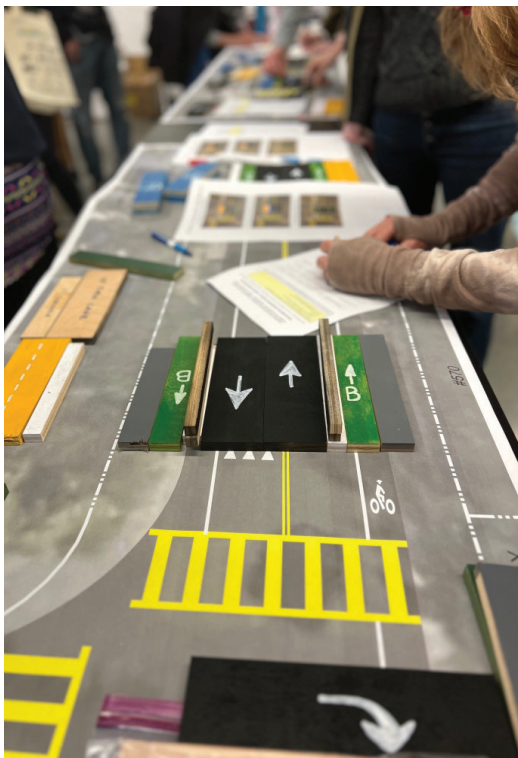




W-Trans
in Association with
Toole Design Group

Draft Report

Coleman and Ringwood Avenues Transportation Study



Prepared for the County of San Mateo and City of Menlo Park

February 8, 2024



**TRAFFIC ENGINEERING
TRANSPORTATION PLANNING**
Balancing Functionality and Livability since 1995
w-trans.com



This page intentionally left blank

Table of Contents

Summary Report	1
Introduction	1
Existing Transportation Conditions	2
Community Engagement	4
Preferred Alternatives	5
Next Steps	11

Tables

1. Summary of Roadway Characteristics	3
2. Planning Level Cost Estimates for Preferred Alternatives	11

Plates

1. Study Process and Timeline	1
2. Map of the Study Area	2
3. Coleman Avenue Existing Cross Section (Menlo Oaks) Looking East Toward Willow Road	3
4. Coleman Avenue Existing Cross Section (City of Menlo Park) Looking East Toward Willow Road	3
5. Ringwood Avenue Existing Cross Section (Menlo Oaks) Looking North Toward Bay Road	4
6. Types of Engagement Solicited for each Phase of the Study	4
7. Coleman Avenue (Menlo Oaks) Preferred Long-term Alternative Cross Section Bike Lanes with Off-street Pathway	6
8. Coleman Avenue (Menlo Oaks) Preferred Long-term Plan View Schematic Bike Lanes with Off-street Pathway	6
9. Coleman Avenue (City of Menlo Park) Preferred Long-term Alternative Cross Section Bicycle Boulevard with Shared Use Pathway and Parking on One Side	7
10. Coleman Avenue (City of Menlo Park) Preferred Long-term Alternative Plan View Schematic Bicycle Boulevard with Shared Use Pathway and Parking on One Side	7
11. Preferred Pilot Option - Through Traffic Restriction	8
12. Ringwood Avenue (Menlo Atherton High School) Preferred Alternative Bike Lanes (Protected near Schools) with Off-street Pathway	9
13. Ringwood Avenue (Laurel School Lower Campus) Preferred Alternative Bike Lanes (Protected near Schools) with Off-street Pathway	10
14. Ringwood Avenue Preferred Alternative Plan View Schematic Bike Lanes (Protected near Schools) with Off-street Pathway	10

Appendices

- A. Existing Conditions Memorandum
- B. Community Engagement Summary
- C. Suggested Draft Alternatives
- D. Evaluation Criteria Summary and Results
- E. 10% Concept Design Plans
- F. Cost Estimates



This page intentionally left blank

Summary Report

Introduction

This report summarizes the study process and key findings for the *Coleman and Ringwood Avenues Transportation Study*. The Study area consisted of Coleman Avenue between Ringwood Avenue and Willow Road, and Ringwood Avenue between Middlefield Road and Bay Road. The Study was a culmination of a two-year effort led by the County of San Mateo, in partnership with the City of Menlo Park to assess the community's needs and preferences for potential improvements to Coleman and Ringwood Avenues. Residents and stakeholders have highlighted concerns about safety and mobility on these streets for more than two decades, with a focus on the lack of dedicated bicycle and pedestrian facilities and high usage of the corridors by students traveling to and from nearby schools.

Study Goal

Develop a community preferred plan for both corridors to improve mobility for active modes of transportation and improve safety for all roadway users.

The current study effort builds on previous planning efforts including the County of San Mateo's Unincorporated Active Transportation Plan (SMC ATP) and the City of Menlo Park's Transportation Master Plan (TMP) through extensive community engagement. Stakeholders included residents and property owners many of whom were students and parents or caregivers for students, and representatives from community and technical advisory committees comprised of representatives from nearby schools, community-based organizations (CBOs), County and City staff as well as the Menlo Park Fire Protection District (MPFPD) and the San Mateo County Transit District (SamTrans).

The Study development process took place between February 2022 and March 2024 and included four phases of community engagement and improvement development, as identified in Plate 1. Each phase gathered input from the community that helped shape the development of design options and the trajectory of the Study effort.

