

*City of Buellton Public Visioning Process*

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**Avenue of Flags Corridor  
Constraints Study**



*Submitted to:*

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Planning Department  
P.O. Box 1819  
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April 4, 2012



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# Avenue Of Flags Corridor Constraints Study

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# CITY OF BUELLTON AVENUE OF FLAGS CORRIDOR CONSTRAINTS STUDY

## 1.0 INTRODUCTION

### Purpose and Intended Use of this Report

This report is a constraints study to assist the City of Buellton in evaluating potential realignment options for Avenue of Flags as part of its ongoing Visioning Process. The purpose of this study is to recommend a new configuration for that roadway, which will provide important direction for a future specific plan centered on this area. It describes three possible alternatives under consideration, identifies the key issues within the study area, and assesses the severity of the constraints associated with each alignment. Finally, it identifies the alignment considered to present the fewest constraints with respect to these issues. The report includes a comprehensive summary table at its conclusion.

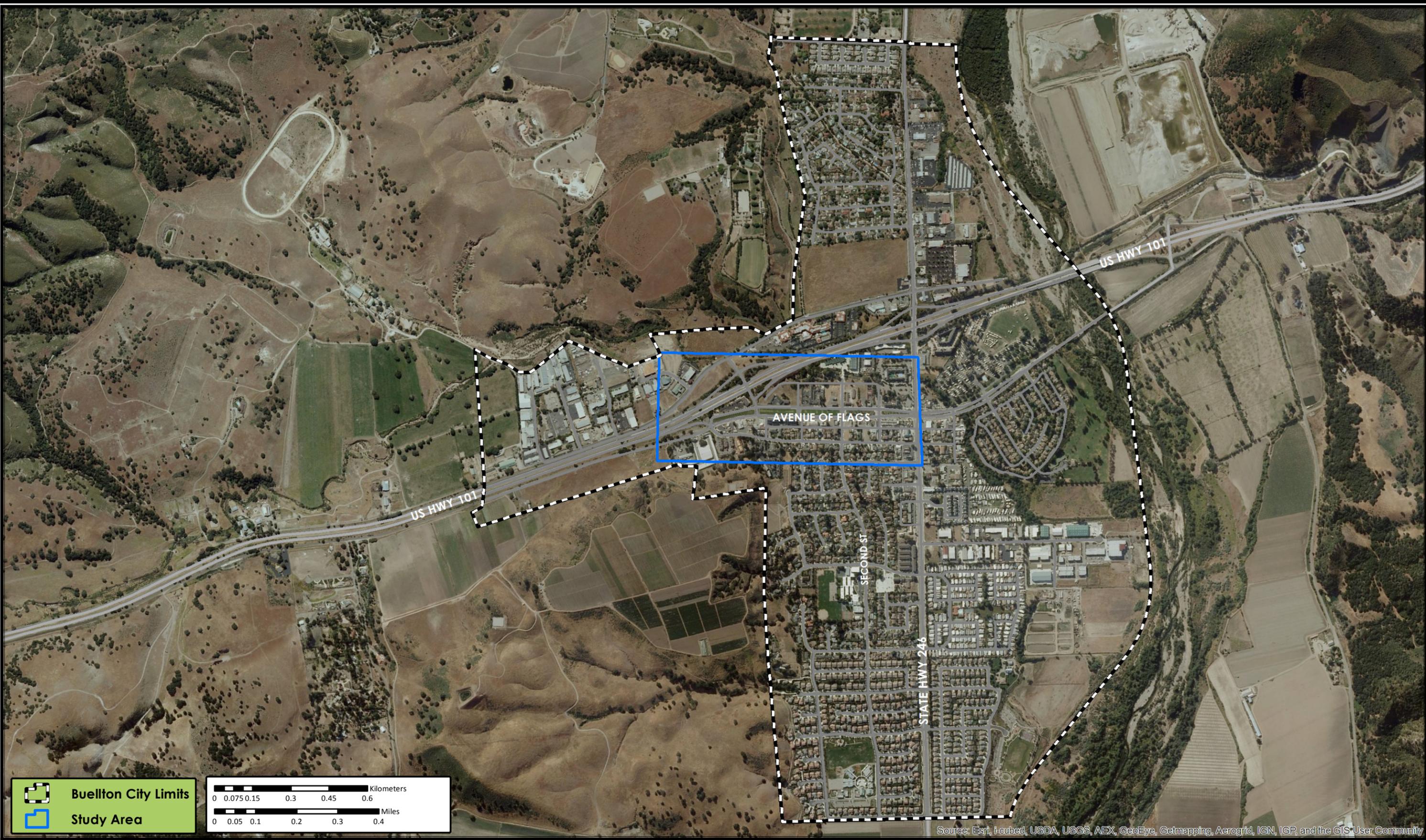
The intent is to keep the study fairly simple and broad, to allow for an easy comparison of issues to guide future actions under the Specific Plan for the area.

