The Future Of El Camino Real
Six Vehicle Lanes Or Four Lanes Plus Bike Lanes?

Dana Hendrickson
www.reimaginemenlopark.com
www.rimp.com

Updated February 21, 2015

Version 2.21.15.b
Table Of Contents

Impressions Of The El Camino Real Corridor Workshop (February 19, 2015)

• Primary Concerns
• Additional Concerns
• My Central Premises
• My Recommendations

The Opportunity (The Purpose of The El Camino Corridor Study)

My Personal Views (Written Prior To Workshop & Not Yet Updated)

Current Situation – Vehicle Traffic on El Camino Real

Projected Average Daily Vehicle Traffic on El Camino Real (No Lane Changes)

Current North-South Bike Routes Either Near Or On El Camino Real

Bike Lane Classifications

Specific Plan and El Camino Real Corridor Study Bike Route Alternatives

The Three Alternatives In El Camino Real Corridor Study

Appendix A – El Camino Real Intersections

Appendix B – Specific Plan Vehicle Traffic Circulation

Appendix C – Existing El Camino Real Turns & Parking Option

Appendix D – Palo Alto Bike Network

Appendix E – Arguments Made For Bike Lanes & Paths On El Camino Real

Appendix F – Six Leading Causes of Bike Injuries
On February 19, 2015 I attended the third public workshop for the Menlo Park EL Camino Corridor Study. This was a great opportunity to understand the status of this activity and I learned a lot. The presenters reviewed three alternative designs for configuring El Camino Real to handle vehicle and bike traffic, and residents viewed drawings and lots of data projections for how drivers and cyclists might respond to the different designs. At the end attendees were given the opportunity to ask questions 1-on-1 and note their preferences. The study team is now following up with an online survey that gives all residents the opportunity to express their opinions.

I am a 30-year Menlo Park resident, experienced recreational cyclist and frequent local driver who left very unsatisfied with what I learned.

My Primary Concerns

1. I believe the criteria for judging alternative designs should be safety and convenience with much more weight on safety, and clearly cyclist and pedestrians are the most vulnerable when vehicles, bikes and people interact or collide.

2. The safest option for cyclists, a non-ECR bike route that runs parallel to El Camino Real using Alma, Garwood and a connector across the private Greenheart property, was NOT evaluated. It is MUCH safer for the simple reason that it includes fewer intersections with heavy cars and pedestrian traffic, less sharing of physical lanes and only one crossing of a very busy street (Ravenswood).

   Between Sand Hill Road and Encinal Avenue there are five highway intersections on the northbound side of El Camino Real and eleven highway intersections on the southbound side. In contrast, on the non-ECR bike route there are only five neighborhood intersections and four busy intersections on the northbound side and four busy intersections on the southbound side. Plus, there is little pedestrian traffic at non-ECR intersections.

3. It is NOT obvious that bike paths or lanes on El Camino Real are significantly more convenient for cyclists than the non-ECR bike route. So why sacrifice safety? The alternatives are physically close, there are a number of side streets on both, and cyclists can walk bikes on a sidewalk for a half block if they want to reach any El Camino Real. In fact, the fewer number of potential stops on the non-ECR route would likely make it MORE convenient. (Note: both Alma and Laurel Streets are much closer to El Camino Real than Palo Alto’s central north-south bike route, Bryant Street – See Appendix E)

4. It is very difficult to accurately predict traffic volumes and patterns on El Camino Real due to the amount of new development in the local region, the health of the economy, the range of circulation options and human behavior. The Menlo Park Specific Plan assumed that the average daily traffic on El Camino Real was 38000 vehicles. But the El Camino Real Corridor Study indicates that in mid-2014 the numbers were actually 34600 at the north end and 46700 at the south end so the latter was 8700 vehicles (23%) higher than the baseline. Three new
projects - 500 ECR, 1300 ECR and the Stanford Medical Center are expected to add at least another 4000 vehicles a day at the south end = total of 50700. Given this uncertainty, it would be unwise for Menlo Park to dramatically change the number of lane configurations on El Camino, especially NOT reduce them. It would be better to preserve the existing lanes and find an alternative for bikes.

Additional Concerns

5. Why wasn't the option of modifying sidewalks so they could be dual use studied? These are the least used public resources on El Camino Real. What would be required to meet Caltrans requirements? This might be a desirable option between Sand Hill Road and Ravenswood until a Middle Avenue/Alma connector is built.

6. How would each ECR alternative impact cyclist safety? No analysis was provided.

7. How would each ECR alternative impact pedestrian safety and convenience at all intersections? No analysis was provided.

8. How would each ECR alternative impact neighborhood safety due to cut-thru traffic? No analysis was provided.

9. I am NOT comfortable with the induced traffic projections shown for the three alternatives. Making ECR north of Ravenswood six versus four lanes increases peak hour ECR traffic from about 3100 to 4500 vehicles but reducing ECR south of Ravenswood from six to four lanes makes no real difference. How is this explained? Are the explanations reasonable?

