MOTT MACDONALD

Carmen Road Pedestrian/Bicycle Bridge

Draft Feasibility Study Report

September 18, 2019

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Executive summary

The Carmen Road Pedestrian/Bicycle Bridge, a high priority (Tier 1) project in the 2018 Cupertino Pedestrian Transportation Plan, is a grade-separated structure envisioned to provide a connection for pedestrians and bicyclists between the neighborhoods north and south of Stevens Creek Boulevard, between Foothill Boulevard and Phar Lap Drive. The bridge would continue the existing alignment of Carmen Road across Stevens Creek Boulevard, allowing for easy and safe access to and from residences, schools, parks and recreation centers. It also would create a safer bicycle and walking route to Stevens Creek Elementary School and provide an alternate crossing to get to Kennedy Middle School and Monta Vista High School. Furthermore, the bridge would provide improved access and safety for residents at Sunny View Bay Area Retirement Community, a nearby 12-acre retirement facility.

Figure 1. Study area and approximate proposed overcrossing location.

This report provides a summary of the Carmen Road Pedestrian/Bicycle Bridge feasibility, including:

- Project context
- A summary of the existing conditions in the study area
- An alternatives analysis of potential bridge structure types
- Details of the public outreach process

Existing Conditions

According to the City of Cupertino General Plan – Community Vision 2040 Mobility Element, Boulevards (or Arterials), such as Stevens Creek Boulevard, should provide access and safe crossing for all modes of travel. Existing Stevens Creek Blvd crossings near the project site include the Foothill Blvd, a signalized intersection approximately ¼ mile west of the proposed

bridge, and Phar-Lap Drive, an uncontrolled crossing approximately ¼ mile east of proposed bridge. The uncontrolled pedestrian crossing at Phar Lap Drive has been improved with pedestrian-actuated flashing beacons and is located on a sag vertical curve with a horizontal curve to the west. The distance between the existing crossings is approximately 0.5 miles which requires a significant detour for those wishing to walk to school who do not live near an existing crossing. Due to these safety considerations, a new separated pedestrian and cycling crossing has been identified as a priority.

Alternatives Analysis

Six potential bridge structure types were developed for further evaluation in the study. Detailed renderings illustrating the bridge structures are provided in Section 3.4. The structure types included:

1. Steel Girder Bridge with intermediate supports on either side of Stevens Creek Boulevard allows for shorter spans and a relatively shallow deck.
2. Steel Pratt Truss Bridge that clear spans Stevens Creek Boulevard. A Pratt truss has a general square look to the panels and the diagonals are lighter members.
3. Steel Howe Truss Bridge that clear spans Stevens Creek Boulevard. A Howe truss has a general triangular look to the panels.
4. Steel Tied Arch Bridge that clear spans Stevens Creek Boulevard. Arches provide a classic look for the bridge.
5. Steel Inclined Arch Bridge configured to provide intermediate supports and includes elegant arches with a lower profile above the bridge deck.
6. Clear Span Girder Bridge which has been removed from further consideration since it does not meet essential functional requirements.

The alternatives were evaluated by the project team, and additional input from the community on the options was gathered at Public Meeting #2. Four evaluation criteria were used to analyze the alternative bridge types:

- Constructability: is construction of the bridge feasible?
- Construction duration/impact: what is the extent and duration of the impacts from construction on traffic and pedestrian movements?
- Aesthetics: Is the design visually appealing?
- Cost: estimated cost excluding right-of-way acquisitions, utility relocations and other necessary improvements which are expected to be similar for all options

Table **1** provides an overview of the analysis of each bridge structure type by evaluation criteria. The performance measures (Low/Medium/High) are relative performance of the bridges as compared to one another. Options 1 – 5 were found to be feasible in terms of constructability. Option 6 was found to be infeasible and therefore has been excluded from further evaluation.

Table 1. Bridge structure types by performance metric.

Bridge Type	Constructability	Construction duration/impact	Aesthetics	Cost
1. Steel Girder	Feasible	Low	High	$1.25 M - $1.5 M
2. Steel Pratt Truss	Feasible	High	Low	$1.5 M - $1.85 M
3. Steel Howe Truss	Feasible	High	Low	$1.5 M - $1.85 M
4. Steel Tied Arch	Feasible	High	Medium	$1.6 M - $1.95 M
5. Steel Inclined Arch	Feasible	High	Medium	$1.4 M - $1.75 M
6. Clear Span Girder	Unfeasible	N/A	N/A	N/A

The team anticipates potential right-of-way impacts/property acquisition and the need for safety treatments for bicyclists and pedestrians. A high-level overview of the potential impacts is outlined in Section 3.5, and these elements will be addressed in more detail in the next phase of the study.

Public Outreach

Community engagement and public outreach has played an important role in shaping the Carmen Road Pedestrian/Bicycle Bridge Project. To date, there have been three opportunities for the community to provide feedback on the potential crossing:

- Stakeholder Visioning/Online Survey from November 26, 2018 to January 31, 2019: to gather initial thoughts from the community about this potential crossing.
- Public Meeting #1 on January 24, 2019**:** to introduce the project to the community through one-on-one discussions and by submitting written comment forms that were distributed at the event.
- Public Meeting #2 May 29, 2019: to inform the community on the status of the feasibility study and to seek feedback on the possible structure alternatives which are currently under consideration.

These items are covered in more detail in Section 4 of this report.

1 Project Context

1.1 Project Overview and Purpose

The Carmen Road Pedestrian/Bicycle Bridge, a high priority (Tier 1) project in the 2018 Cupertino Pedestrian Transportation Plan, is a grade-separated structure envisioned to provide a connection for pedestrians and bicyclists between the neighborhoods north and south of Stevens Creek Boulevard, between Foothill Boulevard and Phar Lap Drive. The bridge would continue the existing alignment of Carmen Road across Stevens Creek Boulevard, allowing for easy and safe access to and from residences, schools, parks, retirement communities and recreation centers.

In addition to enhancing neighborhood connectivity, the project would also create a safer bicycle and walking route to Stevens Creek Elementary School and provide an alternate crossing to get to Kennedy Middle School and Monta Vista High School. Furthermore, the bridge would provide improved access and safety for residents at Sunny View Bay Area Retirement Community, a nearby 12-acre retirement facility. Approximately 312 Stevens Creek Elementary school students live on the south side of Stevens Creek Blvd and could potentially use the bridge to access the school. Additionally, approximately 686 Kennedy Middle School and Monta Vista High School students live north of Stevens Creek Blvd in the vicinity of Carmen Road and would potentially use the bridge.

Stevens Creek Blvd Quick Facts

- ADT: 10,850
- Collision Rate: 1.40
- 85th Percentile Speed: 40 MPH

According to the City of Cupertino General Plan – Community Vision 2040 Mobility Element, Boulevards (or Arterials), such as Stevens Creek Boulevard, should provide access and safe crossing for all modes of travel. Existing Stevens Creek Blvd crossings near the project site include the Foothill Blvd, a signalized intersection approximately ¼ mile west of the proposed bridge, and Phar-Lap Drive, an uncontrolled crossing approximately ¼ mile east of proposed bridge. The uncontrolled pedestrian crossing at Phar Lap Drive has been improved with pedestrian-actuated flashing beacons and is located on a sag vertical curve with a horizontal curve to the west. The distance between the existing crossings is approximately 0.5 miles which requires a significant detour for those wishing to walk to school who do not live near an existing crossing. Due to these safety considerations, a new grade-separated pedestrian and cycling crossing has been identified as a high priority.

The feasibility study process began in November 2018 and continued through Summer 2019. It has included community engagement/stakeholder outreach and has culminated in this report identifying potentially suitable bridge structure types, while addressing issues identified during the community outreach process. No funding or budget has currently been identified beyond the feasibility study phase.

1.2 Public Outreach Process

Public Outreach has played an important role in shaping the Carmen Road Pedestrian/Bicycle Bridge Project. To date, there have been three opportunities for the community to provide feedback on the potential crossing which are described below. Detailed results are provided in Appendix A.

Online Survey

The City hosted an online survey from November 26, 2018 to January 31, 2019 to gather initial thoughts from the community about this potential crossing. A total of 350 responses were received and the majority were supportive of the new crossing. Summarized comments are in Appendix A1.

Public Meeting #1

The project's first public meeting was held on January 24, 2019 to introduce the project to the community. Approximately 30 people signed into the event, all of whom were invited to provide feedback to City staff and project consultants through one-on-one discussions and by submitting written comment forms that were distributed at the event. Detailed meeting minutes and redacted comments are in Appendix A2.

Public Meeting #2

City staff held the project's second public meeting on May 29, 2019. The purpose of the meeting was to inform the community on the status of the feasibility study and to seek feedback on the possible structure alternatives which are currently under consideration. Approximately 40 people signed into the meeting, all of whom were asked to share their thoughts and rank the structure alternatives by submitting written comment and ranking forms that were distributed at the event. Detailed meeting minutes and redacted comments are in Appendix A3.

2 Existing Conditions

2.1 Overview of Study Area

The Study Area is located within the City of Cupertino at Carmen Rd and Stevens Creek Boulevard. Stevens Creek Boulevard is a major east-west arterial through the City with an existing buffered bike lane. Prior to the construction of Stevens Creek Blvd many decades ago, Carmen Road was continuous at this location. However, with the construction of Stevens Creek Blvd, Carmen Road was severed and now terminates in a cul-de-sac to the north and the south of Stevens Creek Blvd.

Importantly, there are three schools near the proposed crossing: Stevens Creek Elementary School, Kennedy Middle School, and Monta Vista High School. Nearly 1,500 students and parents commute across Stevens Creek Boulevard to the three schools[1]. The current suggested routes to school across Stevens Creek Boulevard include Lockwood Drive and Janice Avenue. The crossing at Carmen Road would provide a safer and more direct route for parents and students to access the schools, while also improving access to parks and other community amenities for residents in the area.

[1] Walk-Bike Cupertino: Advocating Safe-Easy Biking & Walking Routes for Cupertino (2016). Student traffic patterns for Carmen Road and Stevens Creek Boulevard

Figure 2. Study area and approximate proposed overcrossing location.

2.2 Project Constraints

The objective of the new pedestrian crossing is to conform to existing conditions to the extent possible to limit costs associated with modifications to existing roadways, utilities and existing driveways. Additional constraints include vertical and horizontal bridge clearances, accessibility to maintenance vehicles, Americans with Disabilities (ADA) grade requirements, limits on falsework, staging and right-of-way.

2.3 Utilities

Desktop research and field visits have indicated that relocation of some utilities in the proposed project area is required. The City of Cupertino's Open GIS Portal was utilized to download the following datasets and imported into the project area using AutoCAD:

- Parcels
- Edge of Pavement
- Building Footprints
- Storm Water
- 2016 1ft Contours

It is important to ensure utility location and coordination begins at the earliest possible stage. Therefore, in preparation for the following design stage, each utility company with facilities in the project area has been notified of this project.

As part of this notification, the utility was asked to provide record information and identify the locations of all existing facilities. The utility companies with facilities in the project area include Pacific Gas and Electric (PG&E), Comcast, AT&T, San Jose Water and Cupertino Sanitation District. CAD reference files were created for each known utility based on the information received from each utility via a Request for Information.

Of these utilities, it is anticipated that the project will have conflicts with existing sanitary sewer pipes and manholes, as well as existing overhead electric and cable lines.

A utility plan including existing utilities within the project site and potential utility conflicts is included in Appendix B

2.4 Geotechnical Conditions

Geotechnical evaluation of the site has consisted of a search for nearby geotechnical reports and desktop reviews of geological maps. The site is identified by Graymer[2] as being on the cusp of Pleistocene surficial alluvial deposits Qpa and near-surface Pleistocene or Pliocene sedimentary rock QTs. These conditions are considered generally favorable for foundation bearing and have lower seismic demands than soft soil sites. Given the local site topography, the site will generally drain to the east, down the slope of Stevens Creek Boulevard towards Stevens Creek and is not anticipated to be subject to significant flooding events. Foundation concepts for the bridge could include a deep foundation comprising cast-in-drilled-hole elements or possibly shallow foundations, depending on the site-specific conditions. Driven piles are less attractive as a solution for their propensity to cause disruption to the nearby residential neighbors.

[2] Graymer, R.W., Moring, B.C., Saucedo, G.J., Wentworth, C.M., Brabb, E.E., Knudsen, K.L., (2006), Geologic Map of the San Francisco Bay Region. U.S. Geological Survey. Available online, http://pubs.usgs.gov/sim/2006/2918 .

As with any site in the San Francisco Bay Area, strong shaking from earthquakes should be expected in the design life of the structure. Further stages of design must consider seismic loading as part of compliance with applicable codes and standards.

2.5 Bridge Basis of Design

Based on preliminary discussions with The City of Cupertino, the new Bicycle / Pedestrian Overcrossing Bridge (BPOC) is classified as a non-essential structural facility. The bridge will be designed and constructed in accordance with the American Association of State Highway Transportation Officials (AASHTO) Load Resistance Factor Design (LRFD) Bridge Design Specifications, 6th Edition with Caltrans Amendments and Caltrans Technical Publications and Guidelines.

Design Life

The Design Life of the structure shall be 75 years.

Bridge Geometry

The length of the bridge to link the northern and southern portions of Carmen Road will be 120 – 125 feet.

The bridge will cross over Stevens Creek Boulevard and will require a 15'-6" clearance to the underside of the structure. A pedestrian bridge will require an additional 2' of clearance to reduce the risk of damage and thereby provide additional safety. The total permanent clearance over Stevens Creek Boulevard will be 17'-6". The clear bridge width may be up to 12 feet if required to accommodate maintenance vehicles and multi-use bicycle and pedestrian functionality. Otherwise, an 8- or 10-foot width may be considered.

Live Loads

The Live loads considered in the design are the following:

- Bike/pedestrian load of 100psf.
- A maintenance vehicle H10 as outlined in AASHTO LRFD Guide Specifications for the Design of Pedestrian Bridges, 2009.
- The bridge will satisfy deflection and vibration performance criteria per Sections 5 and 6 of the AASHTO LRFD Guide Specification for the Design of Pedestrian Bridges.

