-way stop at Westwood Street and eliminating left-turns at St. Bede Lane. We believe it would be challenging to effectively eliminate left-turns at St. Bede Lane given the current street configuration and driveway placement. The addition of an all-way stop at Westwood Street in very close proximity to the existing all-way stop at Gomer Street may introduce additional traffic circulation challenges. While turning volumes at each of these streets are low, a conflict is introduced that is not present with the City's proposed configuration.

Additionally, with the City's goal of ultimately extending the bicycle facility along Gading Road to Harder Road, the east-side two-way cycle track would have a greater number of conflicts north of Schafer Road. The segment of Gading Road between Schafer Road and Harder Road includes a number of higher volume driveways on the east side, including Glassbrook Elementary School, several churches, and apartment complexes. These driveways would have similar challenges as noted above regarding the segment of Patrick Avenue between West Tennyson Road and Rieger Avenue. Therefore, we believe it will be more problematic in the future to extend the two-way cycle track to the north of Schafer Road than extending the City's July 2021 buffered bike lane concept. Providing a two-way cycle track only between Schafer Road and West Tennyson Road with one-way bicycle lanes to the north will require a lot of complicated bicycle movements to access and egress the facility both at West Tennyson Road and Schafer Road, affecting overall usability.

We believe that the City's buffered bike lane configuration is consistent with the City's desires to improve bicycle safety and connectivity and provide traffic calming along the Patrick Avenue corridor and best addresses resident concerns and comments regarding the current roadway configuration.

Attachment A: Participants in Stakeholder Discussions, September 3, 2021

Doug Watkins, resident
Jennifer Skerba, resident
Patrick Virgin, resident
Ruthy Estrada, resident
Janine Durana, St. Bede's Parochial School Principal
Jennifer Silva, St Bede's Vice Principal
Ninfa Galindo-Trantina, St Bede's Office Manager
Sylvia Feliciano, St Bede's Health Chair
Dave Campbell, Advocacy Director, Bike East Bay
Alejandro Jasso, Bike East Bay member