The analysis of the following key issues and their associated constraints is the focus of this report:

- Land Use
- Vehicular Circulation
- Pedestrian and Bicycle Circulation
- Infrastructure
- Drainage

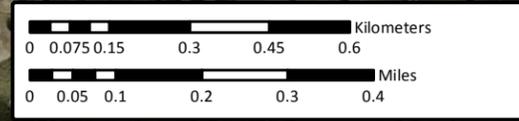
### Study Area

The study area centers on the Avenue of Flags corridor between Highway 101 on the north end, to Highway 246 on the south end (Figure 1). Within this area, current configuration of the roadway includes two lanes in either direction, separated by a wide grassy median. Between First and Second Streets, this median includes a passive park, and includes landscaping, meandering walkways, and benches.



 Buellton City Limits

 Study Area



Source: Esri, Facebook, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



source(s):  
 City limits boundary data provided by Santa Barbara Co. 2012  
 Study area boundary data provided from City of Buellton Feb 2012

**City of Buellton**

Avenue of Flags Corridor Constraints Study

**Figure 1**

Study Area Overview

The corridor is flanked on either side by a variety of land uses. Because the corridor was the original alignment of U.S. 101 before the freeway was built, it features older highway-oriented commercial uses, including motels and restaurants. The area has since transitioned to also include some residential and office uses.

Under the City's General Plan, the parcels adjacent to the corridor are designated as General Commercial, which allows for the mixed uses in the context of a commercial development pattern.

*This designation is applied to lands intended to accommodate the widest range of commercial, retail, wholesale and office uses, as well as similar compatible uses. This designation also allows for the development of mixed use at a maximum density of ten dwellings per gross acre, as determined by the variable limit. The General Commercial designation has been applied to the existing commercial core of the City along Highway 246 and Avenue of Flags, as well as to the large undeveloped parcels on the east side of Highway 101. The General Commercial designation may also accommodate motels, restaurants and similar businesses oriented toward tourists. (City of Buellton General Plan, page LU-16).*

Land Use Element Goal 4 calls for the area to be revitalized as a major component of the City's future downtown, *"the physical and social center of Buellton and an inviting place for visitors and residents alike"* (General Plan Land Use Element Goal 4).

To that end, the General Plan provides special consideration for the future development pattern centered on the Avenue of Flags, through its incorporation of the City's 2002 Avenue of Flags/Highway 246 Urban Design Plan, which sets forth various landscape, streetscape and land use concepts for the corridor. This is further articulated in General Plan policies LU-8, LU-23, and LU-30, which establish a basic framework for a mixed use corridor focused on retail, office and residential uses. One such mixed-use development consistent with that concept has already been built on the western side of the Avenue north of Second Street.

These concepts are expanded upon in the City's Vision document (accepted in February 2012), which sets forth a variety of principles that may ultimately form the basis for a Specific Plan that will guide future development within the area. This future document is intended to provide more comprehensive guidance for development in the area consistent with the General Plan, Urban Design Plan, and Vision.