Clear Deck Width	Design Vehicle
7 to 10 feet	H5
Over 10 feet	H10

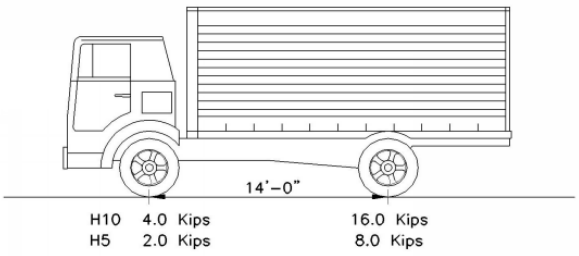

Figure 3. H10 Vehicle Loading

Seismic Design

The Seismic design of the BPOC bridge shall be in accordance with the following codes:

- Caltrans Acceleration Response Spectrum Curve based on a 5% in 50 years probability of exceedance (or 975-year return period)

2.6 Summary of Existing Plans and Policies

In June 2016, the Cupertino City Council adopted the 2016 Bicycle Transportation Plan that will guide the development and implementation of improving the City's bicycling environment for years to come. A summary of the primary objectives of the Bicycle Transportation Plan is provided below.

- Increase awareness and value of bicycling through encouragement, education, enforcement, and evaluation programs.
- Improve bicyclist safety through the design and maintenance of roadway improvements.
- Increase and improve bicycle access to community destinations across the City of Cupertino for all ages and abilities.

"The City of Cupertino envisions an exceptional bicycling environment that supports active living and healthy transportation choices, provides for safer bicycling, and enables people of all ages and abilities to access jobs, school, recreation, shopping, and transit on a bicycle as a part of daily life." - Vision Statement from the 2016 Bicycle Transportation Plan.

The 2016 Bicycle Transportation Plan recommends implementation of Carmen Road Pedestrian/Bicycle Bridge as a Tier 2 project. The bridge will allow easy and safe access to and from residences, schools, parks, and recreation centers. It also would create a safer bicycle and walking route to Stevens Creek Elementary School and provide an alternate crossing to get to Kennedy Middle School and Monta Vista High School.

In February 2018, the Cupertino City Council adopted the 2018 Pedestrian Transportation Plan that will guide the City toward achieving its vision of an inviting, safe and connected pedestrian network. General statements of what the City and residents hope to achieve over time is summarized below.

- Improve pedestrian safety and reduce the number and severity of pedestrian-related collisions, injuries, and fatalities.
- Increase and improve pedestrian access to community destinations across the City of Cupertino for people of all ages and abilities.
- Continue to develop a connected pedestrian network that fosters an enjoyable walking experience.

The 2018 Pedestrian Transportation Plan outlines goals to improve pedestrian safety, access, and connectivity within the City. The Carmen Road Pedestrian/Bicycle Bridge is identified as a Tier 1 project within the 2018 Pedestrian Transportation Plan. The bridge will supplement the extensive pedestrian network the City is aiming for and supports all of the plan's goals.

The City of Cupertino General Plan – Community Vision 2040 contains twelve guiding principles that encompass a broad range of community aspirations. The Guiding Principles provide additional detail about Cupertino's desired future necessary to fully articulate the ideas contained in the vision statement. Similarly, the Guiding Principles were developed based on extensive community input. The following guiding principles are consistent with the proposed Carmen Road Pedestrian/Bicycle Bridge project:

- *# 1 Develop Cohesive Neighborhoods: Ensure that all neighborhoods are safe, attractive and include convenient pedestrian and bicycle access to a "full-service" of local amenities such as parks, schools, community activity centers, trails, bicycle paths, and shopping.*
- *# 3 Improve Connectivity: Create a well-connected and safe system of trails, pedestrian and bicycle paths, sidewalks and streets with traffic calming measures that weave the community together, enhance neighborhood pride and identity, and create access to interesting routes to different destinations.*
- *# 4 Enhance Mobility: Ensure the efficient and safe movement of cars, trucks, transit, pedestrians, bicyclists and disabled persons throughout Cupertino to fully accommodate Cupertino's residents, workers, visitors and students of all ages and abilities. Streets, pedestrian paths, and bike paths should comprise an integrated system of fully connected and interesting routes to all destinations.*

3 Alternatives Analysis

3.1 Bridge Alignment Selection Criteria

The horizontal alignment is centered along the extended centerlines of Carmen Road. There are potential adjustments that could be made in later stages of the design to reduce the right-of-way impact to properties; however, this adjustment would potentially impact the overhead utility pole in the northern cul-de-sac.

The vertical profile is sensitive to the depth required for the structure due to the relative elevations of the south and north abutments and the clearance required over Stevens Creek Boulevard.

3.2 Evaluation Criteria

There were four evaluation criteria used to analyze the alternative bridge types:

- Constructability: Considering the size and space needs for the required construction equipment in Stevens Creek Boulevard and the cul-de-sacs, falsework or temporary support requirements and the need to keep one lane of traffic open on Stevens Creek Boulevard at all times, is construction of the bridge feasible?
- Construction duration/impact: what is the extent and duration of the impacts from construction on traffic and pedestrian movements?
- Aesthetics: Is the design visually appealing?
- Cost: What is the relative cost of the bridge type? Cost estimates provided exclude right-of-way acquisition costs and utility relocation costs which are assumed to be similar for all bridge types.[3]

The Mott MacDonald team assessed each structure type based on these criteria, and community members were asked to rank their preferred options based on the same criteria at Public Meeting #2.

3.3 Bridge Foundation

A single span bridge is feasible for the length of the crossing required. However, a single span bridge would by definition have foundations in the cul-de-sacs. In order to reduce the construction duration and the footprint of such foundations, single span bridge types would likely have deep foundations at this project site.

In order to reduce or eliminate the impact of bridge foundations in the cul-de-sacs, two schemes were conceived that would have foundations on the slopes or at the bottom of the slopes on either side of Stevens Creek Boulevard. The foundations on the slope (Option 5) would likely be deep foundations also. However, the scheme requiring foundations at the base of the slopes (Option 1) could potentially have spread footings.

[3] Cost estimates include construction costs plus:

- 25% for increased project area (i.e. community integration projects)
- 20% Design
- 25% Project Management/Construction Management (PM/CM)
- 30% Contingency

3.4 Bridge Structure Types

Six bridge structure types were evaluated by the project team as described below. Additional input was gathered from the community at Public Meeting #2. Options 1 – 5 were found to be feasible in terms of constructability. Option 6 was found to be infeasible and therefore was excluded from further evaluation. All of the five feasible options are proposed to include 10-foot tall screens/meshes on either side of the bridge railings to prevent projectiles leaving the bridge and entering the roadway on Stevens Creek Boulevard. Additional security measures could include the installation of video cameras on the bridge for monitoring purposes.

3.4.1 Option 1: Steel Girder Bridge

A steel girder bridge with intermediate supports on either side of Stevens Creek Boulevard allows for shorter spans and a relatively shallow deck (Figure 4 to Figure 6).

Construction duration/impact

- Bridge structure is made of three steel girders that can be delivered and erected individually without the need for falsework over Stevens Creek Blvd
- Main foundation construction from Stevens Creek Blvd approximately 7-10 days per side; one traffic lane in each direction maintained at all times. Similar periods and impacts for column construction
- Deck construction will require 20 days of light equipment access through the cul-de-sacs on each end of Carmen Road
- There will be 3 nights of individual lane closures on Stevens Creek Blvd for deck construction

Aesthetics

- Shallowest profile and overall height compared to all other design options provides an unassuming, yet elegant bridge that provides opportunities for aesthetic enhancements of the railings and screens

Cost

- $1.25M – $1.5M in 2019 dollars (See Section 3.2 – Evaluation Criteria for details)

Figure 4. Rendering of a Steel Girder Bridge over Stevens Creek Boulevard. (Option 1)

Figure 5. Looking South on Carmen Road (Option 1)

Figure 6. Looking North on Carmen Road (Option 1)

3.4.2 Option 2: Steel Pratt Truss Bridge

A steel truss that clear spans Stevens Creek Boulevard. A Pratt truss has a general square look to the panels and the diagonals are lighter members (Figure 7 to Figure 9).

Construction duration/impact

- Trusses can be assembled on falsework over Stevens Creek Blvd from individual members or three pre-assembled pieces
- Foundation construction in each cul-de-sac will take 10-15 days
- Truss erection will impact traffic for 10-15 nights in Stevens Creek Blvd, during which one lane of traffic will be open in each direction
- Deck construction will require 20 days of light equipment access through the cul-de-sacs
- There will be 3 nights of individual lane closures on Stevens Creek Blvd for deck construction, during which one lane of traffic will be open in each direction

Aesthetics

- A commonly used structure type for medium span pedestrian bridges which has significant presence while providing a feeling of enclosure and safety

Cost

- $1.5M - $1.85M in 2019 dollars (See Section 3.2 – Evaluation Criteria for details)

Figure 7. Rendering of a Steel Pratt Truss Bridge over Stevens Creek Boulevard. (Option 2)

Figure 8. Looking South on Carmen Road (Option 2)

Figure 9. Looking North on Carmen Road (Option 2)

3.4.3 Option 3: Steel Howe Truss Bridge

A steel truss that clear spans Stevens Creek Boulevard. A Howe truss has a general triangular look to the panels (Figure 10 to Figure 12).

Construction duration/impact

- Trusses can be assembled on falsework over Stevens Creek Blvd from individual members or three pre-assembled pieces
- Foundation construction in each cul-de-sac will take 10-15 days
- Truss erection will impact traffic for 10-15 nights in Stevens Creek Blvd, during which one lane of traffic will be open in each direction
- Deck construction will require 20 days of light equipment access through the cul-de-sacs
- There will be 3 nights of individual lane closures on Stevens Creek Blvd for deck construction, during which one lane of traffic will be open in each direction

Aesthetics

- A robust looking structure which is often seen on railway bridges, also provides a feeling of enclosure and safety

Cost

- $1.5M - $1.85M in 2019 dollars (See Section 3.2 – Evaluation Criteria for details)

Figure 10. Rendering of a Steel Howe Truss Bridge over Stevens Creek Boulevard. (Option 3)

Figure 11. Looking South on Carmen Road (Option 3)

Figure 12. Looking North on Carmen Road (Option 3)

3.4.4 Option 4: Steel Tied Arch Bridge

A tied arch bridge that clear spans Stevens Creek Boulevard. Arches provide a classic look for the bridge (Figure 13 to Figure 15).

Construction duration/impact

- Tied arches with hangers to support main deck elements can be fully pre-assembled and erected in one overnight operation.
- Pre-assembly will require 7-10 days of lane closures in Stevens Creek Blvd, leaving one lane open in each direction
- Foundation construction in each cul-de-sac will take 10-15 days
- Deck construction will require 20 days of light equipment access through the cul-de-sacs on each end of Carmen Road
- There will be 3 nights of individual lane closures on Stevens Creek Blvd for deck construction. during which one lane of traffic will be open in each direction

Aesthetics

- Classic arches with some presence but an elegant shape provide an inherent support for the fence and screen

Cost

- $1.6M - $1.95M in 2019 dollars (See Section 3.2 – Evaluation Criteria for details)

Figure 13. Rendering of a Steel Tied Arch Bridge over Stevens Creek Boulevard. (Option 4)

Figure 14. Looking South on Carmen Road (Option 4)

Figure 15. Looking North on Carmen Road (Option 4)

3.4.5 Option 5: Steel Inclined Arch Bridge

Inclined arches configured to provide intermediate supports. Elegant arches with a lower profile above the bridge deck (Figure 16 to Figure 18).

Construction duration/impact

- Inclined arches and elements of the deck will be assembled in-place
- In-place assembly will require 5-7-night closures. These will be complete closures of Stevens Creek Blvd
- Main foundation construction from Stevens Creek Blvd will require 10-14 days of lane closures per side; maintaining one traffic lane in each direction at all times
- Deck construction will require 20 days of light equipment access through the cul-de-sacs on each end of Carmen Road
- There will be 3 nights of individual lane closures on Stevens Creek Blvd for deck construction, during which one lane of traffic will be open in each direction

Aesthetics

- Arched shape of principal bridge elements is aesthetically pleasing with a height above deck that is well proportioned for this type of structure. Inclined arches add a signature statement that also creates a more 'open' feel to the structure

Cost

- $1.4M - $1.75M in 2019 dollars (See Section 3.2 – Evaluation Criteria for details)

Figure 16. Rendering of a Steel Inclined Arch Bridge over Stevens Creek Boulevard. (Option 5)

Figure 17. Looking South on Carmen Road (Option 5)

Figure 18. Looking North on Carmen Road (Option 5)

3.4.6 Option 6: Clear Span Girder Bridge

Option 6 is a girder bridge with a clear span of 120 feet over Stevens Creek Boulevard. This type of bridge can be built using a conventional cast-in-place box girder, steel or pre-cast concrete girders with a cast-in-place deck. The required 17.5 ft clearance over Stevens Creek Boulevard combined with the maximum 5% slope on the bridge deck results in the bridge landing 2.2 ft above ground, which results in the following challenges:

- Maintenance vehicles would be unable to access the bridge
- Requires a ramp which is not feasible due to permanent interference with the cul-de-sac
- Since a ramp cannot be accommodated, the design is not compliant with the American Disability Act (ADA)

This bridge type was removed from further consideration since it does not meet these three essential functional requirements

3.4.7 Summary of Bridge Options

Table 2 provides a relative comparison of the bridge structure types by the key performance metrics.

Table 2. Bridge structure types by performance metric.