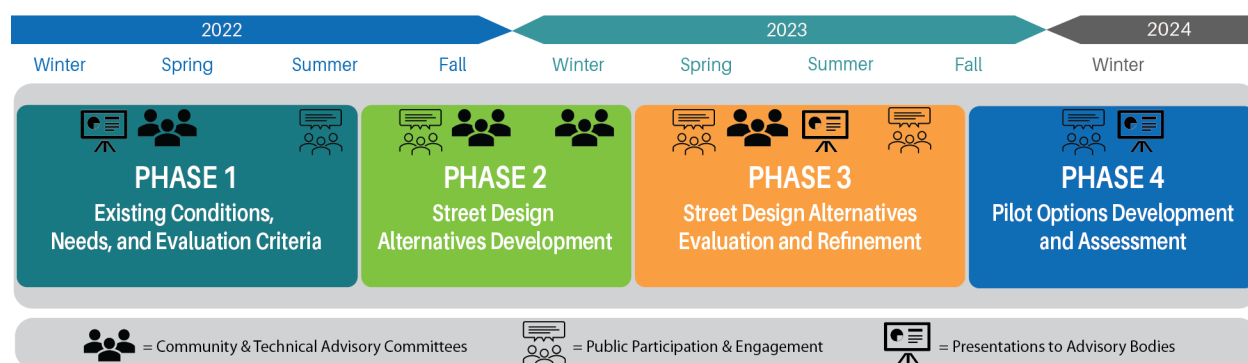


Plate 1 Study Process and Timeline

- **Phase 1** included a review of existing conditions and development of potential objectives and evaluation criteria. Community engagement included pop-up events, walking tours, and an initial community survey to build awareness of the study, solicit feedback on opportunities and challenges, and develop objectives and evaluation criteria.
- **Phase 2** included development of an initial set of design alternatives and refinement of those alternatives based on input from the Study advisory committees and from additional stakeholders, through an interactive workshop and a second community survey.

- **Phase 3** involved development of conceptual corridor design plans for the top alternatives based on input received from prior phases. Community engagement included stakeholder meetings, a public workshop, and a pop-up demonstration project on Coleman Avenue to review the concepts.
- **Phase 4** addressed community concerns received during Phase 3, with additional outreach to review potential quick build pilot options for Coleman Avenue. Outreach during this phase included a webinar and third community survey.

Existing Transportation Conditions

The Study area consists of Coleman Avenue between Ringwood Avenue and Willow Road, and Ringwood Avenue between Middlefield Road and Bay Road. Both roadways include segments that are partly within the unincorporated community of Menlo Oaks and partly within the City of Menlo Park. A map of the Study area showing the jurisdictional boundaries is shown in Plate 2.

Existing Conditions Assessment

*The complete Existing Conditions document with figures and attachments is provided in **Appendix A**, which includes a detailed description of roadway characteristics, collision history, and a summary of previous planning efforts for both corridors.*



Plate 2 Map of the Study Area

Coleman Avenue

Coleman Avenue is comprised of two distinct segments with different characteristics and adjacent land uses. Within the unincorporated community of Menlo Oaks, the roadway shoulders are a combination of gravel, dirt, and vegetation with numerous large mature oak trees and utility poles, located within the public right-of-way. The tree canopy and vegetated shoulders add to the rural character of the area. Parking is available on the shoulder in select locations with time restrictions. At the intersections with Menlo Oaks Drive, Arlington Way, and Berkeley Avenue, traffic circles with planted oak trees provide aesthetic and traffic calming benefits to the corridor. Within the City of Menlo Park, space for

on-street parking is provided on both sides of the street, along with curb, gutter, and sidewalk, common for a typical urban setting.

Ringwood Avenue

Most of Ringwood Avenue is located within the County of San Mateo except for the southernmost approximately 550 feet, which is within the City of Menlo Park and Town of Atherton. Similar to Coleman Avenue, the roadway shoulders are a combination of gravel, dirt, and vegetation with numerous trees and utility poles located within the public right-of-way. Sidewalks are present on both sides of the street at the southern end of the segment within Menlo Park, which then transitions to a paved shoulder with a valley gutter on only the west side of the

street within unincorporated Menlo Oaks. Parking conditions vary across the corridor including segments where parking is prohibited at all times, permitted only during certain times, and unrestricted.

Summary of Roadway Characteristics

A summary of the roadway characteristics for both Coleman and Ringwood Avenues is provided in Table 1 and the current cross section configurations of the corridors are illustrated in Plates 3-5.

Table 1 – Summary of Roadway Characteristics

Roadway Segment	Speed Limit	85 th Percentile Speed	Average Speed	Daily Vehicles	Pedestrian Facilities	Bicycle Facilities	5-Year Total Collisions	10-Year Ped/ Bike Collisions
Coleman Ave (County)	25	29	24	3,500	None	None	3	5
Coleman Ave (City)	25	30	25	3,200	Sidewalk Both Sides	None	9	1
Ringwood Ave	30	33	28	6,900	Varies - Sidewalk, Paved Shoulder	Class II Bike Lanes	8	3

Note: All speeds are in miles per hour (mph)