10. Why is Menlo Park asking its residents to vote on three alternatives when the current study is clearly insufficient?

   • A no lane change + non-ECR option is not offered
   • An expanded vehicle lane + non-ECR option is not offered
   • The computer model projections for vehicle traffic are suspect/

My Central Premises

1. Experienced cyclists will always pick safety over convenience when selecting a bike route and inexperienced cyclists should never be trusted to make the correct decision.

2. Most bike-car collisions occur at either at intersections –regardless of signaling – and mid-block where vehicles can access public parking, e.g., gas stations, malls

3. Walking a bike for a short distance on a sidewalk is never too inconvenient.

4. Palo Alto is one of the most progressive bike communities in the country and it has chosen NOT to build either bike paths or lanes on El Camino Real. This city
has more experience with biking issues and a much better understanding of bike circulation challenges and solutions than Menlo Park.

5. I do NOT rely heavily on projections for vehicle and bike traffic volumes and circulation paths as actual experience shows they are extremely unreliable. Both expected and ranges of possible outcomes must be carefully considered when significant negative unexpected and unintended consequences are potential outcomes.

My Recommendations

Immediate Actions:

1. Stop the online survey as the presented alternatives are incomplete and misleading plus the “supporting data assumptions” have not been sufficiently evaluated.

2. Require the transportation department to evaluate the existing bike usage on Alma Street.

3. Require the transportation department to evaluate how a well-designed non-ECR bike route that uses Alma, Greenheart and Garwood would benefit cyclists in terms of safety and convenience. Also, evaluate an Alma, Burgess Drive, and Laurel Street bike route.

4. Require the transportation department to evaluate the option of creating a dual-use sidewalk on the east side of El Camino Real between Middle Avenue and Ravenswood.

Short Term Actions:

1. Do not change the lane configurations on El Camino Real, i.e., the number of vehicle lanes, before the traffic ACTUAL impact of the Greenheart and Stanford developments are experienced. If lane changes then seem warranted run a suitable experiment before making final decisions.

2. Implement a well-designed non-ECR bike route, including a possible temporary Greenheart connector. ALSO, implement the Laurel Street option if it is feasible and affordable.

3. Implement the dual-use sidewalk solution if it is feasible and affordable.

Long term Actions:

1. Create a permanent Greenheart connector.

2. Create a Middle Avenue to Alma connector that enables cyclists and pedestrians to safely and conveniently cross El Camino Real and the train tracks WITHOUT significantly impacting vehicle traffic.
3. Experiment with lane reconfigurations before making any changes permanent.
The Opportunity

“The City is currently conducting the El Camino Real Corridor Study to review potential transportation and safety improvements to El Camino Real. This study will consider alternatives to allow for the addition of either a bicycle lane or an additional through lane, for a total of three lanes in each direction between Sand Hill Road and Encinal Avenue, and will evaluate potential impacts to traffic, active transportation, safety, parking and aesthetics.”

Three alternative concepts are being studied, and they differ significantly in terms of bike and vehicle usage and safety.

I strongly encourage Menlo Park residents to participate in planned workshops and online surveys as the choices our city makes about future lane configurations on El Camino Real will dramatically impact cyclist safety and driver convenience. You can also send your ideas to our city council.
My Personal Views:

- I strongly prefer making El Camino Real six lanes its entire length and creating a safe and convenient bike route that stays off this multi-lane highway. One that parallels El Camino is in the Specific Plan and it largely relies on nearby Alma Street, Garwood Street and a connection through the private Greenheart property at 1300 El Camino Real.

- El Camino Real carries about 34600 daily vehicles north of Ravenswood and about 46700 daily vehicles on the south end. A reduction from 6 lanes to 4 lanes at the south end of El Camino Real would increase the vehicle traffic per lane by 50% = 3895 vehicles per lane. That’s a huge INCREASE!

<table>
<thead>
<tr>
<th></th>
<th>North End</th>
<th>South End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Vehicles Per Day</td>
<td>34600</td>
<td>46700</td>
</tr>
<tr>
<td>Vehicles Per Lane</td>
<td></td>
<td></td>
</tr>
<tr>
<td>With 6 Lanes</td>
<td>5770</td>
<td>7780</td>
</tr>
<tr>
<td>With 4 Lanes</td>
<td>8650</td>
<td>11675</td>
</tr>
<tr>
<td>Difference</td>
<td>2880</td>
<td>3895</td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td>50%</td>
</tr>
</tbody>
</table>

- The total number of cyclists who would actually ride on El Camino Real for any significant distance would likely be small (100 to 125 per day???) does not justify throttling thousands of vehicles.

