RED MORTON PARK NEIGHBORHOOD

TRAFFIC CALMING FINAL REPORT

NOVEMBER 2018
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The Blue Zones Team recognizes the following participants who took part in the Red Morton Park Walking Audit and Traffic Management Visioning Sessions:

David and Bettina Whaley  Kaylene Keller  Jerry Brick  Russell Muzzolini
Jodi Paley  Stephanie Schmidt  Steve Marchegian  Daniel Paley
Merrily Robinson  Karen Chew  Jim Isakson  Mike Lynch
Julie Wesdek  Patrice & Mark Bernard  Beverly Morgan  Autumn Quinn
Jennifer Hartzell  Michele & Art Klein  Alice Sharma  Billy James
Tom Tornquist  Deama Liotta  Donna Tyree  Michael Kopec
Bill McLaughlin  Dee & Rich Eva  Keith and Linda Krieg  Barbara and Brent Britsahgi
Ed Savage  Jordi Perez  Bill Newell  Matthew Self
Kevin Helier  Russ Isaacson  Mary Ann Gage  Anita Tseng
Rick Carbonneau  David August  Desiree Johnson  Max Osipor
Bill Howland  Pat Powers  Penelope Mejia  Rebecca Ratcliff
Pam and Michael Hitchcock  Jerry and Annie Rexroth  Ric Mejia  Jason Galisatus
John Sudler  Camilla Roos  Tina Dupost  (SamTrans)  Barbara Valley

The Blue Zones Team also acknowledges the following support:
• Facilities, Veterans Memorial / Senior Center in Red Morton Park
“The street is the river of life of the city, the place where we come together, the pathway to the center.”
– William H. Whyte
PURPOSE OF THIS REPORT

As more and more Redwood City streets become congested, the Red Morton Neighborhood, as all neighborhoods in America, seeks ways to restore safety, livability and choice in transportation. This calls for new ways to design local streets to not reward speed. Traffic calming addresses this desire.

Each example provided within this document will work. It is our collective job to narrow the tools to a smaller number that best address the opportunity, meeting the needs of home owners, park visitors, fire, police, utilities, maintenance, and transportation services.

Traffic calming uses physical design and other measures to improve safety for motorists, pedestrians and bicyclists. It aims to encourage safer, more responsible driving and potentially reduce traffic flow.
EXPAND WALKING AND BICYCLING OPTIONS

The Redwood City Complete Streets Program has a goal of creating safe, comfortable options to driving automobiles. The Red Morton Park Neighborhood provides a vital link to forming a city-wide system of travel and this traffic calming study emphasizes opportunities to advance Complete Streets in the Red Morton Park Neighborhood.

Complete Streets Advisory Committee
“Increase safe, attractive, comfortable and independent access and travel for the Redwood City community, utilizing Complete Streets principles and practices.”
Refinement of the Traffic Calming Report

March 22, 2018 Technical Staff Review & Meeting with Emergency Responders

March 22, 2018 Presentation of Initial Traffic Calming Tools

April 26, 2018 Presentation of Initial Traffic Calming Tools

May 21, 2018 City Council Integrated Presentation with ELS

August 16, 2018 Presentation of Initial Traffic Calming Tools

Sept 27, 2018 Technical Tools Test & Final Community Presentation

Technical Report Conceptual Design Options

DRAFT Traffic Calming Report

Refinement of the Traffic Calming Report

Refinement of the Traffic Calming Report

Final Traffic Calming Report
On the 1st and 22nd of March, 2018, the Blue Zones Team facilitated a combination of Walking Audits and Community Meetings so that community members could share their problems and vision for streets in the Red Morton Park Neighborhood.

Long lasting and ongoing issues with speeding, aggressive behaviors and parking on Madison, Valota, Hudson and other streets were voiced by residents.