Bridge Type	Constructability	Construction duration/impact	Aesthetics	Cost
1. Steel Girder	Feasible	Low	High	$1.25 M - $1.5 M
2. Steel Pratt Truss	Feasible	High	Low	$1.5 M - $1.85 M
3. Steel Howe Truss	Feasible	High	Low	$1.5 M - $1.85 M
4. Steel Tied Arch	Feasible	High	Medium	$1.6 M - $1.95 M
5. Steel Inclined Arch	Feasible	High	Medium	$1.4 M - $1.75 M
6. Clear Span Girder	Unfeasible	N/A	N/A	N/A

3.5 ROW Impacts and Acquisitions

The proposed layout in red shows the alignment of the bridge if it were to be constructed along the extended centerline of Carmen Road. This alignment would result in property impacts to a portion of the parcel 10045 Carmen Road. To address this property impact, the Mott MacDonald team developed a skewed layout for the bridge as indicated by the orange alignment. This skewed alignment avoids the property impact to 10045 Carmen Road but creates a new impact to 10036 Carmen Road. Additionally, constructing the bridge along the skewed alignment would require the relocation of a PG&E utility pole and associated work. The graphic below illustrates the centerline and skewed alignment of the proposed bridge, nearby properties and existing utilities.

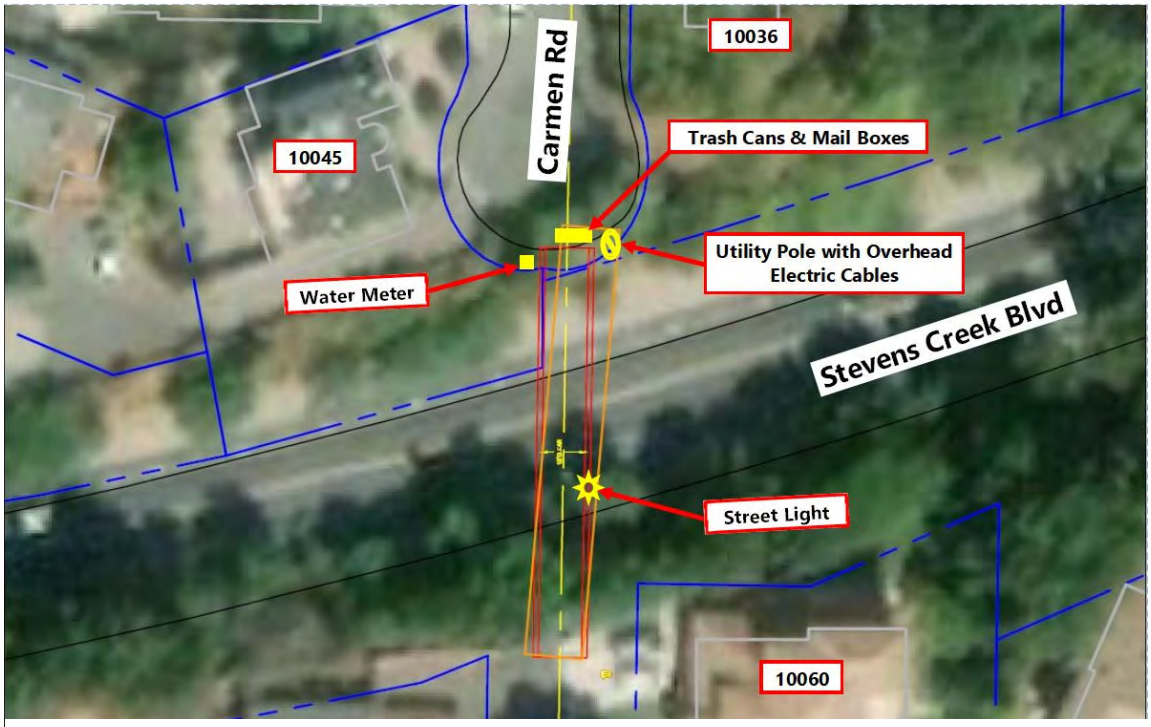

Figure 19. Centerline and skewed alignment of the proposed bridge, nearby properties, and existing utilities.

If the proposed Carmen Road Bridge is constructed along the extended centerline (red alignment) of Carmen Road, the expected impacts to the right of way and utilities are:

- Encroachment to parcel 10045.
- Relocation of the San Jose water meter and mailboxes on Carmen Road north of Stevens Creek Boulevard.
- Relocation of a streetlight located on the Stevens Creek Boulevard.

If the proposed Carmen Road Bridge project is constructed with skewed layout (orange alignment), the expected impacts to the right of way and utilities are:

- Encroachment to parcel 10036.
- Relocation of the PG&E utility pole with overhead wires, San Jose water meter, and mailboxes on Carmen Road north of Stevens Creek Boulevard.
- Relocation of a streetlight located on the Stevens Creek Boulevard.

The impacts noted above are based on a proposed bridge width of 12 feet. Additionally, neither of the alignments will completely place the bridge deck within public right of way, as there would need to be aerial easement from Parcel 10045 regardless of alignment.

However, the impacts to the neighboring properties and utilities can be minimized or avoided if the bridge width is reduced to 8 or 10 feet. Based upon the intended usage and location of the bridge, a width 10 or even 8 feet is feasible and would meet the intended goals of the project. Consequently, the City should seriously consider a bridge narrower than 12 feet at this location in order to reduce right-of-way and utility impacts. Impacts to the neighboring properties, utilities, and sight distance issues would be addressed in greater detail during the subsequent phases of the project. Photos of the existing utilities are provided below.

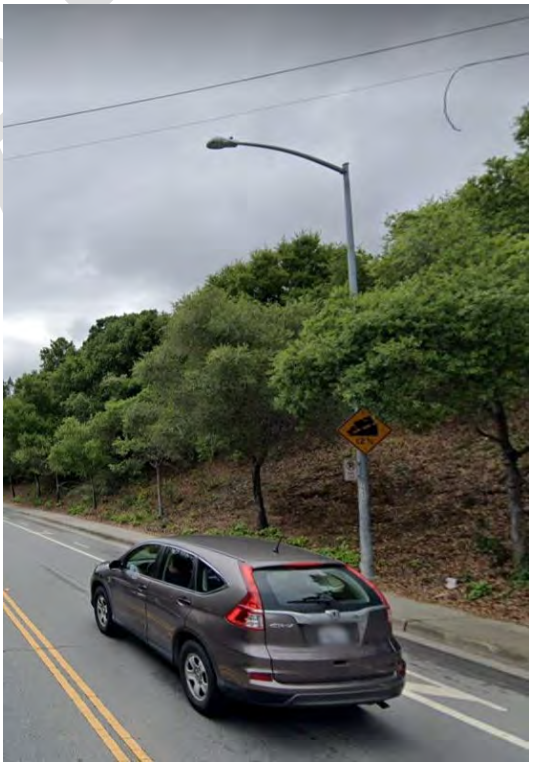

Figure 20. Existing utility pole, overhead cables, trash bins and mailboxes on Carmen Road north of Stevens Creek Boulevard, existing street light on SCB and existing water meter on Carmen Road.

3.6 Safety Treatments for Pedestrians/Bicyclists

Due to existing fencing and dense vegetation, corner sight visibility between bicycles and pedestrians exiting the bridge, and the adjacent private driveways may be limited. Measures that can be considered to improve the sight distance are:

- Installation of stop signs with appropriate pavement markings on both ends of the bridge.
- Installation of caution signs on the bridge and at the driveways to alert bridge and road users to share the road.
- Keeping the line of sight clear between bridge and driveways by trimming the vegetation.
- Installation of sight distance convex mirrors at the driveways.
- Installation of foldable lightweight bollards at the entrances of the bridge to reduce the speed of bicyclists and pedestrians.
- Installation of yellow truncated dome pads at the entrances of the bridge.

4 Public Outreach

4.1 Stakeholder Visioning

The City hosted an online survey from November 26, 2018 to January 31, 2019 to gather initial thoughts from the community about this potential crossing. A total of 350 responses were received. The survey aimed to gain an understanding of the community's needs, and vision for a potential crossing of Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive. A majority of respondents indicated they were supportive of crossing improvements at this location and that they would support a bridge connecting Carmen Road across Stevens Creek Boulevard.

Refer to **Appendix A** for detailed survey questions and responses.

Figure 21. Participants listen to the City of Cupertino's Transportation Manager, David Stillman, providing an overview of the project.

4.2 Public Meeting #1

The first public meeting for the project was held on January 24, 2019 at the Multipurpose Room, Monta Vista Recreation Center in the City of Cupertino to introduce members of the public to the project and the project team. The meeting was held in an open-house format where attendees were invited to arrive at any time during the event window (6:30 p.m. to 7:30 p.m.) and provide individual feedback on the project.

Twenty-eight (28) people signed into the event. The meeting included a sign-in table, a comments table, a table with the aerial maps for the project, and a board with the project timeline on display. City staff and the project consultant team were available at the various tables/displays to listen and answer any questions. Attendees were provided a comment form upon entering which they were asked to complete and return before leaving so that their comments could be recorded.

Halfway through the meeting, Cupertino Transportation Manager David Stillman addressed the audience and provided a brief background of the project. Attendees asked to speak openly so that their comments and concerns could be heard by all that were present. The comments received from residents and members of the public during the open discussion are summarized below. Additionally, the completed comment forms received at the event are attached herein along with photos taken at the event.

- Would like a safer crosswalk to cross Stevens Creek
- Concerned about bike speeds
- Is a crossing under Stevens Creek possible?
- Usually cross Stevens Creek Boulevard on bike to school day only (Wednesday); if the bridge were built, they would use it more often and walk/bike to school every day.
- Concerned with the aesthetics of the bridge (feels the rendering is ugly)
- Concerned with allocation of resources/funds to the bridge
- Would like to help kids/elderly
- Supports a safer route for school children
- Concerned with the bike/ped accidents that have occurred in the neighborhood; would like studies done on those locations as well
- Feels that people want the bridge but will not use it
- Supports bridge as it will help traffic congestion, be healthier option to travel, avoid cars traveling 40+ mph, and it will be a good alternative from Foothill (loud due to trucks on road)
- Would like an elegant structure like the 280 bridge (Don Burnett Bicycle-Pedestrian Bridge, now called the Mary Avenue Bridge which is a cable-stayed bridge over Interstate 280)
- Hates rendering bridge image
- Will the City build a bridge at Foothill and other crossings for school children?
- Felt that the survey framed Carmen Rd as the only option. Would like to explore other alternative locations
- Feel that the bridge would cause congestion as people will drop off at the bridge
- Wants the City to make a good decision
- Finds Carmen Road very narrow, especially when there are cars parked on both sides of the street—causing neighbors to drive in the middle of the road
- Privacy concern—does not want people on bridge looking to resident backyard
- A bridge would enable and/or increase home break-ins in the neighborhood. With more foot traffic, resident feels more vulnerable.
- Feels a better option would be fixing the light/crosswalk at Phar Lap
- Feels that a bridge would be an eyesore and would invite graffiti; cleanliness and maintenance of the bridge stated as a concern
- South side of Carmen Road has a steep grade. Worried about backing up car and hitting a bicyclist or pedestrian due to limited visibility

- Concerned about bridge cost
- Would it cost more to build a bridge or to fix grade and then do a ramp?
- Neighbor cannot turn left and finds it difficult to back up car from driveway
- The cul-de-sac on Carmen Road south of Stevens Creek Boulevard is crowded as three homes share a driveway—making it difficult to exit driveways. This is further compounded when there are cars constantly parked on trash/recycling day
- The bridge would create more crowding in the neighborhood.
- Stated an alternative to the bridge structure - providing a staircase for people to access Stevens Creek Boulevard from either side of Carmen Road and providing a traffic light for the crossing.
- Does not want to see more people walking/biking in the area. Will disturb the peace of the neighborhood.
- Building the bridge would help open the neighborhoods. Parents would have the option to walk instead of drive and won't need to compete with commuters. In the morning SR 85 is very bad which is why commuters prefer Stevens Creek Boulevard.
- The bridge will help remove cars from the roads and reduce the need to drive in the morning.
- There was a lot of opposition in the initial stages of the project to the ped/bike bridge over Interstate 280. Would be good to investigate what kind of impact it had on the neighborhoods.
- Concern about graffiti and collection of debris on bridge over time.

Figure 22. Participants at Public Meeting #2 fill out comment cards indicating their preferred bridge types and providing feedback on the project.

4.3 Public Meeting #2

The second public meeting for the project was held on May 29, 2019 at the Multipurpose Room, Monta Vista Recreation Center in the City of Cupertino to inform the community on the status of the feasibility study and to seek feedback on the possible structure alternatives currently under consideration. The meeting was held in an open-house format where attendees were invited to arrive at any time during the event window (6:30 p.m. to 8:30 p.m.) and included a brief presentation along with display boards followed by an opportunity for the attendees to provide individual feedback on the alternatives.

At the meeting, attendees were provided with a comment card, which listed the bridge structure options and with which they were asked to rank the options according to their preference. They were also provided a brochure with details about the bridge options, including cost, aesthetics, and construction impacts to assist with the ranking process. Also, the staff offered additional comment cards to the attendees in order to distribute to their neighbors who could not attend the meeting.

Overall City staff received comments from 47 residents:

- 25 during the public meeting # 2,
- 17 from the Sunny View Bay Area Retirement Community after the public meeting # 2
- Five comments through email before and after the public meeting # 2.

Out of 47 comment cards received, only 43 residents ranked the alternatives with the following results:

1. Option #1 – 33 percent responded as their first choice.
2. Option #2 – 2 percent responded as their first choice.
3. Option #3 – 2 percent responded as their first choice.
4. Option #4 – 33 percent responded as their first choice.
5. Option #5 – 29 percent responded as their first choice.

Figure 23. Option 1 – 33 Percent responded as their first choice

Figure 24. Option 2 – 2 Percent responded as their first choice

Figure 25. Option 3 – 2 Percent responded as their first choice

Figure 26. Option 4 – 33 Percent responded as their first choice

Figure 27. Option 5 – 29 Percent responded as their first choice

Table 3. Detailed breakdown of resident's ranking.