- Once a pedestrian/bike crossing is build under the tracks near Middle Avenue cyclists will have another convenient route to Alma Street. Until then, Menlo Park should encourage cyclists to share the sidewalks on El Camino Real between Sand Hill Road and Ravenswood, especially on the east side where there is little Foot traffic.

- Finally, few cyclists ride on El Camino Real in Palo Alto as it lacks a bike lane, and Palo Alto has NOT recommended one in its Bike Network Plan. Therefore, a Menlo Park bike lane or path would be an anomaly.

Note: See Appendix E to view the common arguments made for creating either bike lanes or bike paths on El Camino Real and my responses.
Current Situation – Vehicle Traffic on El Camino Real

El Camino Real is a state highway that runs through Menlo Park and serves as the primary north-south vehicle route that parallels Highways 101 and 280. It is heavily traveled because of the large number of workers who commute through Menlo Park who do not have alternatives like Foothill Expressway and Alma Street in Palo Alto, and there is no convenient east-west access to both 101 and 280 from El Camino Real between Page Mill Expressway and Woodside Road (Highway 84). The average daily traffic at the north end of El Camino is 34,600 vehicles; at the south end it is 46,700 vehicles.

El Camino Real - Average Daily Traffic Volume

Truck traffic: 1.5 - 2% of traffic during the afternoon
Projected Vehicle Traffic on El Camino Real

It is very difficult to accurately predict traffic volumes and patterns on El Camino Real due to the amount of new development in the local region, the health of the economy, the range of circulation options and human behavior. The Menlo Park Specific Plan assumed that the average daily traffic on El Camino Real was 38000 vehicles. But the El Camino Real Corridor Study indicates that in mid-2014 the numbers were 34600 at the north end and 46700 at the south end. Three new projects - 500 ECR, 1300 ECR and the Stanford Medical Center are expected to add at least another 4000 vehicles a day at the south end = total of 50700.

<table>
<thead>
<tr>
<th></th>
<th>North End</th>
<th>South End</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Daily Traffic*</td>
<td>34600</td>
<td>46700</td>
</tr>
<tr>
<td>Specific Plan Assumption</td>
<td>38000</td>
<td></td>
</tr>
<tr>
<td><strong>PROJECTED INCREASES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>500 ECR*</td>
<td>TBD</td>
<td>3115</td>
</tr>
<tr>
<td>1300 ECR</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Stanford Medical Center EIR**</td>
<td>?</td>
<td>1000</td>
</tr>
<tr>
<td>Total Ave Daily Traffic</td>
<td>34600+</td>
<td>50815+</td>
</tr>
</tbody>
</table>

* Specific Plan assumption is 38000 for ECR
** Most recent impact study
*** 10% of 10000
North End – Two and Three Vehicle Lane Configurations

**EL CAMINO REAL CORRIDOR STUDY**

**Existing Cross Sections**

**Between Valparaiso & Oak Grove – Existing**

South End Three And Two Lane Configurations

**EL CAMINO REAL CORRIDOR STUDY**

**Existing Cross Sections**

**South of Ravenswood – Existing**
Current North-South Bike Routes Near Or On El Camino Real

Few cyclists ride on El Camino Real in either Menlo Park or in adjacent Atherton and Palo Alto as there are no separate bike lanes. Likely less than 50 riders use this route today, and there is no reliable estimate of the number of riders who would ride on El Camino Real IF a separate bike lane were built in Menlo Park.

Cyclists currently have a number of north-south routes close to El Camino Real.

- They can travel on Alma Street from Sand Hill Road to Ravenswood and Oak Grove where they can either return to El Camino Real or use nearby Laurel Avenue to reach Encinal Avenue. And from Encinal Avenue return to El Camino Real.

- They can travel from Sand Hill Road to Laurel Street (via Alma) and continue to Encinal Avenue. And from Encinal Avenue return to El Camino Real.

- While traveling on El Camino Real between Encinal and Watkins is less than ideal, there is little parking on either side.

Bike Lane Classifications

Class I Bikeway (Bike Path) provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian cross-flow minimized.

Class II Bikeway (Bike Lane) provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five (5) feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.

Class III Bikeway (Bike Route) provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

Specific Plan and El Camino Real Corridor Study Bike Routes

Menlo Park included two new north-south bike options in the Specific Plan, one bike route on the east side of the train tracks and a possible bike lane on El Camino Real. The El Camino Real Corridor Study added the alternative of a bike path on El Camino Real.

See diagram on next page.
Three Alternatives In El Camino Real Corridor Study

**Alternative 1:** Make El Camino Real three-lanes in both direction and create a mostly Class III bike route that parallels El Camino and relies on Alma Street. This route is one recommended in the Specific Plan.