This document captures the public engagement process, existing conditions and presents design options for traffic calming streets in the Red Morton Park neighborhood.
Two Walking Audits and Community Meetings were facilitated on the 1st of March, 2018. Approximately 50 individuals – mostly those living in the neighborhood – took part in the two walks and discussion, adding their insights on problems they experience on a daily basis.
On March 22, 2018, a Community Meeting was held. Approximately 35 individuals – mostly those living in the neighborhood – took part in the problem identification and discussion, adding their insights on problems they experience on a daily basis.
Both Hudson at Madison, and Valota at Vera, were identified as the two most urgent areas to address. Meanwhile, all of Valota, and all of Madison are an ongoing concern. Both streets will benefit from a series of slowing features, ideally at intersections, or for long sections the application of shared streets, raised crossings or similar calming features are desired. Longer term, treatments on Roosevelt and Jefferson Avenues are desired.
PART II. TRAFFIC CALMING PRINCIPLES

The Basics:
Tools to avoid and why;
Tools that help emergency responders
The concern raised by Redwood City residents regarding traffic speeds is based on their perception of threat. This perceived danger is supported by the traffic crash science, presented in this chart. Harm increases exponentially as speed increases. A pedestrian’s survival rate drastically changes if hit by a vehicle traveling at 20, 30 or 40 miles per hour.

For residential areas, a posted speed limit of 25 miles per hour or lower is appropriate. Designs, however, should be for even lower speeds. When streets are designed to support higher speeds, speeding is induced.

Streets should provide safe and comfortable travel for all modes. People are less likely to walk, bicycle and use transit when they feel threatened.
Added stop sign controls and speed humps are not recommended. Why?

*Images 1-2:* When not informed of the impacts of traffic calming tools, residents often ask for tools they later regret. Four-way stop signs slow traffic, but motorists try to make up the lost time by speeding to the next intersection. Speed humps have the same problem, plus they are noisy and they devalue homes on a street, often inducing speed spiking between treatments. *Images 3-4:* In contrast, horizontal traffic calming tools, including mini-circles and roundabouts, slow motorists 500-1000 feet out and address most needs and issues, while keeping motorists and emergency responders in motion.
Added stop sign controls and speed humps are not recommended. Why?

The normal behavior of motorists who are forced to stop frequently on local streets is to make up the lost time by driving faster between stop controls.

By introducing traffic calming tools that do not bring motorists to a full stop, most motorists bring their speed down to the desired speed.

Neighborhood mini-circles, driveway links and other tools recommended in this report help to achieve the desired outcomes.
Most fire apparatus has a significant front overhang. Thus, whenever cars are parked too close to an intersection, they may force responders onto other less direct streets, or deny access altogether. For this reason streets must be designed to protect large vehicle access.
This narrow Chico, California street was identified as a location where responders could not be guaranteed street access. Testing the road entry with a mock curb extension, which denies illegal parking, resolved the problem of a narrow street.

Many traffic calming tools can be placed that improve conditions for emergency responders, all while further narrowing streets, making them safer for people living in the neighborhood.
Ensuring Emergency Access

Stop signs are not used in traffic calming programs.

Rollover curbing is another tool that can be applied to allow an emergency responder to better gain street access to narrow streets.
“Design is not just what it looks like and feels like. Design is how it works.”
– Steve Jobs
Buildings watch over the street

Pedestrian scaled street lighting is used

Narrow 10’ travel lanes reduce speeding and improve yielding behaviors

Curb extensions reduce crossing distances for pedestrians and reduce the turning speeds of vehicles, improving safety

On-street parking creates a buffer to the sidewalk

Street trees define the edge

Curb extensions and ramps advance accessibility

Rain gardens filter water and reduce run-off

Signage and street markings are properly placed

Bicycle parking keeps the pedestrian zone clutter-free

**Image Source:** National Association of City Transportation Officials (NACTO)
All streets and intersections can benefit from a selection of tools. No one tool is perfect. Some tools – such as curb extensions, trees and mini-circles – can be used in combination.

1 – 2. Separation is recommended: The median islands shown in images 1 and 2 are needed to keep motorists from speeding around curves on Valota. When needed, emergency responders can cross well designed medians.

3. Avoid stopping traffic: Inappropriate 4-way stops slow emergency responders and also cause motorists to speed between stops.

4. Vertical tools may still apply: The crossing table may encourage moderate speeds along a corridor and provide better sight lines for pedestrians.

Image Locations:
1. Honolulu, Hawaii; 2. University Place, Washington; 3. Santa Barbara, CA
4. West Palm Beach, FL
Neighborhood Mini-Circles and Painted intersections in Redwood City’s neighborhoods can reduce speeds to appropriate levels. They also provide the opportunity to establish gateway features and to advance local placemaking efforts.