#	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
Option 1	14	11	7	3	5
Option 2	1	0	8	10	18
Option 3	1	3	9	17	8
Option 4	14	10	9	2	3
Option 5	12	13	2	1	9

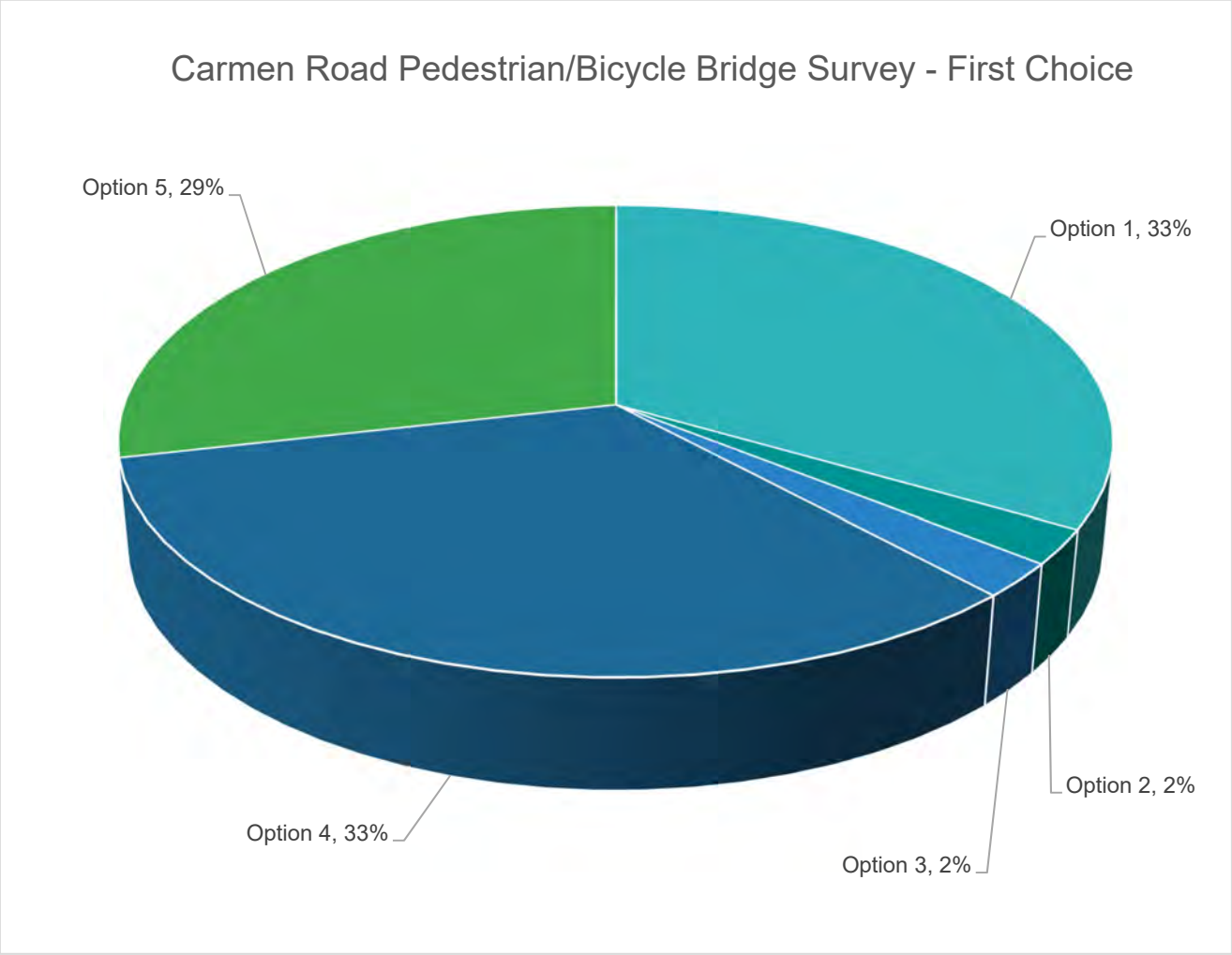

Figure 28. Resident's first choice for the five bridge options.

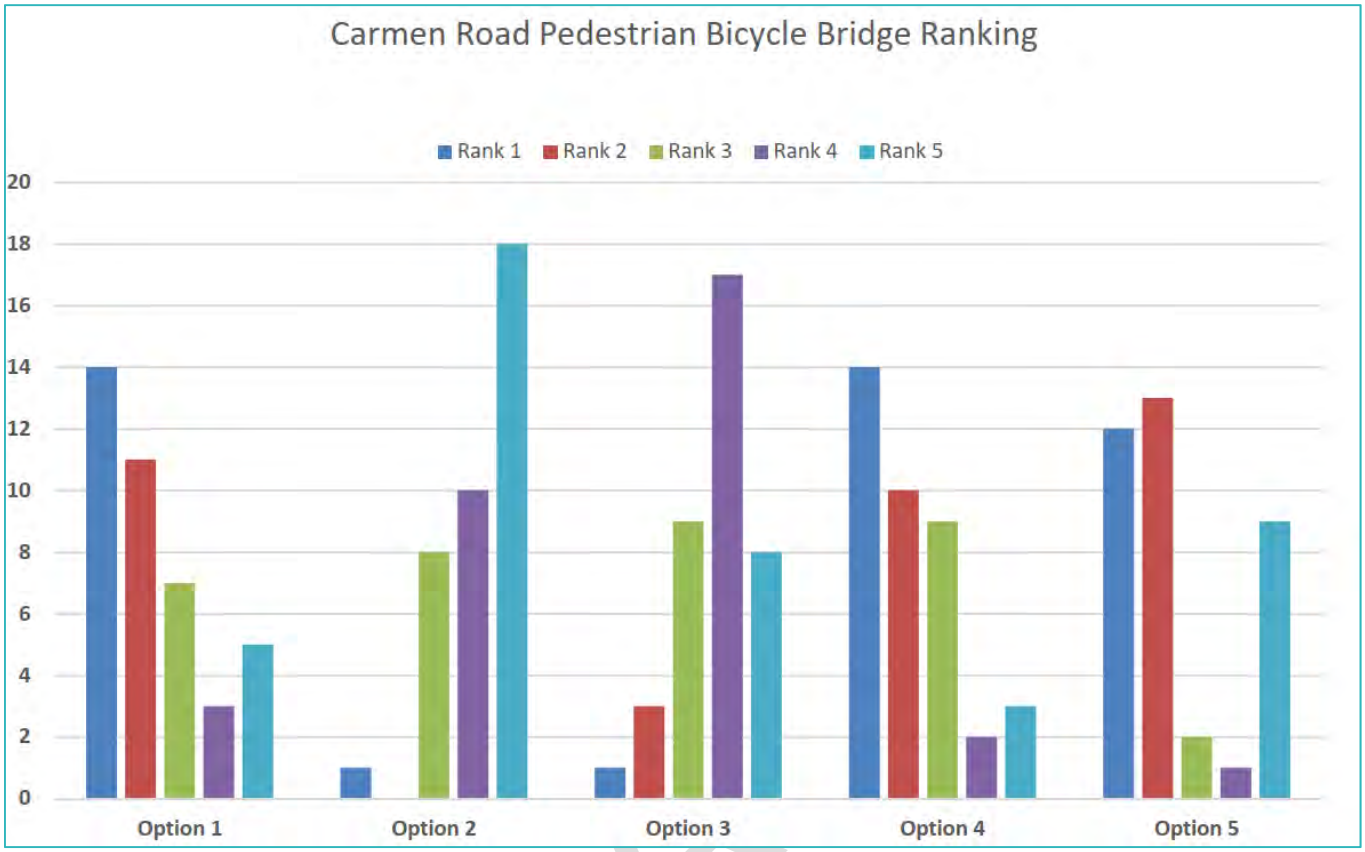

Figure 29. Detailed breakdown of resident's ranking.

Appendices

A. Public Engagement

Appendix A Contents:

A.1 Stakeholder Visioning Survey Summary and Results

CITY OF CUPERTINO

Carmen Road Bridge Survey

February 4, 2019, 8:40 AM

Contents

Carmen Road Bridge Survey
Carmen Road Bridge Survey

Summary Of Responses

As of February 4, 2019, 8:40 AM, this forum had:		Topic Start
Attendees:	691	November 26, 2018, 4:52 PM
Responses:	350	
Hours of Public Comment:	17.5	

QUESTION 1

1. Do you currently have the need to cross Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive?

	%	Count
Yes	54.3%	189
No	45.7%	159

QUESTION 2

2. If yes, what is your typical primary mode for crossing Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive? Choose one.

	%	Count
Drive	29.5%	69
Bike/Walk from Foothill Boulevard	24.4%	57
Bike/Walk from Phar Lap Drive	19.7%	46
Jaywalk across Stevens Creek Boulevard	26.5%	62

QUESTION 3

3. Do you feel the need for an additional pedestrian/bicycle crossing of Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive?

		%	Count
Yes		62.4%	216
No		30.3%	105
No Opinion		7.2%	25

QUESTION 4

4. If you could design your ideal alternative to cross Stevens Creek Boulevard, what would it look like and what would it feature? Enter your answer in the text box below. Feel free to include examples of similar infrastructure you have seen or heard of.

Answered	167
Skipped	183

QUESTION 5

5. Would you support a pedestrian/bicycle bridge connecting Carmen Road across Stevens Creek Boulevard?

		%	Count
Yes		65.4%	225
No		29.9%	103
No Opinion		4.7%	16

QUESTION 6

6. If yes, how often would you use it?

		%	Count
Several times a week. I would bike/walk to and from schools, parks, rec centers, and more.		35.7%	105
Occasionally, if I have time to bike/walk nearby.		30.6%	90

	%	Count
Rarely. For the most part, I would continue to bike/walk my current path.	15.6%	46
Rarely. For the most part, I would continue to drive.	18.0%	53

QUESTION 7

7. How far do you live from Carmen Road at Stevens Creek Boulevard?

	%	Count
I live on Carmen Road	8.2%	28
I live within a ¼ mile radius from Carmen Road	21.3%	73
I live within a ½ mile radius from Carmen Road	26.3%	90
I live more than a ½ mile radius from Carmen Road	44.2%	151

QUESTION 8

8. If the feasibility study concluded that a pedestrian/bicycle bridge connecting Carmen Road is possible to implement, how would that impact you? We welcome your comments. If you have questions or comments about the Carmen Road Pedestrian/Bicycle Bridge Feasibility Study, please enter them below.

Answered	203
Skipped	147

QUESTION 9

Name (optional)

Answered	112
Skipped	238

QUESTION 10

Please provide your email address if you would like to be added to our stakeholder list (for future outreach activities and updates).

Answered	120
Skipped	230

QUESTION 11

Please provide us with the nearest cross streets of your home address.

Answered	199
Skipped	151

Survey Questions

QUESTION 1

1. Do you currently have the need to cross Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive?

- Yes
- No

QUESTION 2

2. If yes, what is your typical primary mode for crossing Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive? Choose one.

- Drive
- Bike/Walk from Foothill Boulevard
- Bike/Walk from Phar Lap Drive
- Jaywalk across Stevens Creek Boulevard

QUESTION 3

3. Do you feel the need for an additional pedestrian/bicycle crossing of Stevens Creek Boulevard between Foothill Boulevard and Phar Lap Drive?

- Yes
- No
- No Opinion

QUESTION 4

4. If you could design your ideal alternative to cross Stevens Creek Boulevard, what would it look like and what would it feature? Enter your answer in the text box below. Feel free to include examples of similar infrastructure you have seen or heard of.

QUESTION 5

5. Would you support a pedestrian/bicycle bridge connecting Carmen Road across Stevens Creek Boulevard?

- Yes
- No
- No Opinion

QUESTION 6

6. If yes, how often would you use it?

- Several times a week. I would bike/walk to and from schools, parks, rec centers, and more.
- Occasionally, if I have time to bike/walk nearby.
- Rarely. For the most part, I would continue to bike/walk my current path.
- Rarely. For the most part, I would continue to drive.

QUESTION 7

7. How far do you live from Carmen Road at Stevens Creek Boulevard?

- I live on Carmen Road
- I live within a ¼ mile radius from Carmen Road
- I live within a ½ mile radius from Carmen Road
- I live more than a ½ mile radius from Carmen Road

QUESTION 8

8. If the feasibility study concluded that a pedestrian/bicycle bridge connecting Carmen Road is possible to implement, how would that impact you? We welcome your comments. If you have questions or comments about the Carmen Road Pedestrian/Bicycle Bridge Feasibility Study, please enter them below.

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A.2 Public Meeting #1 Meeting Minutes & Materials

Carmen Road Pedestrian/Bicycle Bridge Feasibility Study
Public Meeting #1

The first public meeting for the project was held on January 24, 2019 at the Multipurpose Room, Monta Vista Recreation Center in the City of Cupertino to introduce members of the public to the project and the project team. The meeting format was held in an open-house format where attendees were invited to arrive at any time during the event window (6:30 p.m. to 7:30 p.m.) and provide individual feedback on the project.

Twenty-eight (28) people signed into the event. The meeting included a sign-in table, a comments table, a table with the aerial maps for the project, and a board with the project timeline on display. City staff and the project consultant team were available at the various tables/displays to listen and answer any questions. Attendees were provided a comment form upon entering and were asked to complete and return before leaving so that their comments could be recorded.

Halfway through the meeting, Cupertino Transportation Manager David Stillman addressed the audience and provided a brief background of the project. Attendees asked to speak openly so that their comments and concerns could be heard by all that were present. The comments received from residents and members of the public during the open discussion are summarized below. Additionally, the completed comment forms received at the event are attached herein along with photos taken at the event.

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- Wants the City to make a good decision
- Finds Carmen Road very narrow, especially when there are cars parked on both sides of the street—causing neighbors to drive in the middle of the road
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The bridge will help remove cars from the roads and reduce the need to drive in the morning.

- There was a lot of opposition in the initial stages of the project to the ped/bike bridge over Interstate 280. Would be good to investigate what kind of impact it had on the neighborhoods.
- Concern about graffiti and collection of debris on bridge over time.