## **Project Background and Community Visioning Process**

The City of Buellton has been in an ongoing public visioning process intended to shape the future direction of the physical and economic form of the city. The City specifically hopes to create a downtown core, focusing on the Avenue of Flags. As noted above, the 2002 Urban Design Plan provided

the original basis for an overall vision for Buellton downtown core. The overriding goal of that plan was to eliminate blighting influences and promote revitalization primarily focused on commercial properties along the Avenue. The Plan was completed in December 2002 and outlines a variety of recommendations regarding land use, circulation, parking, and streetscape improvements that would help create a downtown core, with mixed uses that include:

- A commercial focus (retail and office)
- Visitor Focus Retail (hospitality and entertainment)
- Civic uses (government and recreation)
- Residential integrated throughout the Downtown district area (vertical)

In late 2009, the City of Buellton began to engage the community in an important discussion about the future of the City, intended to create a community vision that built on the Community Design Guidelines, General Plan, Redevelopment Plan, and the Avenue of Flags/Highway 246 Urban Design Plan.

Through workshops and surveys, the Public Visioning Process distilled these ideas into eight community goals, which formed the basis of the July 2010 Draft Vision, and ultimately accepted in February 2012:

1. *Portray a Positive Buellton Image and Brand*
2. *Expand Opportunities for Active and Healthy Living*
3. *Offer a Variety of Arts and Culture Opportunities*
4. *Promote Desired Change through Planning and Design*
5. *Create a Vibrant Downtown*
6. *Maintain the Strong Sense of Community and Family*
7. *Be a leader in Environmental Sustainability and Stewardship*
8. *Foster Local Economic Development that Supports the Community Vision*

The process also established an overall draft vision statement for the Avenue:

***Draft Vision Statement – Avenue of Flags Downtown District***

*An architecturally distinctive and economically robust downtown district that integrates commercial, mixed-use and high-density residential units fostering an attractive, vibrant and pedestrian friendly downtown village environment.*

*Featuring a central plaza, refined traffic pattern, ample parking, and walking paths/ bikeways, Buellton provides a "Signature destination experience" and promotes a "Village Style" commercial/residential district offering an exciting place to live, work and attract tourists.*

*"Special District" zoning allows for development opportunities including: hospitality-lodging, retail shops, art studios and galleries, professional offices, restaurants and cafes, entertainment venues, high density residential units and mixed-use projects.*

A key aspect of realizing that vision is developing a strong and functional downtown core, which may be the focus of a future Specific Plan centered on the Avenue of Flags. As described in the Vision document, the Specific Plan should:

- *Shape new development and the downtown environment with a form-based code that provides regulations and guidelines for building design, height, setbacks, storefronts, signage, landscaping, etc.*
- *Designate public space for events, possibly with a water/play feature, and creates opportunities for outdoor dining*
- *Include trees and green space*
- *Use a traffic study and roundabout feasibility study to support its solutions for circulation*
- *Provides solutions for anticipated parking needs*
- *Provide for parking and accommodations for trucks and RVs away from pedestrian oriented Areas*
- *Identify any improvements that would need to be made for water and sewer infrastructure to support development*
- *Use the Avenue of Flags / Hwy 246 Urban Design Plan and AOF concept in the Vision Plan as a starting point*
- *Provide for extensive community involvement in the process*
- *Emphasizes sustainability*

One of the first steps toward implementing this is to determine the future physical form of that area. Toward that end, this constraint study will examine, at a broad level, the relative merits of possible alternatives with regard to land use and traffic patterns within the Avenue of Flags core. This comparative analysis of three roadway alignment options will address these key elements:

- *Maximizing commercial property viability as well as pedestrian amenities and safety;*
- *Accommodating bicycles;*
- *Creating a town square and public event space;*
- *Accommodating truck access;*
- *Identifying parking spaces and lots;*
- *Minimizing impacts on future development within the 100-year flood plain; and*
- *Reducing relocation impacts and infrastructure costs from the roadway realignment.*

## 2.0 ROADWAY ALIGNMENT OPTIONS

This section describes three possible approaches to the potential reconfiguration of the existing Avenue of Flags road alignment. These are not intended to be exhaustive, or exclude other possibilities, but provide a useful framework for discussion for the Specific Plan process. This may ultimately lead to choosing one of these, or perhaps a modified version of what appears to be the most promising concept.