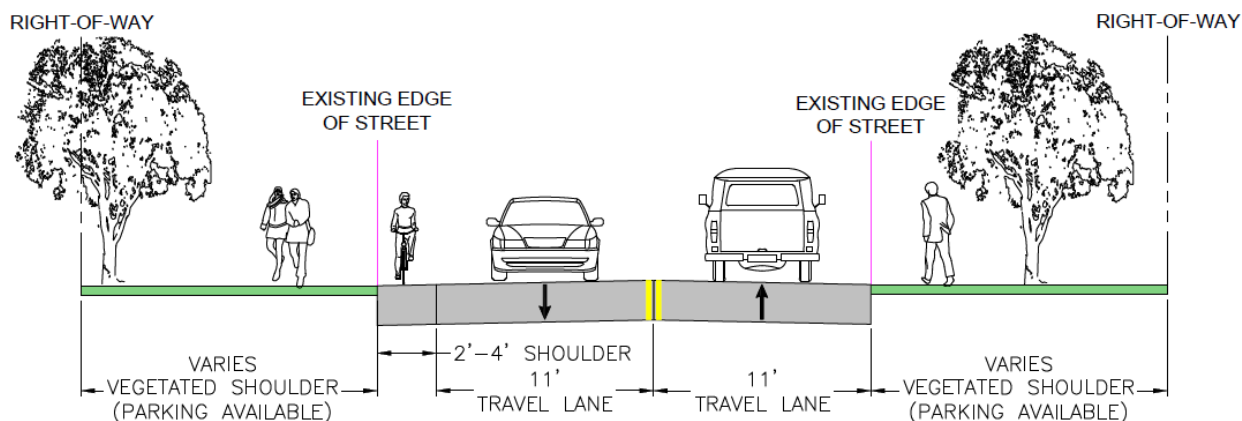


Plate 3 Coleman Avenue Existing Cross Section (Menlo Oaks) Looking East Toward Willow Road

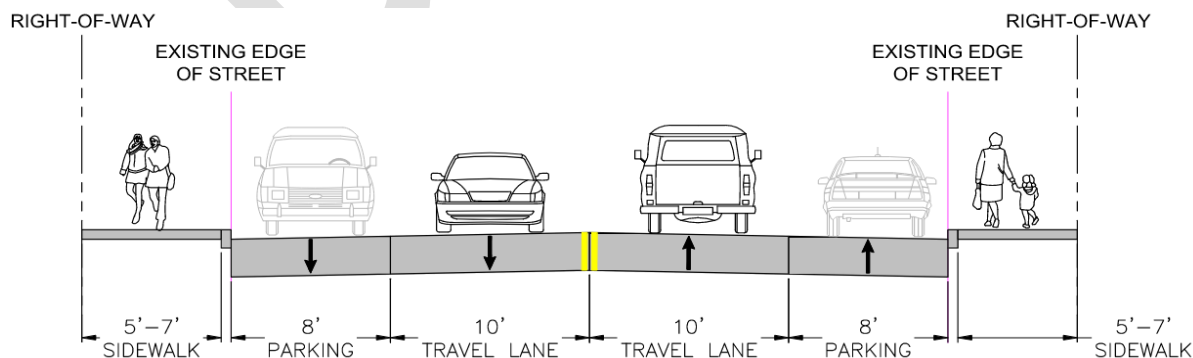


Plate 4 Coleman Avenue Existing Cross Section (City of Menlo Park) Looking East Toward Willow Road

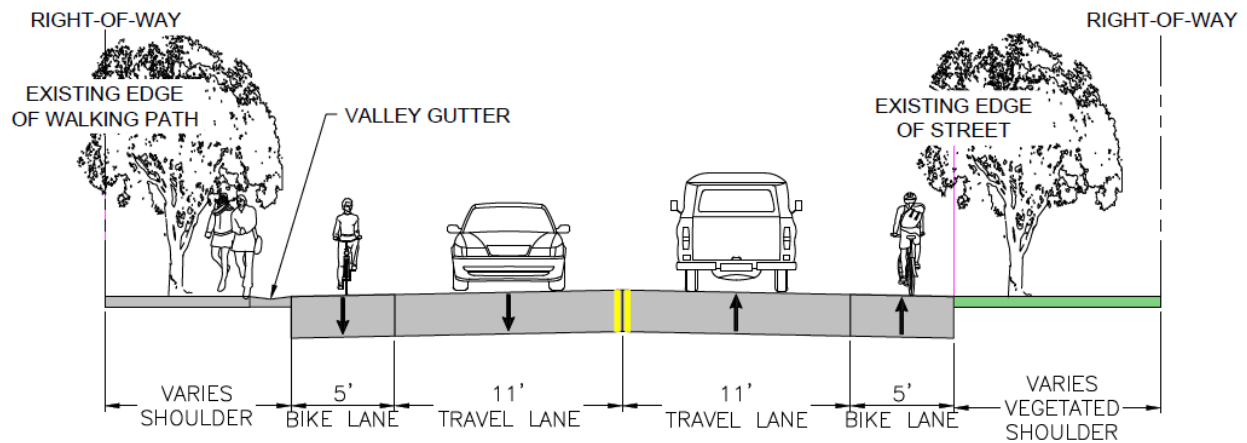


Plate 5 Ringwood Avenue Existing Cross Section (Menlo Oaks) Looking North Toward Bay Road

Community Engagement

At the core of the Study was an extensive engagement effort with community members and additional stakeholders. Input was sought on existing transportation needs and issues, community values, Study goals and objectives, potential solutions, design alternatives, and pilot options. Numerous engagement activities were conducted across the four phases of the Study, as summarized in Plate 6 with pictures from the engagement events.

Community Engagement Summary

*The complete Community Engagement Summary is in **Appendix B**, which includes a detailed description of all the engagement activities conducted throughout the project.*



Plate 6 Types of Engagement Solicited for each Phase of the Study

Preferred Alternatives

Draft Alternatives and Evaluation Criteria

*A summary of all design alternatives considered is provided in **Appendix C** and the evaluation criteria process is contained in **Appendix D**.*

The alternative development process began with a set of findings from the initial phase of outreach. The team translated these findings into design objectives, evaluation criteria, and an initial set of draft design alternatives. Early alternatives were reviewed and refined through additional

public outreach on the evaluation criteria. The following sections describe the preferred alternatives that emerged from this process.