Flowers, shrubs or trees in the mini-circle further calm traffic and beautify the intersection, but need to be properly maintained to avoid sight obstructions.

Images:
Upper Left: London, England
Upper Right: Portland, Oregon
Lower Left: Culver City, CA
Lower Right: Portland, Oregon
The Benefits of Designing Streets for People

- Increases physical activity rates
- Encourages social connectedness
- Catalyzes small business development
- Increases property values
- Improves access and safety for all
- Advances social equity
- Reduces pollution and run-off
- Provides safe routes to school
- Makes the healthy choice the easy choice

Source: Victoria Transport Policy Institute

http://www.vtpi.org

Image: Portland, Oregon
In select locations, neighbors can design, permit and paint attractive intersections. This can become a model project to advance community pride.

Testing a temporary application allows the community to monitor the results. Did the treatment slow traffic, increase yielding to pedestrians, reduce noise and danger, increase place-making or otherwise create greater livability?

This recommendation generally requires a City resolution or guidelines.

RESOURCE:
HTTPS://WWW.TAMPAGOV.NET/SITES/DEFAULT/FILES/TRANSPORTATION/FILES/PAINT_THE_INTERSECTION_COMPLETE.PDF
Benefits of Curb Extensions:

• Opens and protects sight lines
• Eliminates illegal parking at critical locations
• Provides space for important street furniture
• Lowers vehicle speeds through the intersection
• Less delay for pedestrians wishing to cross
• Emphasizes low turning speeds
• Provides the opportunity to create a gateway feature

Upper Left Image: Carmel, California
Upper Right Image: Eugene, Oregon
Lower Left Image: Davis, California
Lower Right Image: Jackson Hole, Wyoming
Curb extensions, or bulb-outs, place pedestrians out from behind parked cars, improving sightlines and reducing crossing distances. Curb extensions create compact intersections that promote walking and make the intersection operate more efficiently. They reduce vehicle turning speeds by physically and visually narrowing the roadway. They also provide increased pedestrian waiting space.

Include ramps and curb extensions for accessibility

Curb extensions reduce the crossing distance for pedestrians by 44 feet at this intersection in Venice, Florida.
1. Neighborhood mini-circles utilize ground cover and trees, advancing neighborhood placemaking.

2. Neighborhoods often select their planting scheme, and then adopt the landscaping maintenance for the mini-circle. Neighbors worked together on the tile scheme.

3. Islands minimize ugly signage and some mini-circles use landscaping to establish a gateway feature into the community.

4. Islands can be key neighborhood feature, including up-lighting and even fountains.

Image Locations:
Santa Cruz, California, has applied a half dozen neighborhood mini-circles that have the effect of bringing down speeds and crashes, all while personalizing their neighborhood and making it more attractive.

The design you see here was chosen by the neighborhood to add both color and artistic qualities.

Note the minimal use of traffic signs, honoring the choice of quality landscaping and community pride.
Benefits:
• Creates a safe, slow-speed crossing 24-hours per day
• Slows traffic to 15-20 mph
• Yield rates by motorists to pedestrians improves
• Improves sight lines for pedestrians, who also have less exposure
• Utilizes colorful, attractive materials that honor local character
• Reduces illegal parking
• Promotes better understanding for all users
• Has the least impact on the park tree-scape

Challenges:
• May increase noise levels
• Drainage may need to be reset

Bollards and color define the street edge and taper into the intersection.

Grade transitions slow traffic. The grade change occurs before the intersection, keeping crosswalks flat.

Curb extensions create a compact intersection, adding green and improving sight lines.
Consider going to a trial first. Curb extensions may not require expensive infrastructure. Redwood City can apply low-cost solutions first.

If painted curb extensions slow traffic and enhance yielding, this approach may be fully adequate. Traffic calming is new so work in stages.

At some intersections, paint may produce the slowing and yielding results sought. If motorists fail to adapt and behave, use tools (like curb extensions) that bring uncivil behaviors under control.