For each option, the roadway would be reduced to two lanes and would remain within its existing right-of-way. These concepts will be compared relative to their potential constraints, in order to determine the foundation for the circulation system within the context of a future Specific Plan for the study area.

### 2.1 OPTION 1: RETAIN MEDIAN

This concept would generally maintain the existing roadway configuration, but would remove one lane of travel from each direction. There are two ways to approach this. In one scenario, the abandoned lanes would be added to the existing median area, which would be expanded into larger area. Within this median area, there could be opportunities for angled parking, public meeting places, and open areas that could be used for community events, such as car shows and farmer markets. Another approach would be to abandon the outer lanes closest to the existing buildings. This additional space could create opportunities for wider sidewalks, parking or possible landscaping near existing or future development.

This concept would preserve and enhance the medians, which are described in the City's General Plan as an aesthetic asset that provides an identity for the community.

It should be noted that in developing this scenario, several concepts were considered about possible road realignments that might be appropriate north of Damassa Road to improve the existing awkward intersection where the offramp meets the Avenue and Jonata Park Road, which would not involve Caltrans. As described in our analysis of vehicular circulation (Section 3.2), W-Trans concluded that because of the difficult existing roadway geometry in this area, it would not be functionally practical to devise a realignment of the existing freeway offramp intersection with Jonata Park Road and the Avenue without involving Caltrans. Thus, this concept is not included in this scenario.

Figure 2 illustrates this scenario.

### 2.2 OPTION 2: THE CURVE

This option would implement the "curve" concept as described in the Vision Plan, wherein the roadway is narrowed to two lanes within the right-of-way, the median is removed north of Second Street, and the land on either side—some of which is currently part of the existing paved roadway— could be somehow

transferred to private ownership, and could be developed as an extension of existing land uses currently along the edges of the roadway. In this scenario, both the roadway and overall right-of-way would be considerably narrowed. Figure 3 illustrates this concept.