Coleman Avenue

On Coleman Avenue, two options emerged for potential future direction: a short-term pilot project or a long-term redesign of the corridor with different designs for the Menlo Oaks and City segments based on their respective land use conditions, constraints and needs. A desire for traffic calming was identified as a common theme from the community for both the County and City segments. Speed reduction measures are a core element of the long-term alternatives across the entire corridor, and could include the following measures which may require additional evaluation:

- Speed tables;
- Narrower (10-foot) travel lanes;
- Enhancements to the existing traffic circles in Menlo Oaks with Increased deflection;
- Curb extensions at various intersections in the City;
- Centerline and edge line striping;
- Speed reduction markings; and
- New signage.

Long-term Preferred Alternative – Menlo Oaks

The preferred alternative within the unincorporated Menlo Oaks segment of Coleman Avenue consists of the installation of Class II bike lanes in both directions and an off-street pathway on the north side of the corridor that would be separated from the street by a landscaped buffer or a raised element, as depicted in Plates 7 and 8. Key elements include pavement widening of the existing roadway to accommodate bike lanes and shifting the alignment of the road to the south in several locations to minimize tree impacts. The off-street pathway is intended primarily for use by pedestrians and would also accommodate younger school-aged cyclists and those less comfortable riding in the street with vehicular traffic. Pathway materials could be asphalt or a permeable surface. The alignment and width of the pathway would vary across the corridor in a meandering fashion to preserve trees, and minimize the cost and impact of relocating utilities and other features. It is estimated

DESIGN OBJECTIVES

Based on feedback from the community, the Study team identified design objectives to guide the development and evaluation of alternatives. These objectives provide additional specificity for the overarching goal of improved mobility for active modes of transportation and safety for all roadway users:

- ✓ Improve safety by reducing the frequency and severity of collisions,
- ✓ Reduce vehicle travel speeds, especially where different user groups interact or share space,
- ✓ Create greater separation of physical space for pedestrians and bicyclists from motor vehicles,
- ✓ Improve the level of comfort for pedestrians and bicyclists,
- ✓ Provide continuity for pedestrians and bicyclists from one side of the corridors to the other, and
- ✓ Preserve the character of the neighborhood including trees, greenery, and circulation patterns, and
- ✓ Preserve some parking within the City segment of Coleman Avenue.

Concept Design Plans

Conceptual design plans representing a 10% level design effort were prepared for the top two long-term design alternatives for each corridor and are provided in **Appendix E**.

that between six and 19 of the approximately 130 existing trees on the corridor would need to be removed to make room for the new facilities; the actual number would depend on the final design and the expertise and assessment of an arborist during the detailed design stage. Parking would be eliminated on the north side of the street to make room for the pathway, though much of the existing parking on the south side of the street could be retained.

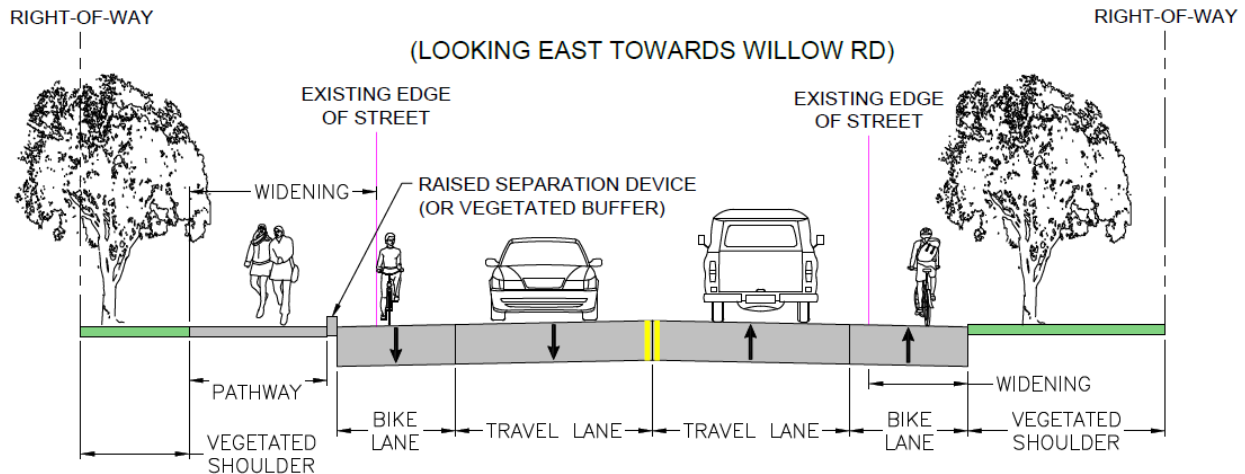


Plate 7 Coleman Avenue (Menlo Oaks) Preferred Long-term Alternative Cross Section
Bike Lanes with Off-street Pathway