**Image Location:**
Hamilton, Ontario, Canada
For a planting cost of $250 to $600, which includes the first three years of maintenance, a single street tree returns over $90,000 of direct benefits to its community during its lifetime.¹

Street trees are generally planted 6 to 8 feet from the curb and provide so many benefits that they should always be considered as a street-making feature. For example:

- The net cooling effect of a young, healthy tree is equivalent to ten room-size air conditioners operating 20 hours per day.²

- If you plant a tree today on the west side of your home, in 5 years your energy bills should be 3 percent less. In 15 years the savings will be nearly 12 percent.³

¹² BENEFITS OF URBAN STREET TREES
²³ HTTPS://WWW.CITYLAB.COM/ENVIRONMENT/2012/07/CASE-MORE-URBAN-TREES/2768/
PART III. EXISTING CONDITIONS

Valota Road at Vera Avenue
Hudson Street at Madison Avenue
Red Morton Park Neighborhood
Speeding and low yielding behaviors by motorists were observed on the overly-wide Valota Road and Vera Avenue intersection.

Poor sight lines, evidence of multiple curb strikes by speeders at the curves, and sidewalk-roadway parking, contribute to a dangerous environment, especially for pedestrians.
Valota Road and Vera Avenue traffic crashes have been a concern to the City and the neighborhood for a number of years.

Both police and fire responders expressed their concerns in our focus group meetings.

With planned increased use of the park, addressing this intersection is a high priority.

Photo Credit: Russell Muzzolini
EXISTING CONDITIONS – VALOTA ROAD AT VERA AVENUE

- Design does not support active transportation
- Pedestrian scaled lighting is missing
- Wide travel lanes encourage speeding
- Poor sight lines
- Speeding motorists are hitting curbing
- No marked crossings or curb ramps for pedestrians
- High crash intersection
This long portion of Madison Avenue (1,300 feet) invites speed and encourages non-residents to use the street to access the park.

Hudson Street at Madison Avenue includes an intersection control that has not solved the problem it was intended to solve. This feature was poorly conceptualized, causing many local residents to turn away from more attractive and functional traffic calming tools. Modifications at this intersection will vastly improve behaviours.
Concrete island is unattractive and does not function correctly

Low yielding to pedestrians observed

Incorrect deflection path results in speeding through the intersection

A STOP intersection is the wrong treatment. This encourages speeding on Hudson.

Speeds on Hudson are high
IMAGES 1 – 2: Many intersections on Madison Avenue invite speed, while reducing yielding to people on foot.

IMAGE 3 – 4: Evidence of speeding is visible in many portions of the neighborhood, with unique signs encouraging people to slow down. Sidewalk parking by motorists impedes on the pedestrian right of way and demonstrates a desire to keep out of the street.
PART IV. TRAFFIC CALMING LOCATIONS AND NEIGHBORHOOD-CHOSEN SOLUTIONS

Valota Road at Vera Avenue
Hudson Street at Madison Avenue
Red Morton Park Neighborhood
TRAFFIC CALMING OPTION: VALOTA ROAD AT VERA AVENUE ROUNDBOUT

The roundabout brings speeds down to 15-20 mph, opening up sight lines, increasing yielding to pedestrians and cyclists.

A raised central island terminates the vista, and slows the speed of motorists, up to 1,000 feet out.

Crossings are brought back 20 feet, increasing yielding rates by more than 80%.

Channel islands are colorful and effective, yet still allow an oversized vehicle to mount them when needed.

Curb extensions add more green space, further slowing motorists and increasing safety and comfort for those walking or bicycling.
This solution returns operations to a 4-way yield, which is the magic of a roundabout, versus other less safe and less functional treatments.

A raised central island terminates the vista, and slows the speed of motorists, up to 1,000 feet out.

Crossings are brought back 20 feet, increasing yield rates by more than 80%.

Channel islands are colorful and effective, yet still allow an oversized vehicle to mount them when needed.

Curb extensions and painted curb extensions add more green space, further slowing motorists and increasing safety and comfort for those walking or bicycling.
Benefits:

- Reduces delay, travel time and vehicle queue lengths
- Facilitates safer U-turns
- Reduces conflict points for vehicles and pedestrians
- Lowers vehicle speeds through the intersection
- Reduces emissions as vehicles spend less time idling
- Less delay for pedestrians wishing to cross
- Reduces maintenance and operational costs
- Reduces noise levels
- Provides the opportunity to create a gateway feature
Residents are experiencing long waits getting out onto Roosevelt. Valota and Madison is also a high crash location, and a barrier for pedestrians attempting to get to the park.
Residents expressed a desire to address high crash, congested intersections, specifically Madison Avenue and Valota Road. The short throat from Madison to Jefferson forms a bottleneck during peak hours. Some residents asked to fix the Valota Road and Jefferson stacking problem. Although the City should look at this intersection, the entire neighborhood may be at greater risk if the result of changes on Jefferson is more vehicles using this road. There are times when congestion benefits a community, keeping cut-thru traffic to a minimum.
Conceptual design drawings were developed to control speeds, reduce crashes, provide access and better support pedestrian crossings.