- Sand Hill Road to Ravenswood via Alma Street – Existing Class II
- Ravenswood to Oak Grove via Alma Street – Planned
- Oak Grove to Glenwood via Greenheart property – Planned
- Glenwood to Encinal via Garwood – Planned
- Encinal Avenue to El Camino Real – Planned
- El Camino North to Watkins – Planned Class II

**Alternative 2:** Adds a single Class II/Minimum Class III bike lane to each side of El Camino Real for its entire length. Vehicle traffic would be reduced to two lanes in each direction. This alternative is recommended in the Specific Plan.

**Alternative 3:** Adds a Class I bike lane to each side of El Camino Real for its entire length. This includes a **physical separation** between bike and vehicle lanes. This alternative is not recommended in the Specific Plan. Rather, a Class II bike lane is recommended.
Appendix A – El Camino Real Intersections
Figure F1. Vehicular Circulation
## Appendix C – Existing El Camino Real Turns & Parking Option

<table>
<thead>
<tr>
<th></th>
<th>Vehicle</th>
<th>Turn</th>
<th>U-Turn</th>
<th>Parking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOUTHBOUND</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encinal</td>
<td>2</td>
<td>Left</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Valparaiso-Glenwood</td>
<td>2</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Oak Grove</td>
<td>2</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Santa Cruz Avenue</td>
<td>2</td>
<td>Right</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Ravenswood - Menlo Avenue</td>
<td>2</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Live Oak</td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td>Robles Avenue</td>
<td>3</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Middle Avenue</td>
<td>3</td>
<td>Right</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>College</td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td>Partidge Avenue</td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td>Cambridge</td>
<td>3</td>
<td>Right</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Harvard Avenue</td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td>Creek Drive</td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td>Sand Hill Road</td>
<td>3</td>
<td>Right</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Quarry Road</td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td><strong>NORTHBOUND</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vehicle</td>
<td>Turn</td>
<td>U-Turn</td>
<td>Parking</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Left</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Right</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Left &amp; Right</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Right</td>
<td>n/a</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Left</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Appendix D – Proposed Palo Alto Bike Network

An El Camino Real bike is route is NOT recommended at this time. See City of Palo Alto Bicycle and Pedestrian Transportation Plan; download PDF at http://www.cityofpaloalto.org/civicax/filebank/documents/31928 Starts on page 151.
Appendix E – Arguments For Creating Bike Lanes Or Paths On El Camino Real

Here are the arguments commonly used to support greater bike usage on El Camino Real and my responses to them.

1. **There would be more bike riders using El Camino if it were safer.**

   It is a fact that riding on El Camino Real will never be as safe as riding in a bike lane on a much less travelled route. The intersections where a highway crosses side streets will always be much more dangerous due to either cyclist or motorist behavior. Inexperienced or young riders are particularly vulnerable no matter what signaling is provided.

2. **Riding on El Camino is more convenient than existing or planned alternatives.**

   I believe this is not true. It depends on the rider and their origin and destination. Commuters who wish to travel a significant distance from north to south would find an Alma-Garwood route between Sand Hill and Encinal convenient and there are plenty of east-west side streets for entering and leaving this route. Local commuters can use sections of the Alma-Garwood route and existing cross streets. Recreational adult and young riders can easily avoid El Camino Real altogether. Cyclists who wish to shop at retailers on El Camino can ride on side streets to the intersection nearest their destination and walk their bikes on the sidewalk for at most a half a block. That's both safe and good exercise.

3. **Cyclists deserve greater rights to use El Camino Real.**

   This is a purely subjective position. El Camino Real is a state highway designed primarily to move traffic north and south on the Peninsula so most of the traffic is “pass thru”; it is not a Menlo Park-controlled street intended primarily to serve the needs and interests of Menlo Park. If every city attempted to transform their section of El Camino it would fail as a central artery. This means it would also fail Menlo Park.

4. **Adding bike lanes or paths will reduce vehicle traffic on El Camino Real and is a positive outcome.**

   Vehicle drivers go where it’s most convenient, i.e., fewer stops, shorter wait and drive times. There is no evidence that many drivers would avoid El Camino Real AND nearby neighborhoods if vehicle lanes were reduced anywhere on this highway. They still will want to go from point A (origin) to point B (destination), and BOTH are mostly outside Menlo Park.

   Also, few north-south commuters will swap their vehicles for bikes as most serious cyclists can already do this today using Alma Street and Laurel Street as central routes between Sand Hill Road and Encinal Avenue.
Appendix F – Bike Injury Statistics

2012 National Survey of Bicyclist and Pedestrian Attitudes and Behavior (http://www.nhtsa.gov/nti/811841)

Figure 3.13
Six Most Frequent Sources of Injury

- Hit by a car: 29%
- Fell: 17%
- Roadway/Walkway not in good repair: 13%
- Rider error/not paying attention: 13%
- Crashed/Collision: 7%
- Dog ran out: 4%
- Blank Page -