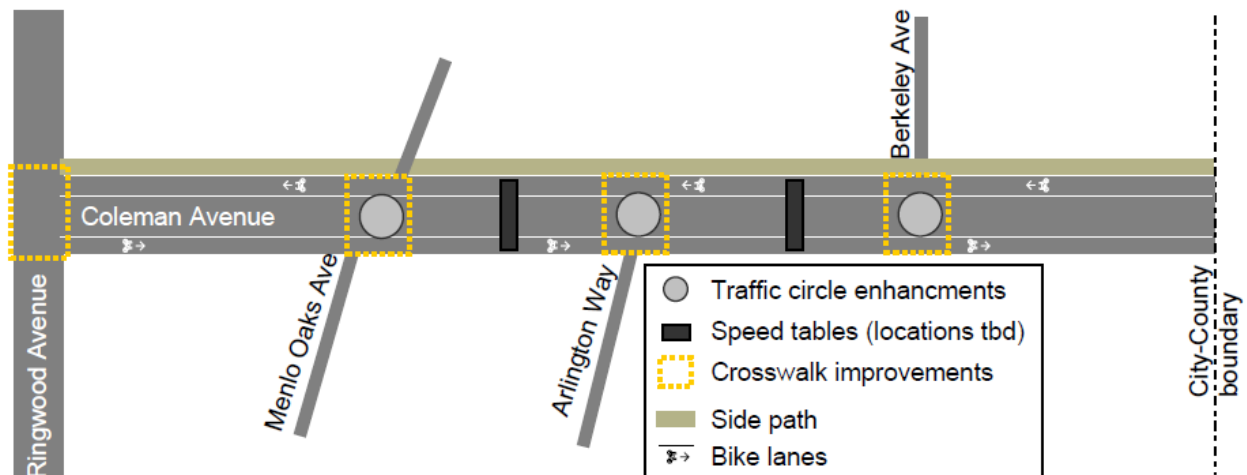


Plate 8 Coleman Avenue (Menlo Oaks) Preferred Long-term Plan View Schematic
Bike Lanes with Off-street Pathway

Other alternatives considered as part of the Study included:

- a bicycle boulevard with a wider off-street pathway;
- adding a shared use pathway on the north side of the street with no bike lanes or roadway widening;
- conversion to a one-way street;
- traffic calming only; and
- a no-build alternative that retained existing conditions.

The preferred long-term design alternative balances the community's desire for improved pedestrian and bicycle infrastructure while preserving the character of the neighborhood, including retaining the existing traffic circles and as many trees as possible. However, due to the presence of numerous trees near the edge of the existing paved roadway, it is unlikely that the new bicycle and pedestrian infrastructure could be constructed without removing a single tree. While there was a general preference for the preferred alternative with bike lanes, there were ongoing concerns from community members about tree removal, widening the paved surface, and drainage issues.

Long-term Preferred Alternative – City of Menlo Park

The preferred long-term alternative for the City of Menlo Park segment of Coleman Avenue includes the removal of parking on one side of the street to make room for an expanded sidewalk/multi-use pathway on the north side of the corridor, as depicted in Plates 9 and 10. The pathway would be separated from the street by a landscape strip where possible. The existing curb, gutter, and sidewalk on the south side of the street would remain in their current configuration. School-aged and less experienced bicyclists would share the pathway with pedestrians, while traffic calming measures would make riding in the street and sharing the travel lanes with motorists more comfortable for experienced cyclists. The alignment of the shared use pathway on the north side of the street would be continuous and connect with the pathway identified in the preferred alternative for the County segment of Coleman Avenue, though specific design details (materials, width, height, separation, etc.) could vary. The design includes a raised crossing near Riordan Place to allow eastbound cyclists riding in the bike lane in the County segment of Coleman Avenue to transition to the shared use pathway in the City segment of Coleman Avenue.

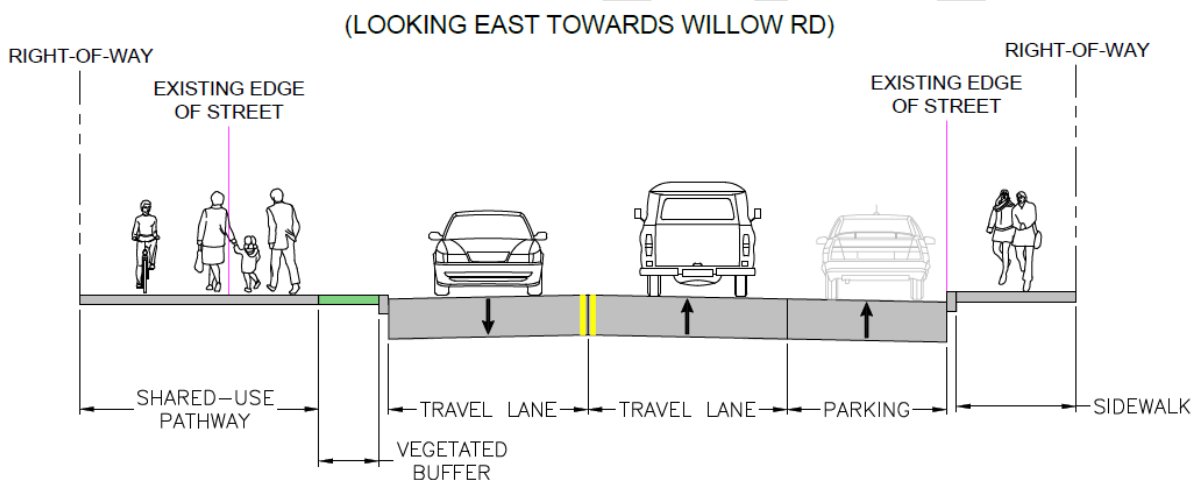


Plate 9 Coleman Avenue (City of Menlo Park) Preferred Long-term Alternative Cross Section Bicycle Boulevard with Shared Use Pathway and Parking on One Side