PUBLIC MEETING NOTICE

CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

The City of Cupertino Public Works Department invite you to attend the first public meeting for the Carmen Road Pedestrian-Bicycle Bridge Feasibility Study. This initial meeting will be conducted in an open house format where attendees can drop in any time during the event window. Attendees will have the opportunity to learn more about the project, the study's goals and objectives, and to provide feedback to City staff and project consultants.

Date: Thursday, January 24, 2019
Time: 6:30 p.m. to 7:30 p.m.
Location: Monta Vista Recreation Center, Multi-Purpose Room
22601 Voss Ave, Cupertino

For additional information, please visit www.cupertino.org/carmenbridge. Questions or comments can also be directed to:

City Contact: Jennifer Chu,
Associate Civil Engineer
Email: JenniferC@cupertino.org
Phone: (408) 777-3237

CUPERTINO

PUBLIC MEETING NOTICE

CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

The City of Cupertino Public Works Department invite you to attend the first public meeting for the Carmen Road Pedestrian-Bicycle Bridge Feasibility Study. This initial meeting will be conducted in an open house format where attendees can drop in any time during the event window. Attendees will have the opportunity to learn more about the project, the study's goals and objectives, and to provide feedback to City staff and project consultants.

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Phone: (408) 777-3237

CUPERTINO

PUBLIC MEETING NOTICE
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

The City of Cupertino Public Works Department invites you to attend the first public meeting for the Carmen Road Pedestrian-Bicycle Bridge Feasibility Study. The project was identified in the 2016 Cupertino Bicycle Transportation Plan and envisioned to provide a grade-separated bicycle and pedestrian connection across Stevens Creek Boulevard by continuing the existing alignment of Carmen Road. City staff has retained Mott MacDonald as the design consultant to develop the feasibility study for the bridge.

This initial meeting will be conducted in an open house format where attendees can drop in any time during the event window. Attendees will have the opportunity to learn more about the project, the study's goals and objectives, and to provide feedback to City staff and project consultants.

Thursday, January 24, 2019 | 6:30 p.m. to 7:30 p.m.
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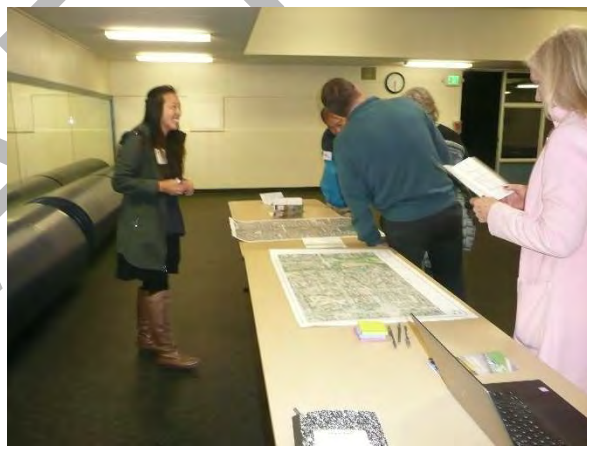
The above rendering is for illustrative purposes only and is not representative of the actual design. The final bridge design will be informed by community feedback, available funding, and engineering considerations.



Mott MacDonald
2077 Gateway Place, #550, San Jose, CA 95110, **T** •925-469-8010 • F 925-469-8040 www.mottmac.com

PUBLIC MEETING #1
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

Thursday, January 24, 2019 | 6:30 p.m. to 7:30 p.m.
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 1/24/2019

Affiliation (if applicable): Resident

Address: [redacted]

E-mail: [redacted]

Comments:

Thank you for holding this informative meeting. I would like to stay informed & connected to the status of this project. Can you please add me to any appropriate email lists?

Thanks,

[redacted]

Please continue on back if necessary.

Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org.

For additional information, please visit www.cupertino.org/carmenbridge.

CUPERTINO

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CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

Thursday, January 24, 2019 | 6:30 p.m. to 7:30 p.m.
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: _____ Date: _____

Affiliation (if applicable): _____

Address: _____

E-mail: _____

Comments: The location is reasonable, and I agree with the concept. However, the "rendering" on computer is an ugly bridge. I would support a more aesthetically pleasing one

Please continue on back if necessary.

Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org.

For additional information, please visit www.cupertino.org/carmenbridge.

CUPERTINO

PUBLIC MEETING #1
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: Jan. 24

Affiliation (if applicable): _____

Address: [redacted]

E-mail: [redacted]

Comments: instead of adding a new bridge we should spend resources on improve existing crossing at Phalap, making it safer and more accessible

Please continue on back if necessary.

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Thursday, January 24, 2019 | 6:30 p.m. to 7:30 p.m.
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 1/24/19

Affiliation (if applicable):

Address: [redacted]

E-mail:

Comments:

(1) Optimize Taxpayer's money -
- is this the best place to spend $5M - $10M?
- are there other alternatives.

(2) Suggest to make thing Transparent

~~(2)~~ (3) Mixing foot traffic with bike traffic & seniors means danger

(4) Other problems @ Cupertino -,
1, Elderly killed crossing foothill Blvd
2, high school kid hit by big rig -.
3, Encourage the use

Please continue on back if necessary.

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 1/24/19

Affiliation (if applicable):

Address: [redacted]

E-mail:

Comments:

① Safety Issue. Carmen Road (south) is very narrow. When both sides have cars parked, drivers can only drive in the middle of the road. There's an "uphill" portion on the ~~road~~ road, and drivers can hardly see people/bike/car from the other side.

② I live few houses away from the proposed bridge location, and I don't want people see my front/back yard from the bridge.

Please continue on back if necessary.

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COMMENT FORM

Name: [redacted] Date: 1/24/19

Affiliation (if applicable): Resident

Address: [redacted] Cupertino CA 95014

E-mail: [redacted]

Comments: I live in Montavista South E and have experienced the congestion and gridlock. Any opportunity that enables people to walk and bike more will make the neighborhood safer and cut down on cars.

Cupertino is a very fragmented city. People will be able to connect more.

Thank you.

Please continue on back if necessary.

Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org.

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COMMENT FORM

Name: [redacted] Date: 1.24.19

Affiliation (if applicable):

Address: [redacted]

E-mail: [redacted]

Comments:

I SUPPORT THIS CONCEPT (CROSSING STEVENS CREEK BLVD) MORE SAFELY FOR STUDENTS, CYCLISTS, & PEDESTRIANS. PLEASE MOVE FORWARD EXPEDITIOUSLY.

Please continue on back if necessary.

Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org.

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CUPERTINO

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COMMENT FORM

Name: [redacted] Date: 1/24/19

Affiliation (if applicable): Resident & Stevens Creek Parent.

Address: [redacted]

E-mail: [redacted]

Comments:

The community supports a healthy "living" and the school would like to promote "Walk n Roll" to school. I live behind Stevens Creek Blvd and have for 40+ years. With the increase in traffic/drivers/ commuters use Stevens Creek as a short cut to bypass 85. Because of that, the traffic is horendous and I refuse to have my child cross and walk to school — it is not safe. Limited opportunities to cross the streets. We need a comfortable, safe route to school → A Bridge!

Please continue on back if necessary.

Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org.

For additional information, please visit www.cupertino.org/carmenbridge.

PUBLIC MEETING #1
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

CUPERTINO

Thursday, January 24, 2019 | 6:30 p.m. to 7:30 p.m.
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 1/24/19

Affiliation (if applicable): Stevens Creek Elem? - resident of Cupertino

Address: [redacted]

E-mail: [redacted]

Comments:
My family and I both need & want this bridge. I am a mother of 3 kids, two of whom attend SCE, & one more who will 3 years from now. In an effort to support healthy habits & to get cars off the road in the mornings, we participate in "Walk & Roll" to school each Wed. morning. To get there we need to cross SC Blvd. We go via Carmen St ... and take our chances crossing during a break in traffic. Phar Lap & Foothill are too far out of the way to get us to school on time. This bridge would make our route to school SAFE & EASY for our family. Were it built, we would absolutely walk/bike more often, removing another cars from morning traffic.

Please continue on back if necessary.

Additionally, a few more thought ... there used to be a road →

Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org.

For additional information, please visit www.cupertino.org/carmenbridge

there before SC Blvd. existed. #2. Foothill, with all of the big trucks & traffic, is not a road we want to walk/bike along. #3. The crossing at Phar Lap is dangerous - I've seen many a car not stop going 40+ mph as a pedestrian waits to cross, even with the (now nonfunctioning) lights flashing.

Please build this bridge!!!

Thank you!

[redacted]

A.3 Public Meeting #2 Meeting Minutes & Materials

Carmen Road Pedestrian/Bicycle Bridge Feasibility Study
Public Meeting #2

The second public meeting for the project was held on May 29, 2019 at the Multipurpose Room, Monta Vista Recreation Center in the City of Cupertino to inform the community on the status of the feasibility study and to seek feedback on the possible structure alternatives currently under consideration. The meeting was held in an open-house format where attendees were invited to arrive at any time during the event window (6:30 p.m. to 8:30 p.m.) and included a brief presentation along with display boards followed by an opportunity for the attendees to provide individual feedback on the alternatives.

Thirty-seven (37) people signed into the event. The meeting included a sign-in table, a comments table, a table with the aerial maps for the project, and four boards with the possible bridge structure concepts on display. City staff and the project consultant team were available at the various tables/displays to listen and answer any questions. Attendees were provided a comment form upon entering which listed the bridge structure options and were asked to rank these alternatives and return the comment cards before leaving so that their comments could be recorded. They were also provided a brochure with details about the alternatives including cost, aesthetics, and construction impacts to assist with the ranking process.

To initiate the discussion, the City of Cupertino's Transportation Manager David Stillman addressed the audience and provided a brief background of the project and walked the attendees through the five bridge structure options. A brief Question/Answer session followed where attendees voiced their comments and concerns and received a response from David. Comments received from residents and members of the public during the open discussion are summarized below. Additionally, the completed comment forms received at the event are attached herein along with photos taken at the event.

- There were many supporters of a bridge at Carmen Rd, but also a handful who were against or on the fence
- Discussions around upgrading/changing the crosswalk at Foothill
- Questions about why this location (at Carmen), and why a bridge
- Concerns about the impacts to the community v. impacts to those in neighborhood
- Would like the City to consider a bridge or improved crossing that would provide improved access to Blackberry Farms
- Was a below grade bridge considered?
- Feels that Stevens Creek is dangerous (ex: speeding vehicles, blind spots due to sun)
- Resident is unable to get out of his driveway during school hours twice a day
- Resident off of Crescent Road is unable to get out of driveway during school hours
- Desire to get cars off the road

- Questions and discussions about school enrollment rates (and how this would affect use of bridge by school aged children/families)
- Why do pavement light crosswalks fail and not get maintained?
- Would like to see increased sheriff/police enforcement in the neighborhood
- Concerns about increase in foot traffic/strangers in the neighborhood
- Will cameras be proposed?
- Would like to connect neighborhoods
- Would like to prioritize a safe route to school over a path to Blackberry Farm
- Question about the number of accidents in the past 20 years at this location
- Why can't we build a bridge at Phar Lap? It makes more sense to build a bridge there
- Concerns about how many people would actually use a bridge at this location
- Would like to see stop signs/crossing guards to cross Stevens Creek Boulevard
- What color will the bridge be? A resident wants it to blend in
- What is the traffic volume on Stevens Creek?
- Would like a safer route for those at Sunny View Bay Area Retirement Community
- Would like to see school district boundaries on map
- Supports the bridge and use of Carmen Road (with gate; downhill access that meets Stevens Creek Boulevard) to be a safe route to Blackberry Farm
- Question about how many students currently use this location for crossing
- Safety concerns for bicyclists speeding downhill at Scenic Circle/Scenic Boulevard
- Will safety features be added to the bridge to avoid vandalism and prevent people from climbing over the fence?
- Potential bridge option provides a safe path to school
- One of the residents acknowledged jaywalking at this location to go to school
- During the morning commute, cars are at a standstill due to heavy traffic on Stevens Creek Boulevard. However, the afternoon/3:00 PM departure from school presents a more dangerous scenario since vehicles are speeding along Stevens Creek Boulevard while students are trying to cross as they head back home.
- Would bicycle and pedestrian traffic be separated on the bridge to ensure safety for pedestrians?
- Will there be any improvements to Cupertino Road and Carmen Road, as a part of bridge project?
- Is lighting provided on the bridge?
- For Option 1 bridge alternative, can we improve the aesthetics to make it visually more appealing?

CUPERTINO

PUBLIC MEETING NOTICE
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

The City of Cupertino Public Works Department invites you to attend the second public meeting for the Carmen Road Pedestrian-Bicycle Bridge Feasibility Study. The project was identified in the 2016 Cupertino Bicycle Transportation Plan and envisioned to provide a grade-separated bicycle and pedestrian connection across Stevens Creek Boulevard by continuing the existing alignment of Carmen Road.

This meeting will be conducted in an open house format where attendees can drop in any time during the event window and will include a brief presentation along with display boards on possible structure alternatives being considered. Attendees will have the opportunity to learn more about the status of the feasibility study and to provide feedback on the possible alternatives to City staff and the project team.

Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m.
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

For additional information, please visit www.cupertino.org/carmenbridge. Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or jenniferc@cupertino.org

The above rendering is for illustrative purposes only and is not representative of the actual design. The final bridge design will be informed by community feedback, available funding, and engineering considerations.

CUPERTINO

PUBLIC MEETING NOTICE
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

You are invited to attend the second public meeting for the Carmen Road Pedestrian-Bicycle Bridge Feasibility Study. Drop in any time during the event window:

Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

This meeting will be conducted in an open house format. Attendees will have the opportunity to learn more about the status of the feasibility study, hear a brief presentation, view display boards on the possible structure alternatives being considered, and to provide feedback on the possible alternatives to City staff and the project team.