Deflection paths control speeds in the 15-20 mph range, while raised curb extensions and the median island form an attractive gateway entry.

Continental style crosswalk markings further the visual effect, increasing yielding behavior.
On September 26, Redwood City staff, ELS, Toole Design Group and Blue Zones consultants conducted two mock intersection activities. Myrtle and Madison (lower left), Madison and Vera (lower right) and a midblock location on Madison were all tested for use by pedestrians, bicyclists, normal street traffic and fire apparatus. Observations were made on how these treatments worked for each group. In all cases, traffic speed came down to the desired speed, yet ensured access. This test allows the engineering team to further refine their designs.
Conceptual design drawings were developed to control speeds, provide access and better support pedestrian crossings.

Deflection paths control speeds in the 15-20 mph range.

Continental style crosswalk markings further the visual effect, increasing yielding behavior.
Conceptual design drawings were developed to control speeds, provide access and better support pedestrian crossings. Color and vertical change help control speeds in the 15-20 mph range. Continental style crosswalk markings further the visual effect, increasing yielding behavior.

One neighbor expressed the desire to reduce the tendency to use this area as a drop-off or pick-up area. Due to neighborhood opposition, NO ACTION IS RECOMMENDED AT THIS TIME.
Raised Intersections reinforce slow speeds and encourage motorists to yield to pedestrians at the crosswalk, often contributing to placemaking as in the example above.

IMAGE SOURCE: NATIONAL ASSOCIATION OF CITY TRANSPORTATION OFFICIALS (NACTO)
**Traffic Calming Option: Neighborhood Choker**

A neighborhood choker and raised table allows full access in all directions, while serving as a traffic calming park-like green area. Two to four parking spaces are lost with this option. Motorists slow and yield to one another. Many communities prefer chokers due to their low cost. The planted tree lawn is recommended for added beauty and slowing.

During the September 27th neighborhood meeting, this concept was discussed with small groups, but lacked group consensus. We do not recommend going forward with a treatment in this area until neighbors reach an agreement. **NO ACTION IS RECOMMENDED AT THIS TIME.** If needed, agreement can later be worked out using a block “survey” to determine further interest.
Although this opening is 14-feet wide, by using two contrasting materials (concrete and asphalt), motorists perceive this opening to be only 8-feet. The visual effect is long lasting, even with motorists using the street on a regular or daily basis.

Example: Golden, Colorado
PART VI. NEXT STEPS
As a result of the park enhancements, and in response to neighborhood issues and needs, these areas of concern were raised. All dashed intersections were discussed during community workshops. A variety of traffic calming tools are to be applied in stages, with the yellow highlighted areas receiving the highest priority.
• **Confirmed:** A roundabout is preferred and is a priority project for Valota and Vera.

• **Confirmed:** An upgraded roundabout is preferred and is a priority for Hudson and Madison.

• **Confirmed:** A neighborhood mini-circle for Madison and Myrtle.

• **Confirmed:** A traffic calming tool is desired and is a priority project for Madison and Valota.

• **To Be Determined:** Madison at Iris, or a midblock location, could feature another traffic slowing tool.

• Not all features shown in the overall map will be built at one time.

• **Priority Intersections:**
  - Valota and Vera
  - Madison and Hudson
  - Madison and Myrtle
  - Madison and Valota

**Note:** Residents have additional concerns with additional areas on other streets surrounding the park. As these initial projects are constructed and evaluated, it is desired to apply the same or similar tools to the full length of Valota from Jefferson to Roosevelt.
PART VII. FOR MORE INFORMATION

Christopher Beth, Director
Parks, Recreation and Community Services
Phone: (650) 780-7253
www.redwoodcity.org