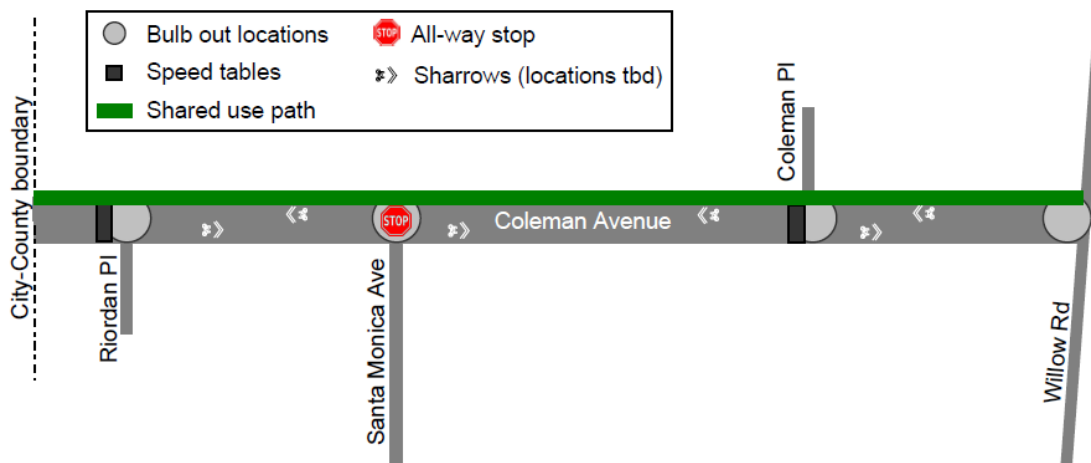


Plate 10 Coleman Avenue (City of Menlo Park) Preferred Long-term Alternative Plan View Schematic Bicycle Boulevard with Shared Use Pathway and Parking on One Side

Other design alternatives considered included:

- a bicycle boulevard that retained parking on both sides of the street;
- removing parking on a one side of the street to make room for narrow bike lanes (less than 5 feet);
- removing parking on both sides of the street to install buffered bike lanes;
- traffic calming only; and
- a no-build alternative that would retain the existing conditions.

The preferred alternative balances the needs of all users of the corridor, including pedestrians, experienced and inexperienced cyclists, and motorists, while retaining some on-street parking, which is heavily used by residents of the apartments along Coleman Avenue. The side of the street for which parking would be retained was discussed throughout the Study, with some preferring parking on the north side of the street for convenience to the higher density housing, and others preferring parking to be on the opposite side of the street in order to minimize potential conflicts with users of the new pathway and to maintain or improve sight lines at driveways. Parking is currently shown on the south side of Coleman Avenue in the cross section and concept plans, but the final location would be confirmed during the detailed design phase.

Short-term Pilot Option - Through Traffic Restriction

While there was general support for the preferred long-term alternatives, the outreach process revealed an interest in reducing traffic volumes during peak periods and concerns with pavement widening, tree removal, and parking removal. A potential short-term pilot project was developed to restrict through traffic between the County and City as an alternate approach, with exceptions for people walking and bicycling, transit vehicles (including school buses), and emergency vehicles. This option is illustrated in Plate 11.

A road closure near the County/City boundary would include barriers that would physically restrict passenger vehicles from continuing from one side of Coleman Avenue to the other and would divert traffic onto other streets. This option is proposed as a pilot because of the potential impacts it would have to travel. The pilot would include both installation of through movement restrictions and an evaluation framework.

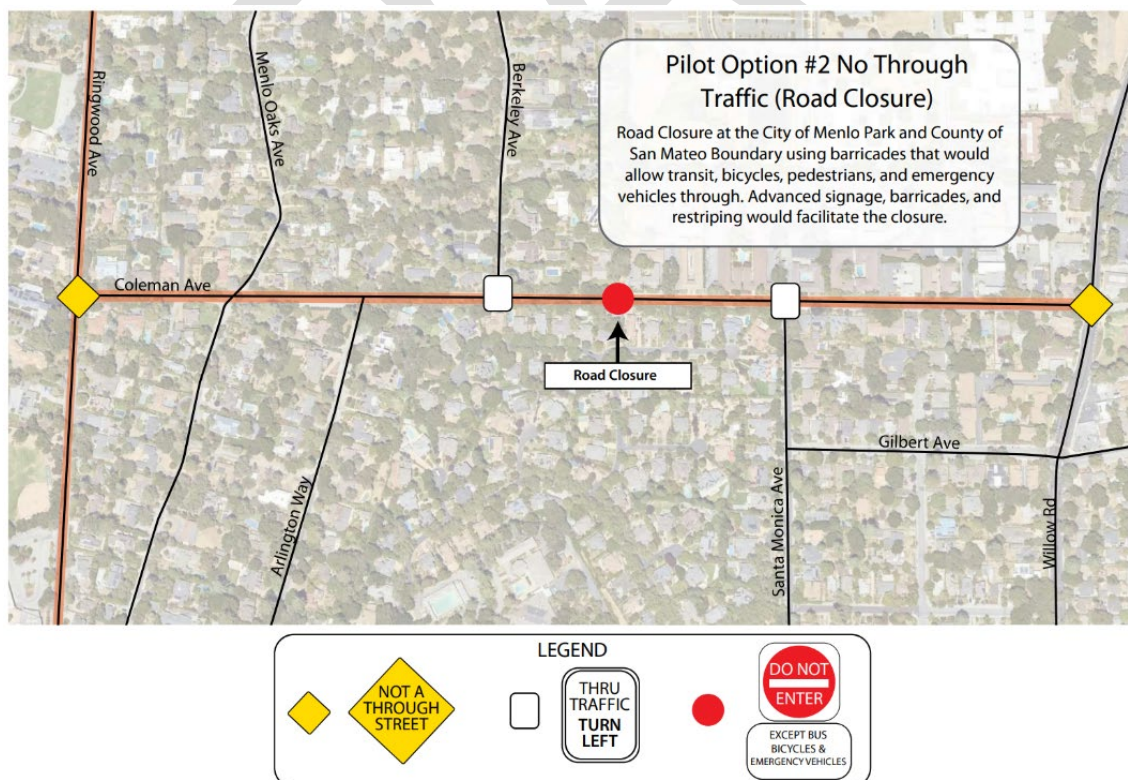


Plate 11 Preferred Pilot Option - Through Traffic Restriction

The team also presented other pilot options, including:

- turn restrictions during school drop-off and pick-up periods;
- one-way operation westbound through the County section of Coleman Avenue; and
- installing temporary traffic calming elements.