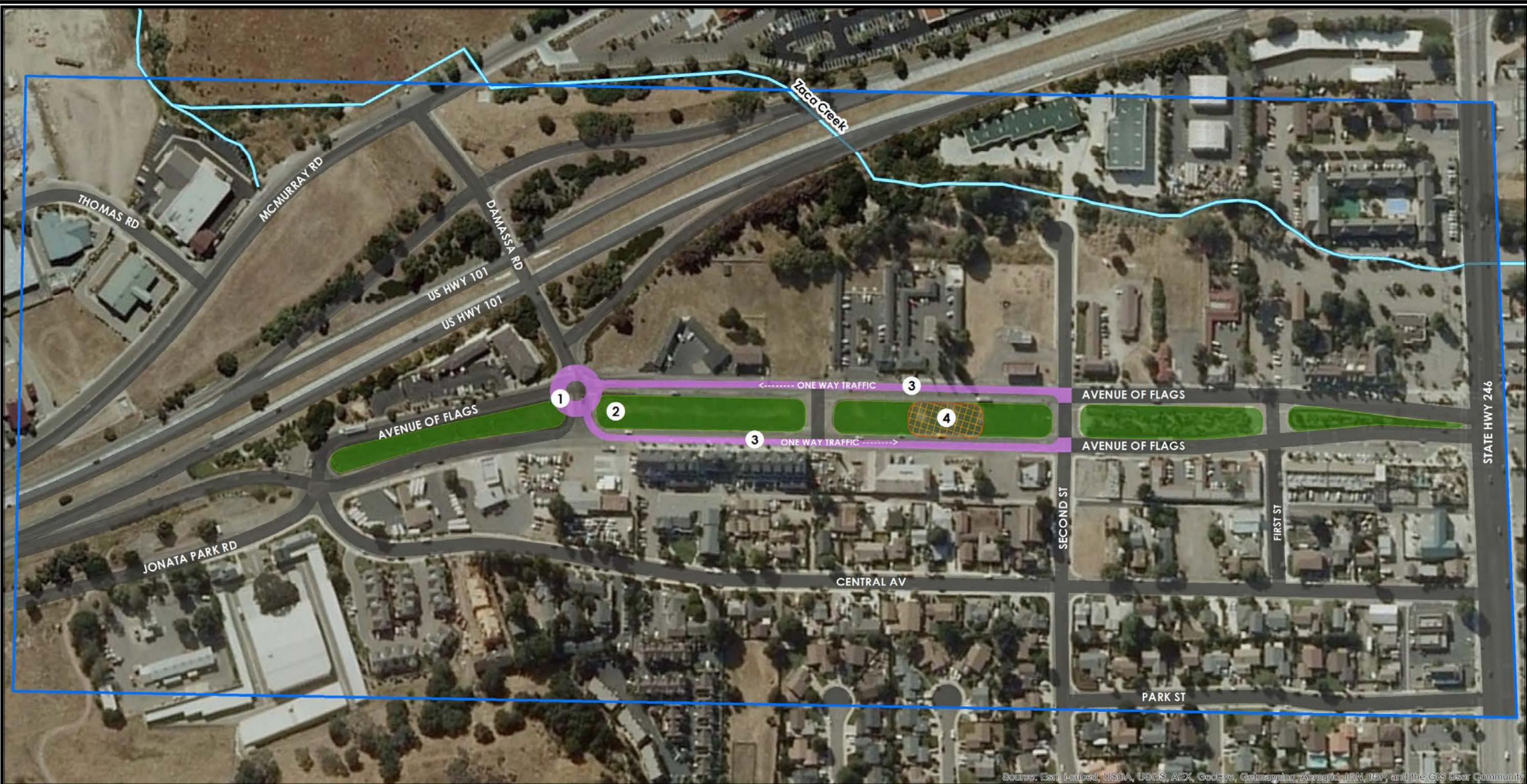
This concept represents two important changes to the Avenue, by narrowing the roadway and creating more buildable space. Through the Visioning process, some community members who support this concept feel that a narrower roadway is more pedestrian friendly, and that the public space on one side of this roadway may be easier to use than space in the existing center median. This preliminary concept also aims to preserve the improvements that have already been made on the Avenue. It is not a major departure from the Urban Design Plan in overall intent, and it maintains elements from that Plan such as the re-alignment of the U.S. Highway 101 exit ramp and creation of a trail along Zaca Creek.

### **2.3 OPTION 3: EAST SIDE ALIGNMENT**

This concept would abandon the existing two lane couplet on the west side of the right of way (the current southbound lanes), but keep the other in place, converting it to a two-way flow, one lane in either direction from Second Street to Damassa Road. While this study assumes that the western side of the right of way would be abandoned from Highway 246 to Damassa Road, the conclusions of this analysis would still be generally valid if this concept were applied only to the portion of the roadway north of Second Street. At that point, the existing roadway alignment would continue to the north after a roundabout at Damassa Road. The existing freeway offramp would not be modified. Although it is possible to examine a scenario in which the roadway would be on the western side, the east side alignment may be more logical from drainage and infrastructure access standpoints, which are key considerations described in the constraints analysis. The median itself would be eliminated, and would, along with abandoned roadway segment, be available for future development in conjunction with existing land uses along the roadway.

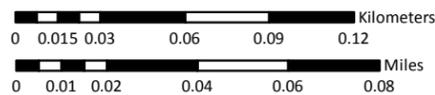
As with Option 1, no realignment of the existing offramp at Jonata Park Road, or a reconfiguration of the intersection of at the end of the offramp, is included in this scenario, for the same reasons as set forth for Option 1.

Figure 4 illustrates the East Side Alignment scenario.



Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

-  Study Area
-  Drainages
-  Town Square
-  Park/Green Space
-  Proposed Road
-  Existing Road
-  1 Round about at Damassa Rd
-  2 Median by Visitor's Bureau could become visitor-serving park/rest area with amenities; iconic feature creates entry to Avenue of Flags
-  3 Roadway reduced to one travel lane in each direction with possible diagonal parking along medians and in front of businesses
-  4 Possible location for "Town Square"



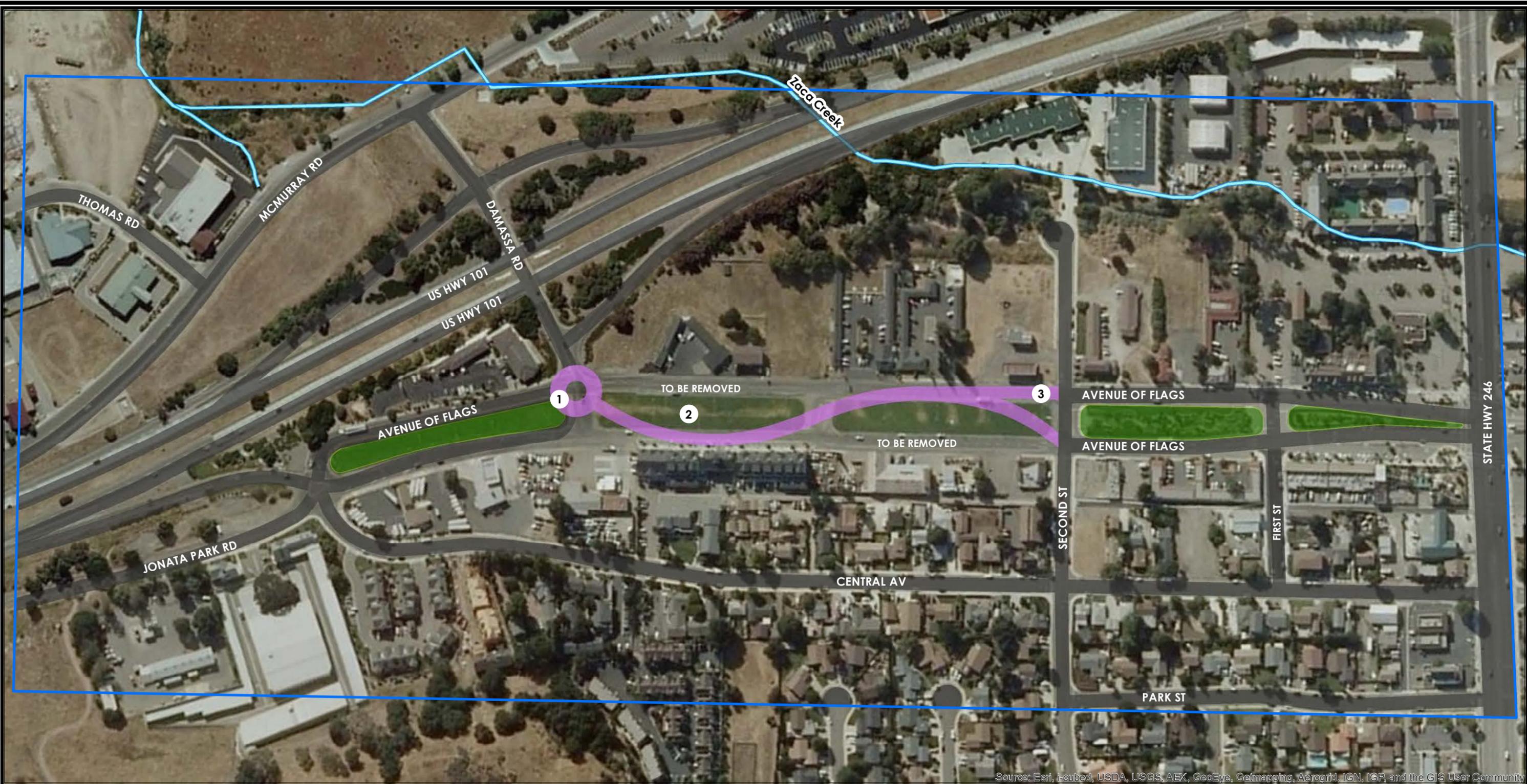
source(s): CAD data provided by City of Buellton Feb 2012

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### Figure 2

### Option One: Retain Median



Source: Esri, DeLorme, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Study Area