For additional information, please visit **www.cupertino.org/carmenbridge**.
Questions or comments can also be directed to Jennifer Chu, Associate Civil Engineer at (408) 777-3237 or **jenniferc@cupertino.org**

CUPERTINO

Cupertino City Hall
ATTN Department of Public Works
10300 Torre Avenue
Cupertino, CA 95014-3202

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Mott MacDonald
2077 Gateway Place, #550, San Jose, CA 95110, **T** •925-469-8010 • F 925-469-8040 www.mottmac.com

CUPERTINO

PUBLIC MEETING #2
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

RANKING SHEET

After reviewing each concept based on the information provided at the public meeting, please rank the following design concepts in order of preference (1 = most favored option, 5 = least favored option).

Option 1:
Steel Girder Bridge

1

Option 2:
Steel Pratt Truss Bridge

5

Option 3:
Steel Howe Truss Bridge

3

Option 4:
Steel Tied Arch Bridge

2

Option 5:
Steel Inclined Arch Bridge

4

Please share any additional comments on your preferred option:

I like the lower profile and look of #1 & #5. #2 looks like a train bridge - not as "nice". option #2 & 5 dont look as nice from the Stevens Creek Blvd view.

For additional information, please visit www.cupertino.org/carmenbridge

Questions or comments can also be directed to Prashanth Dullu, Assistant Civil Engineer at (408)-777-3190 or PrashanthD@cupertino.org

CUPERTINO

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Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 5-29-19

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

Overall it feels like a good improvement and safer way to connect the neighborhoods and paths to/from schools in both sides.

Absolutely in favor of this bridge.

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CUPERTINO

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Option 3:
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3

Option 4:
Steel Tied Arch Bridge

2

Option 5:
Steel Inclined Arch Bridge

5

Please share any additional comments on your preferred option:

1

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COMMENT FORM

Name: _____ Date: 5/30/19

Affiliation (if applicable): _____

Address: _____

Email: _____

Comments:

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5

Option 3:
Steel Howe Truss Bridge

4

Option 4:
Steel Tied Arch Bridge

1

Option 5:
Steel Inclined Arch Bridge

3

Please share any additional comments on your preferred option:

I think Options 2 & 3 are unattractive & feel a bit claustrophobic. I like the look of Option 4 arch, but appreciate it is the most expensive. Therefore, if I considered cost, Option 1 is next as at least it feels more open.

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

Please build this before my kids finish at Stevens Creek!

For additional information, please visit www.cupertino.org/carmenbridge

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Option 4:
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5

Option 5:
Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

Option 1 written comments on front of page.
I do like the aesthetics of the bridge entrances
of option 5 at the south entrance

* oops I forgot to tell you I would use the bridge
to walk my dog to visit my friend (neighborhood) who lives on
Stockmen. We have been friends since 1962 —
and still live in the area and visit each other.

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CUPERTINO

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: May 29, 2019

Affiliation (if applicable): neighbor

Address: [redacted]

Email: [redacted]

Comments:

option 1 Steel grider bridge is my favorite option. The bridge seems unobtrusive - just a simple well constructed bridge with the support structures right on Stevens Creek Road. (I think the neighbors on both sides of Carmen would appreciate that.) This option appears to echo the style of the Mary Bridge style - without the tall parts.

I appreciate that Cupertino is thinking about safe crossing of its residents. Being a teacher, having in mind little children and their safety is so very important to me. The bridge can be used by the students to and from Stevens Creek, Monta Vista and Kennedy - and by anyone, no matter their ages to go across the North and South sides. (I live on Crescent and have to turn left on to Stevens Creek to go to work — so with this bridge crossing there would be less cars on my street - & parents who shortcut to drop their children to Stevens Creek

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2

Option 5:
Steel Inclined Arch Bridge

~~3~~ 5

Please share any additional comments on your preferred option:

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COMMENT FORM

Name: _____ Date: _____

Affiliation (if applicable): _____

Address: _____

Email: _____

Comments:

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Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

I strongly favor #1. This is a pedestrian bridge and this design makes that really clear - it's self-promoting to the community

I like #1 & #5 because they are shown as "open top" at the entry & exit ramps. This is more attractive & friendly to riders

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 5/29/2019

Affiliation (if applicable): [redacted]

Address: [redacted]

Email: [redacted]

Comments:

1) Nice options
2) You're brave to do this outreach now with all the Regnart Creek trail pushback
3) I'm a big supporter of extensions & enhancements to the Stevens Creek Trail
4) May sound silly, but consider making this an attractive COVERED Bridge! This has no practical purpose but in this visible location a little whimsy will draw people's attention and interest in car alternatives in Cupertino
5) Finance the "covered bridge" feature via a public donation campaign
6) Option #3 looks like a railroad bridge, so please procure a miniature steam train to run here. If you want Stevens Creek Elementary kids to get out of cars, run a train in the morning! I'm not kidding.

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3

Option 5:
Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

extra curriculars, friends' houses, and summer jobs. I am 100% in support of this bridge, and hope to someday walk my own kids accross it.

For additional information, please visit www.cupertino.org/carmenbridge

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COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

I grew up on Cupertino Rd and attended Steven's Creek, Kennedy, and Monta Vista. I walked and biked all around my neighborhood and surrounding areas. I was involved in many extra-curriculars held at all three schools, and also worked at Blackberry Farm as a lifeguard as a teenager into adulthood. I also had several friends in the Carmen Road neighborhood whose homes I regularly visited. If I had a nickel for every time I jay-walked across Steven's Creek in the proposed location of this bridge, I would have enough money to build it myself. My childhood friends and myself are lucky we never got hit, but traffic on Steven's Creek is even worse today. Let's make sure our current and future kids have a safer route between their schools,

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Please share any additional comments on your preferred option:

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COMMENT FORM

Name: [redacted] Date: 5-29-19

Affiliation (if applicable):

Address: [redacted]

Email: [redacted]

Comments:

THANK YOU FOR HOSTING THIS MEETING AND PUTTING UP WITH ALL THE NIMBY ARGUMENTS. PLEASE KNOW THAT THIS IS A GREAT IDEA THAT WILL MAKE OUR LIVES BETTER AND IMPROVE OUR NEIGHBORHOODS BY CONNECTING US WITHOUT NEED FOR CARS. I GREW UP IN CUPERTINO AND NOW AM A MEMBER OF THE SENIOR CENTER. I LIVE 1 BLOCK FROM THE BRIDGE AND WILL USE IT OFTEN, INCLUDING RIDING MY BIKE TO PLAY SENIOR SOFTBALL AT MEMORIAL PARK.

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Steel Tied Arch Bridge

5

Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

Cost & time are two most impotns considerations, and strutue robustness of (5) also makes it look nice with reasonable cost and installation time.

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CUPERTINO

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COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable):

Address: [redacted]

Email: [redacted]

Comments:

I'm very thankful for city's efforts to make walking & biking safer and easier. This bridge would add more value to our neighborhood with better routes to school and work, For seniors, this will help them access the parks easily. The two neighborhoods were connected in the past, finally will be connected again by this bridge. Green connecting for cupertino is critical for traffic reduction and commute safty. Children would have more opportunities to practice life skills biking or walking independenty to schools or friends houses. Thank you for making this good study happen. Hope people will make a good use of this bridge, when it becomes a reality for Cupertino. Thank you!

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Steel Tied Arch Bridge

3

Option 5:
Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

making it blend with the environment and not reflect the sun would be good for all options.

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable):

Address: [redacted]

Email: [redacted]

Comments:

Please consider school re-districting in whether to build this, since I expect student enrollment to continue to decline while The Oaks redevelopment may change where students live.

I think a Pharlap location is still better, but I understand if the budget doesn't allow that.

For additional information, please visit www.cupertino.org/carmenbridge

Questions or comments can also be directed to Prashanth Dullu, Assistant Civil Engineer at (408)-777-3190 or PrashanthD@cupertino.org

CUPERTINO

PUBLIC MEETING #2
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

RANKING SHEET

After reviewing each concept based on the information provided at the public meeting, please rank the following design concepts in order of preference (1 = most favored option, 5 = least favored option).

Option 1:
Steel Girder Bridge

2

Option 2:
Steel Pratt Truss Bridge

5

Option 3:
Steel Howe Truss Bridge

4

Option 4:
Steel Tied Arch Bridge

3

Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

#1 is pleasing to the eye.

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Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date:

Affiliation (if applicable): none - neighbor

Address: [redacted]

Email:

Comments:

This is a terrific idea. We need a way to get kids from my side of Stevens Creek Blvd to Stevens Creek Elementary school. This would be awesome!

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Steel Tied Arch Bridge

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Option 5:
Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

Option 1 is low cost and minimal visual impact to neighbors. Low profile. Reasonably good aesthetics.

I am very supportive of this project!

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Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

COMMENT FORM

Name: [redacted] Date: 6/2/19

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

I am very supportive of this project to connect neighborhoods, encourage bicycling and walking, and provide a MUCH safer way for children to get to school.

Option 1 is a good compromise — see opposite

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2

Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

I appreciate the improved aesetics for a minimal additional cost. I fear that the cheapest design (steel girder) would require additional costs to add security screens to prevent material falling on cars below. There is some value in beauty - pure utilitarian looks can make it more difficult for a community to care about their infrastructure.

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COMMENT FORM

Name: [redacted] Date: 5/29/2019

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

I admit I have less patience with those who insist that everything remains dead-end cul de sacs. Cul de sacs are OK if you drive a car but they are sure ways to make a city impossible to navigate on two wheels. If/when "micromobility" (scooters or e-bikes) comes to the suburbs like Cupertino then it will be vital that we have safe and effective connections between all of our communities.

On its own I am not sure there is sufficient demand for a bridge at Carmen. Nevertheless it may be worth a million dollar investment to "jump-start" the ability to get around the Monta Vista neighborhood without relying on the automobiles.

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Option 4:
Steel Tied Arch Bridge

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Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

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COMMENT FORM

Name: [redacted] Date: 5/29/2019

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

MY CONCERN ABOUT THE PROPOSED BRIDGE IS THE WIDTH OF THE BRIDGE. THE WIDTH SHOULD BE WIDE ENOUGH TO ACCOMMODATE 2 BIKE LANES AND WALKING PATH FOR CHILDREN → SENIORS.

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Option 3:
Steel Howe Truss Bridge

_____

Option 4:
Steel Tied Arch Bridge

_____

Option 5:
Steel Inclined Arch Bridge

_____

Please share any additional comments on your preferred option:

_____

_____

_____

_____

_____

_____

_____

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COMMENT FORM

Name: [redacted] Date: 5/29/2019

Affiliation (if applicable):

Address: [redacted]

Email: [redacted]

Comments:

Option 4

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Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

I prefer foundations on Stevens Creek to reduce immediate residents impact as much as possible. #5 reminds me of Mary Bridge over 280 so it could be consistent local branding. especially if price difference is minimal. Let's get our kids off Foothill Expressway! -

[redacted]

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COMMENT FORM

Name: _____ Date: _____

Affiliation (if applicable): _____

Address: _____

Email: _____

Comments:

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Steel Tied Arch Bridge

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Option 5:
Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

option 1 seems to have the least impact on the direct neighborhoods on either side. It also looks similar to the many bridge over 280 so there would be the added bonus of a cohesive look of the walking bridges in the city.

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COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

I've been a resident of Cupertino my entire life - grew up on Cupertino Rd. and attended Stevens Creek Elementary, Kennedy Middle School, and Monta Vista High. I routinely would walk and bike to school. When I moved on to KMS / MVHS, I opted to walk instead of biking, because the steep grade of Stevens Creek Blvd. was too dangerous to bike down as an inexperienced rider, on top of having to find a safe place to cross. (which was still an issue walking). The proposed bridge would help many of the community to have a safer path between the neighborhoods. Please move forward!!!

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Option 3:
Steel Howe Truss Bridge

5

Option 4:
Steel Tied Arch Bridge

#1

Option 5:
Steel Inclined Arch Bridge

5

Please share any additional comments on your preferred option:

I have not heard a negative opinion about the bridge other that "why now", since the school population is slowly declining.

Given that a bridge has to be built, if it does not affect my taxes and the traffic on Stevens Creek, I am indifferent

For additional information, please visit www.cupertino.org/

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(408)-777-3190 or PrashanthD@

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COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

If anything, build the bridge at the entrance to the park and not near the Stevens Creek traffic light !!!

formation, please visit www.cupertino.org/carmenbridge
directed to Prashanth Dullu, Assistant Civil Engineer at
0 or PrashanthD@cupertino.org

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Option 5:
Steel Inclined Arch Bridge

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Please share any additional comments on your preferred option:

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COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable): [redacted]

Address: [redacted]

Email: [redacted]

Comments:

On behalf of Sunny View residents, I like to propose "yes" to have the Carmen Bridge. We held walking group once a week on a Thursday and ~~some~~ of our residents walk on their own on Steven Creek. Many of them have concern about the heavy traffic and their safety. With this new bridge, it allows them to cross safety and feel confident while ~~doing it~~ walking. Our goal is to have our residents be as independent and promote wellness walk on a daily basis.

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Option 4:
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Please share any additional comments on your preferred option:

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COMMENT FORM

Name: _____ Date: _____

Affiliation (if applicable): _____

Address: _____

Email: _____

Comments:

4 5 2

5 1

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Option 5:
Steel Inclined Arch Bridge

_____

Please share any additional comments on your preferred option:

_____

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COMMENT FORM

Name: [redacted] Date: 5/28/2019

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

Would like to have info. on alternate - Bike path along Stevens Creek (the creek) to cross Stevens Creek Blvd.

1. Cost compare
2. Right of way
3. Scenic
4. Way to join Varian Park & Stevens Creek Park.

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Please share any additional comments on your preferred option:

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COMMENT FORM

Name: [redacted] Date: 2019-05-29

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

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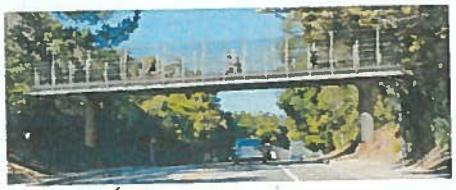

5

Option 2:
Steel Pratt Truss Bridge

4

Option 3:
Steel Howe Truss Bridge

3

Option 4:
Steel Tied Arch Bridge

2

Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

I AM STRONGLY IN FAVOR OF THIS bridge FOR THE children going both ways, THE SENIORS from SUNNYVIEW AND THE general Neighborhood flow.