These other alternatives did not receive support during outreach for the pilot options. Some outreach participants strongly preferred the pilot while others strongly preferred a long-term design alternative.

Ringwood Avenue

For Ringwood Avenue, a single long-term design alternative was identified as the preferred direction. This alternative includes retaining the existing bike lanes and formalizing an asphalt pathway on the west side of the corridor (the same side as the schools). Some pavement widening would be required near Laurel School Lower Campus to install a protected bike lane in the southbound direction, which would prevent vehicles from queuing in the bike lane during school pick-up and drop-off. Like Coleman Avenue, the alignment of the off-street pathway would be flexible to minimize tree removal, with between 16 and 25 of the approximately 425 existing trees estimated to be impacted depending on final design and the expertise of an arborist at a future stage. The preferred alternative could include the following traffic calming measures dependent on further evaluation:

- Speed tables;
- Narrower (10 foot) travel lanes;
- Green bike lane conflict zone markings;
- Speed feedback signs;
- Speed reduction markings;
- Enhancements to the intersection with Coleman Avenue including new crosswalks on all legs; and
- Tighter turning radii at the intersection with Colby Avenue.

The preferred alternative is illustrated conceptually in Plates 12-14, which represent the segments adjacent to the high school and elementary schools, respectively.

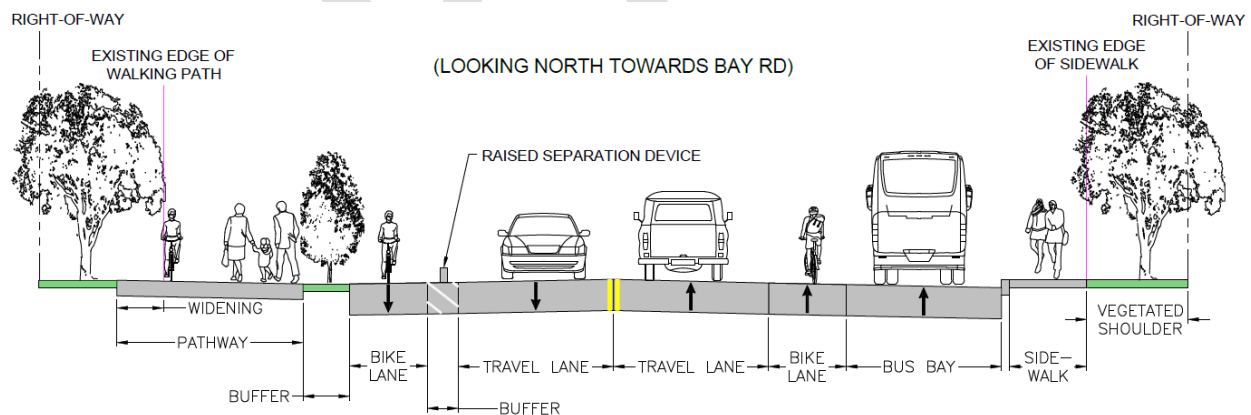


Plate 12 Ringwood Avenue (Menlo Atherton High School) Preferred Alternative
Bike Lanes (Protected near Schools) with Off-street Pathway

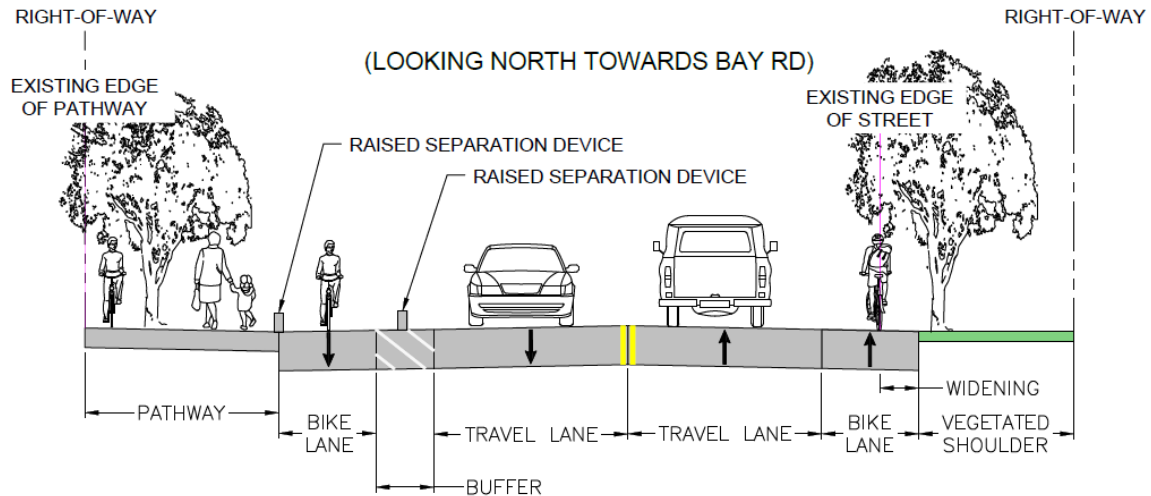


Plate 13 Ringwood Avenue (Laurel School Lower Campus) Preferred Alternative Bike Lanes (Protected near Schools) with Off-street Pathway