The issue of BLACKberry FARM ENTRANCE IS A SEPERATE ONE THAT NEEDS ITS OWN SOLUTION OVER →

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COMMENT FORM

Name: [redacted] Date:

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

SEE REVERSE SIDE for START of COMMENTS

I UNDERSTAND AND APPRECIATE THE CONCERNS OF THE FOLKS THAT LIVE DIRECTLY ON THE RAIL. WITH THAT SAID, I BELIEVE MANY OF THESE FEARS ARE UNWARRANTED (STRANGERS ETC). CUPERTINO IS AN EXTRA ORDINARILY SAFE COMMUNITY, THE BRIDGE IS BETWEEN TWO SAFE NEIGHBORHOODS, IT WILL NOT, SOMEHOW OR ANOTHER, SUDDENLY ATTRACT A CRIMINAL ELEMENT

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Steel Howe Truss Bridge

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Option 4:
Steel Tied Arch Bridge

2

Option 5:
Steel Inclined Arch Bridge

1

Please share any additional comments on your preferred option:

Option 5 is aesthetically most pleasing. More than an utility value, it adds landmark for the community. It justifies construction impact and cost.

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COMMENT FORM

Name: [redacted] Date: 5/29/2019

Affiliation (if applicable):

Address: [redacted]

Email:

Comments:

I'm glad the city makes effort to improve the walkability and bikability of our community.

For additional information, please visit www.cupertino.org/carmenbridge

Questions or comments can also be directed to Prashanth Dullu, Assistant Civil Engineer at (408)-777-3190 or PrashanthD@cupertino.org

CUPERTINO

PUBLIC MEETING #2
CARMEN ROAD PEDESTRIAN-BICYCLE BRIDGE FEASIBILITY STUDY

Wednesday, May 29, 2019 | 6:30 p.m. to 8:30 p.m
Monta Vista Recreation Center, Multi-Purpose Room | 22601 Voss Ave, Cupertino

RANKING SHEET

After reviewing each concept based on the information provided at the public meeting, please rank the following design concepts in order of preference (1 = most favored option, 5 = least favored option).

Option 1:
Steel Girder Bridge

1

Option 2:
Steel Pratt Truss Bridge

5

Option 3:
Steel Howe Truss Bridge

4

Option 4:
Steel Tied Arch Bridge

3

Option 5:
Steel Inclined Arch Bridge

2

Please share any additional comments on your preferred option:

1 Simple & cost effective
2 Fancier & a little more expensive.
3-5 I don't like the crossbeams on top.

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CUPERTINO

PUBLIC MEETING #2
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COMMENT FORM

Name: [redacted] Date: 5/29/19

Affiliation (if applicable): [redacted]

Address: [redacted]

Email: [redacted]

Comments:

This will reduce school traffic & provide safe routes to school - Stevens Creek / Kennedy / Monta Vista.

For additional information, please visit www.cupertino.org/carmenbridge

Questions or comments can also be directed to Prashanth Dullu, Assistant Civil Engineer at (408)-777-3190 or PrashanthD@cupertino.org

OPTION 4
STEEL TIED ARCH BRIDGE

A tied arch bridge that clear spans Stevens Creek Boulevard. Arches provide a classic look for the bridge.

About this design

Construction duration/impact

- Tied arches with hangers to support main deck elements can be fully pre-assembled and erected in one overnight operation.
- Pre-assembly will require 7-10 days of lane closures in Stevens Creek Blvd, leaving one lane open in each direction
- Foundation construction in each cul-de-sac will take 10-15 days
- Deck construction will require 20 days of light equipment access through the cul-de-sacs on each end of Carmen Road
- There will be 3 nights of individual lane closures in Stevens Creek Blvd for deck construction

Aesthetics

- Classic arches with some presence but an elegant shape provide an inherent support for the fence and screen

Cost

- $1.6M - $1.95M*

OPTION 5
STEEL INCLINED ARCH BRIDGE

Inclined arches configured to provide intermediate supports. Elegant arches with a lower profile above the bridge deck.

About this design

Construction duration/impact

- Inclined arches and elements of the deck will be assembled in-place
- In-place assembly will require 5-7 night closures
- Main foundation construction from Stevens Creek Blvd will require 10-14 days of lane closures per side; maintaining one traffic lane in each direction at all times
- Deck construction will require 20 days of light equipment access through the cul-de-sacs on each end of Carmen Road
- There will be 3 nights of individual lane closures in Stevens Creek Blvd for deck construction

Aesthetics

- Inclined arch shape is aesthetically pleasing, adding a signature statement that also creates a more 'open' feel to the structure

Cost

- $1.4M - $1.75M*

CARMEN ROAD PEDESTRIAN BRIDGE
PUBLIC MEETING #2
May 29th, 2019

The City of Cupertino is undertaking a feasibility study for a Carmen Road Pedestrian/Bicycle Bridge to improve safety for pedestrians and cyclists crossing Stevens Creek Boulevard. Using input gathered at Public Meeting #1 in January 2019, concepts for six potential design options were developed. Option 6 was found infeasible (not compliant with ADA or maintenance vehicle access requirements), and therefore the design is not being progressed.

The purpose of this meeting is to gather input on the five feasible options and provide residents an opportunity to vote for their preferred option. Please review key information on each of the 5 options under consideration to aid you in casting your vote. The input gathered at this meeting will help inform the selection of a preferred option. The options include:

- Option 1 – Steel Girder Bridge
- Option 2 – Steel Pratt Truss Bridge
- Option 3 – Steel Howe Truss Bridge
- Option 4 – Steel Tied Arch Bridge
- Option 5 – Steel Inclined Arch Bridge

* Estimated costs are shown in 2019 dollars and exclude right-of-way acquisition, utility relocations and other improvements which are expected to be similar for all options.

Project Schedule

Feasibility Study for the Carmen Road Pedestrian/Bicycle Bridge, City of Cupertino, CA

Description	2018		2019							
	November	December	January	February	March	April	May	June	July	August
Online Survey		■	■							
Community Outreach and Engagement			●				●			
Preliminary Engineering and Alternatives Analysis			■	■	■	■	■			
Feasibility Study Report								■	●	●

● Public Outreach Meetings

● Bicycle Pedestrian Commission Meeting/City Council Meeting

For additional information, please visit www.cupertino.org/carmenbridge. Questions or comments can also be directed to Prashanth Dullu, Assistant Civil Engineer at (408)-777-3190 or PrashanthD@cupertino.org

OPTION 1
STEEL GIRDER BRIDGE

A steel girder bridge with intermediate supports on either side of Stevens Creek Boulevard allows for shorter spans and a relatively shallow deck.

About this design

Construction duration/impact

- Bridge structure is made of three steel girders that can be delivered and erected individually without the need for falsework in Stevens Creek Blvd
- Main foundation construction from Stevens Creek Blvd over 7-10 days per side; maintaining one traffic lane in each direction at all times. Similar periods and impacts for column construction
- Deck construction will require 20 days of light equipment access through the cul-de-sacs on each end of Carmen Road
- There will be 3 nights of individual lane closures in Stevens Creek Blvd for deck construction

Aesthetics

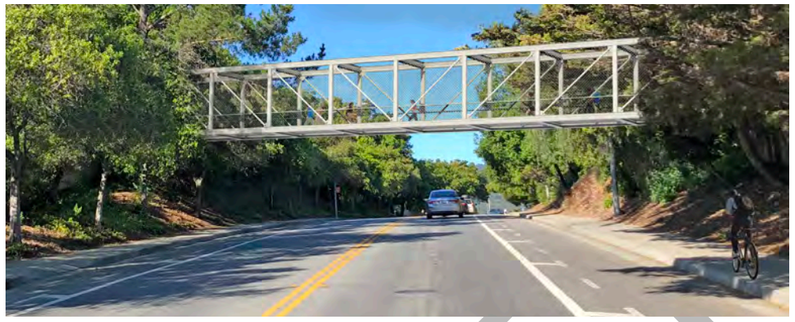
- Shallowest profile and overall height compared to all other design options provides an unassuming, yet elegant bridge that provides opportunities for aesthetic enhancements of the railings and screens

Cost

- $1.25M – $1.5M*

OPTION 2
STEEL PRATT TRUSS BRIDGE

A steel truss that clear spans Stevens Creek Boulevard. A Pratt truss has a general square look to the panels and the diagonals are lighter members.



About this design

Construction duration/impact

- Trusses can be assembled on falsework over Stevens Creek Blvd from individual members or three pre-assembled pieces
- Foundation construction in each cul-de-sac will take 10-15 days
- Truss erection will impact traffic for 10-15 nights in Stevens Creek Blvd
- Deck construction will require 20 days of light equipment access through the cul-de-sacs
- There will be 3 nights of individual lane closures in Stevens Creek Blvd for deck construction

Aesthetics

- A commonly used structure type for medium span pedestrian bridges which has significant presence while providing a feeling of enclosure and safety

Cost

- $1.5M - $1.85M*

OPTION 3
STEEL HOWE TRUSS BRIDGE

A steel truss that clear spans Stevens Creek Boulevard. A Howe truss has a general triangular look to the panels.

About this design

Construction duration/impact

- Trusses can be assembled on falsework over Stevens Creek Blvd from individual members or three pre-assembled pieces
- Foundation construction in each cul-de-sac will take 10-15 days
- Truss erection will impact traffic for 10-15 nights in Stevens Creek Blvd
- Deck construction will require 20 days of light equipment access through the cul-de-sacs
- There will be 3 nights of individual lane closures in Stevens Creek Blvd for deck construction

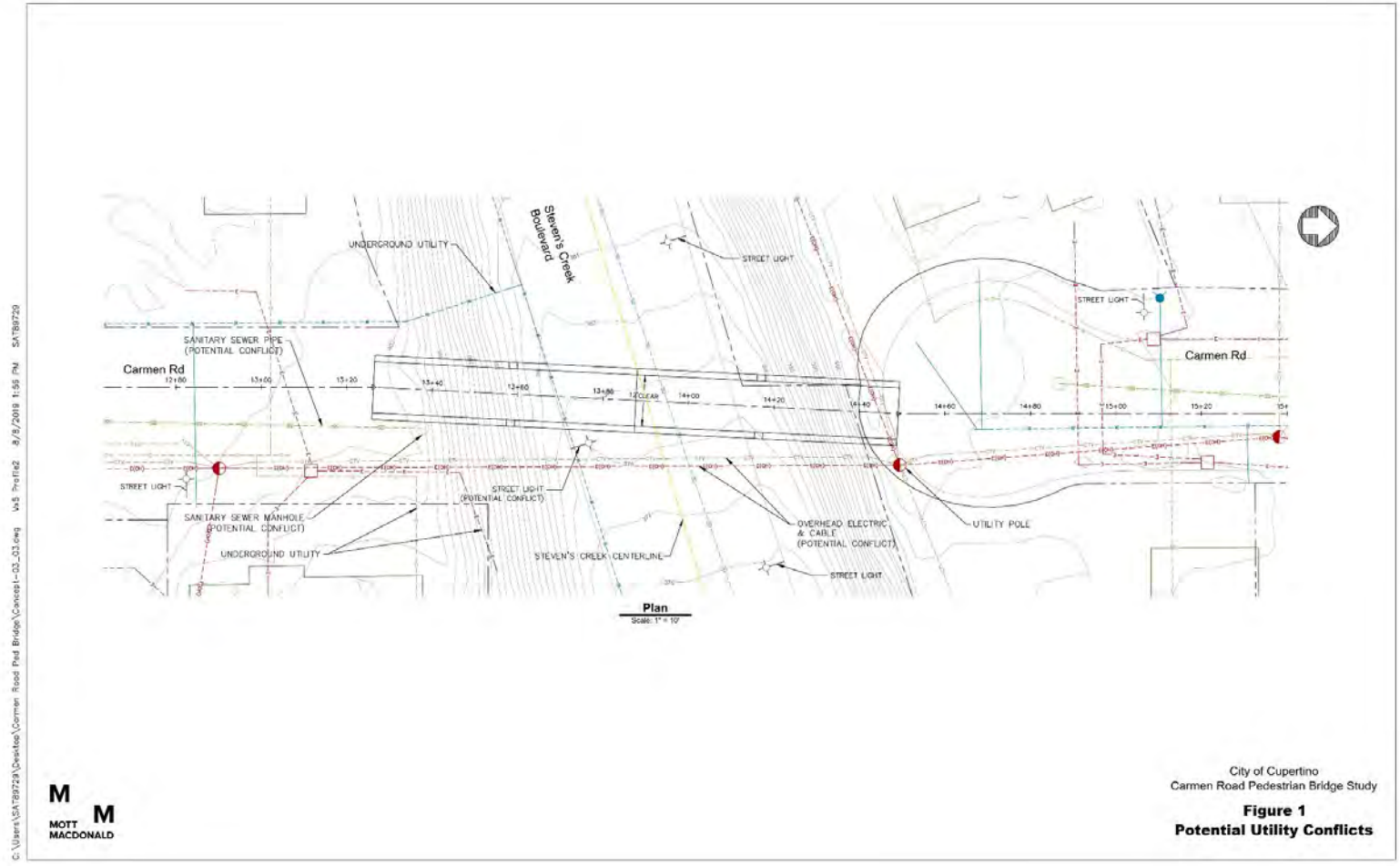
Aesthetics

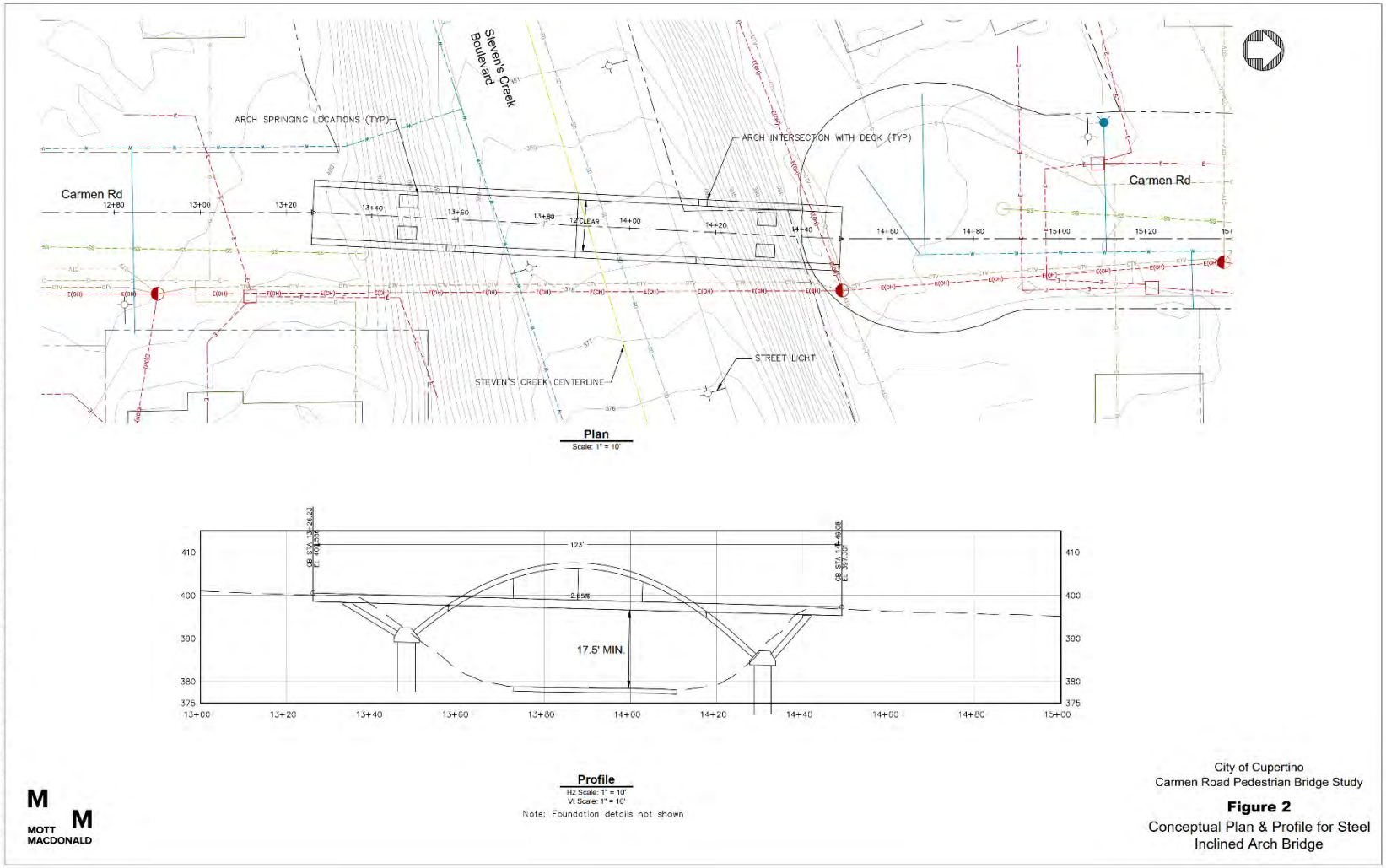
- A robust looking structure which is often seen on railway bridges, also provides a feeling of enclosure and safety

Cost

- $1.5M - $1.85M*

B. Profile Plans and Drawings




Steven's Creek Boulevard
ARCH SPRINGING LOCATIONS (TYP)
ARCH INTERSECTION WITH DECK (TYP)
Carmen Rd
Carmen Rd
12+80
13+00
13+20
13+40
13+60
13+80
12' CLEAR
14+00
14+20
14+40
14+60
14+80
15+00
15+20
STEVEN'S CREEK CENTERLINE
STREET LIGHT
Plan
Scale: 1" = 10'
123'
2.65%
17.5' MIN.
410
400
390
380
375
13+00
13+20
13+40
13+60
13+80
14+00
14+20
14+40
14+60
14+80
15+00
Profile
Hz Scale: 1" = 10'
Vt Scale: 1" = 10'
Note: Foundation details not shown
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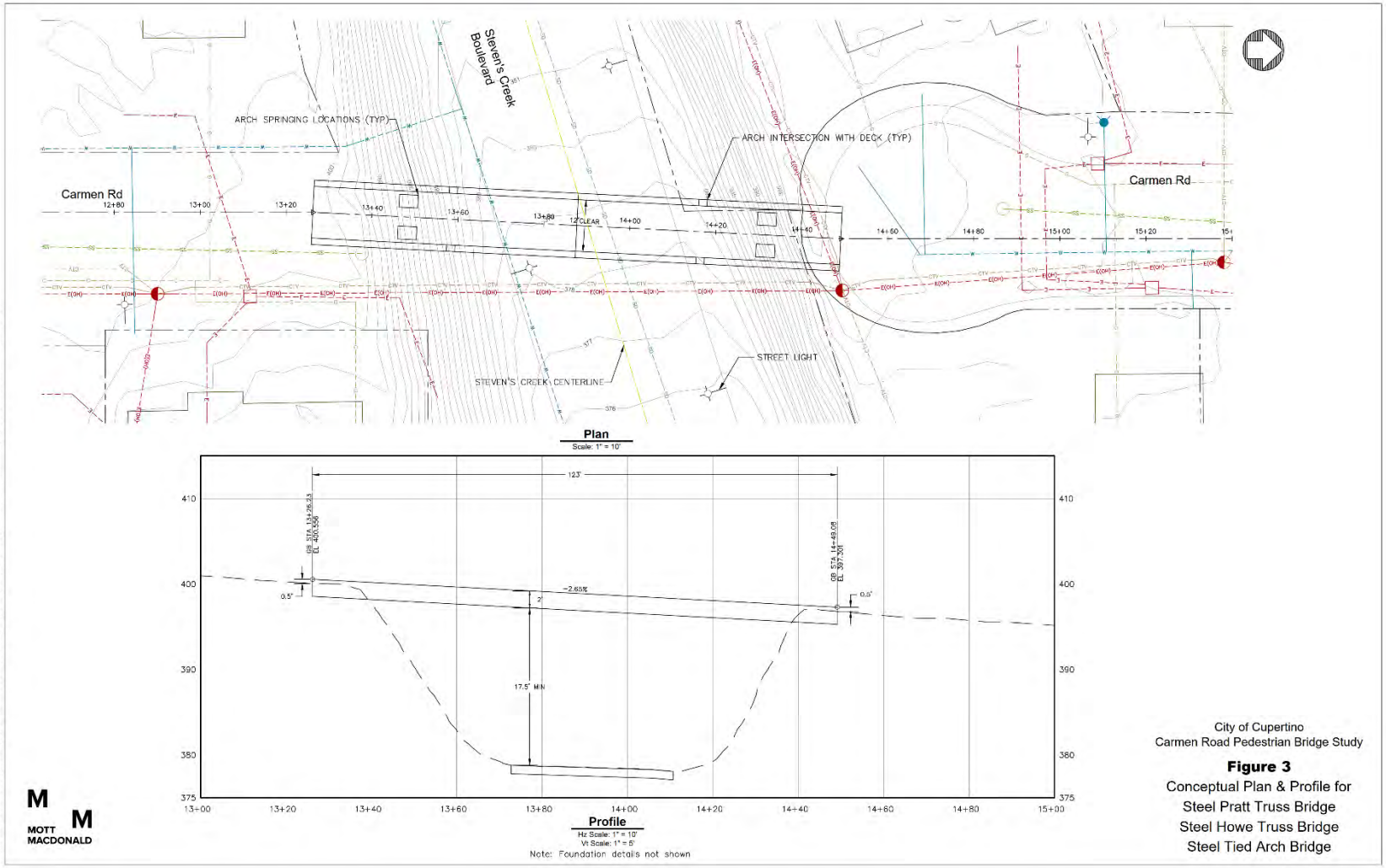
MOTT MACDONALD
City of Cupertino
Carmen Road Pedestrian Bridge Study
Figure 2
Conceptual Plan & Profile for Steel Inclined Arch Bridge


Steven's Creek Boulevard
ARCH SPRINGING LOCATIONS (TYP)
ARCH INTERSECTION WITH DECK (TYP)
Carmen Rd
Carmen Rd
STEVEN'S CREEK CENTERLINE
STREET LIGHT
12' CLEAR
Plan
Scale: 1" = 10'
123'
17.5' MIN
-2.65%
0.5'
2'
0.5'
Profile
Hz Scale: 1" = 10'
Vt Scale: 1" = 5'
Note: Foundation details not shown
MOTT MACDONALD
City of Cupertino
Carmen Road Pedestrian Bridge Study
Figure 3
Conceptual Plan & Profile for
Steel Pratt Truss Bridge
Steel Howe Truss Bridge
Steel Tied Arch Bridge
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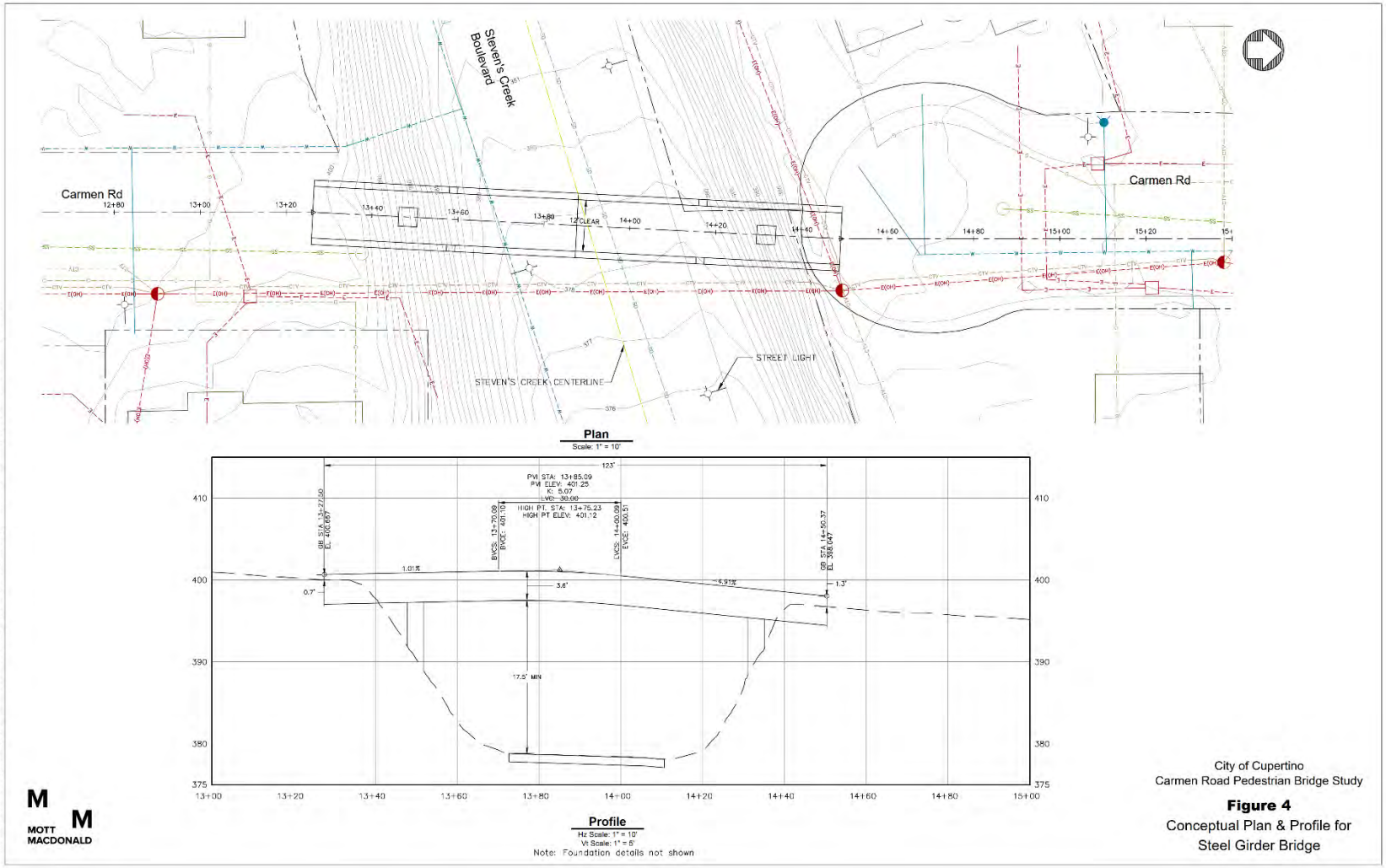
Steven's Creek Boulevard
Carmen Rd
Carmen Rd
STEVEN'S CREEK CENTERLINE
STREET LIGHT
Plan
Scale: 1" = 10'
Profile
Hz Scale: 1" = 10'
Vt Scale: 1" = 5'
Note: Foundation details not shown
MOTT MACDONALD
City of Cupertino
Carmen Road Pedestrian Bridge Study
Figure 4
Conceptual Plan & Profile for
Steel Girder Bridge


Steven's Creek Boulevard
Carmen Rd
Carmen Rd
STEVEN'S CREEK CENTERLINE
STREET LIGHT
Plan
Scale: 1" = 10'
123'
PVI STA: 13+85.09
PVI ELEV: 402.10
K: 3.99
LVC: 20.00
HIGH PT. STA: 13+80.54
HIGH PT ELEV: 401.84
2.62%
-4.90%
-8.30%
17.5 MIN
Profile
Hz Scale: 1" = 10'
Vt Scale: 1" = 10'
Note: Foundation details not shown
City of Cupertino
Carmen Road Pedestrian Bridge Study
Figure 5
Conceptual Plan & Profile for
Concrete Girder Bridge
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