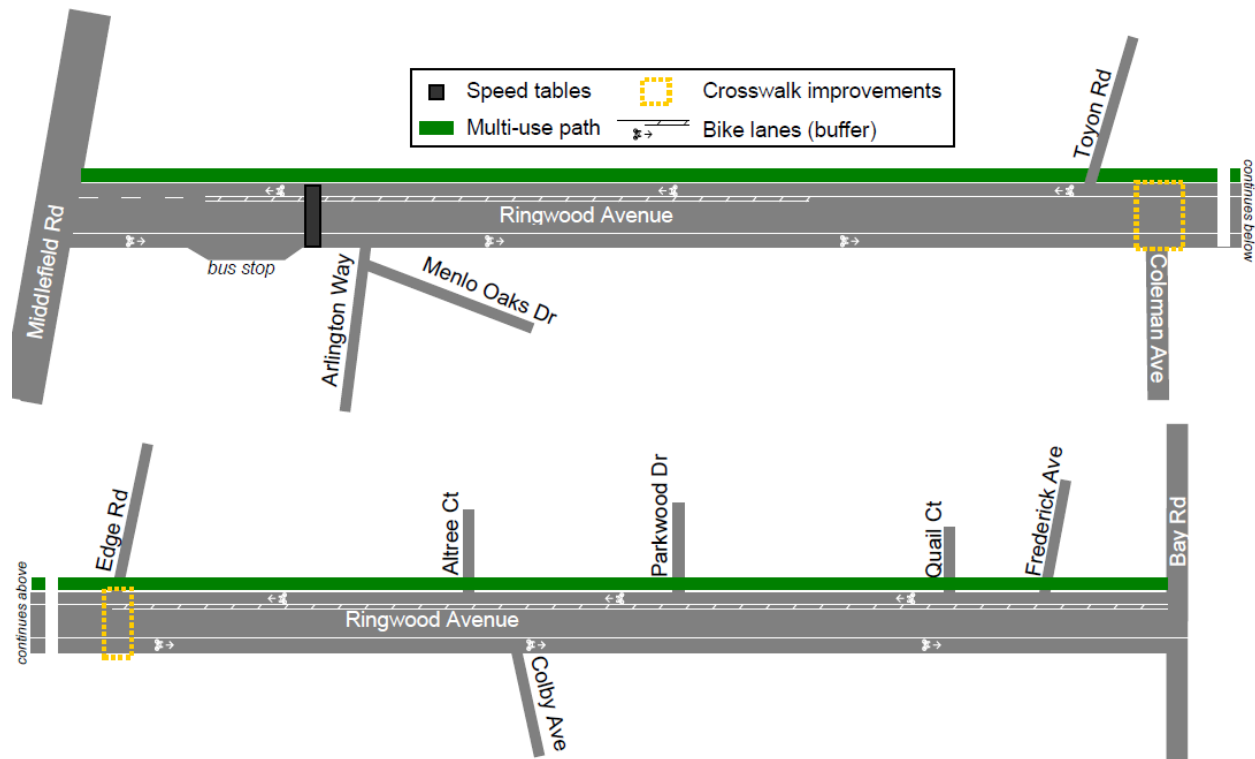


Plate 14 Ringwood Avenue Preferred Alternative Plan View Schematic Bike Lanes (Protected near Schools) with Off-street Pathway

Other alternatives considered for Ringwood Avenue included:

- removing the existing bike lanes in exchange for a dedicated loading and parking zone with a wide shared use pathway;
- bike lanes and dedicated pedestrian pathways;
- pursuing only traffic calming; and
- a no-build alternative that retained existing conditions.

In general, the removal of some trees to provide space for the pathway, and pavement widening were not viewed as negatively by the community for Ringwood Avenue compared to Coleman Avenue. There were greater concerns expressed if removal of the right turn lane at the high school would be required and the associated potential impacts to queueing during the critical afternoon pick-up period.

Cost Estimates

Planning-level cost estimates were prepared for all preferred long-term alternatives considering environmental clearance, design, right-of-way engineering, construction, and project administration. Additionally, costs were estimated for the preferred pilot option considering installation, design services, data collection, evaluation, and public engagement. These estimates were developed based on conceptual design details and actual costs will vary depending on various factors including the final design details and construction costs during the year that the project goes out to bid. These costs are summarized Table 2.

Detailed Cost Estimates

*Cost Estimates for the top two long-term design alternatives for each corridor and all four pilot options are contained in **Appendix F**.*

Table 2 – Planning Level Cost Estimates for Preferred Alternatives

Roadway Agency	Cost
Coleman Avenue	
County of San Mateo	\$3,728,000
City of Menlo Park	\$3,931,000
Total Coleman Long-Term Alternative	\$7,659,000
Road Closure Pilot Option	\$101,000
Ringwood Avenue	
County of San Mateo	\$6,569,000
City of Menlo Park*	\$1,472,000
Total Ringwood Long-Term Alternative	\$8,041,000

*A portion of these improvements would be within the Town of Atherton

Next Steps

All options evaluated as part of this Study include tradeoffs based on the existing conditions and constraints present on the corridors. On the Coleman Avenue segment within Menlo Oaks, the dialogue with the community revolved around the potential loss of trees in exchange for new bike and pedestrian infrastructure, and potential increases in traffic volumes on neighboring streets in exchange for reduced traffic volumes on Coleman Avenue. Along the City of Menlo Park segment of Coleman Avenue, the tradeoffs include reduced on-street parking to achieve improved walking and biking conditions. On Ringwood Avenue, tradeoffs discussed included potential increases in vehicle delays and queueing during peak school periods to provide safer dedicated bike and pedestrian facilities.

Recognizing that there is no single perfect solution, this Study identified a set of potential options that would largely be accepted by the community. The County of San Mateo and City of Menlo Park will work together to discuss potential next steps to implement community-driven mobility and safety improvements shared in this report.