Drainages

Park/Green Space

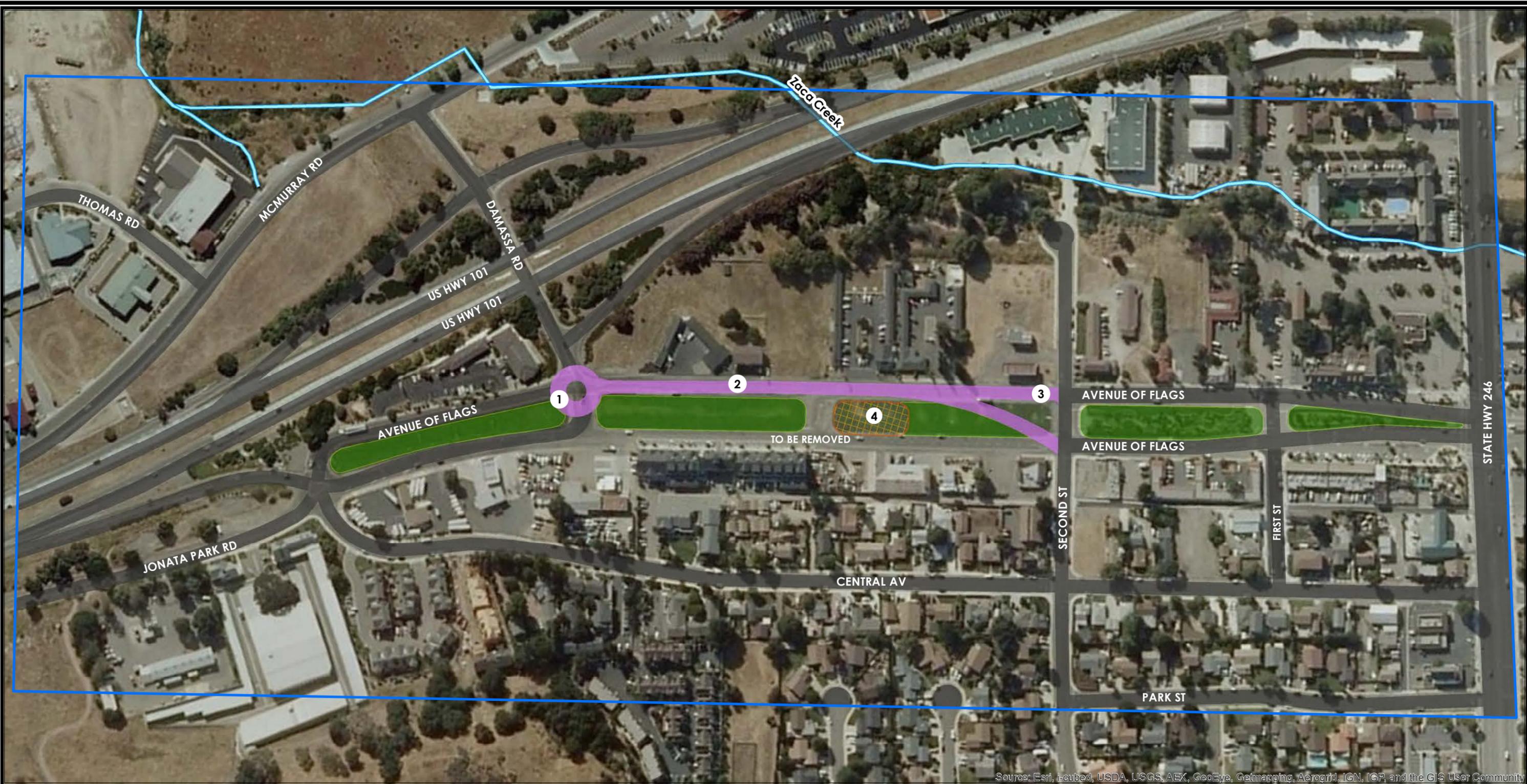
Proposed Road

Existing Road

1 Roundabout at Damassa Rd

2 Curve 2-way roadway eliminates medians between Damassa Rd and Second St and creates opportunities for development

3 Smooth transition from curve back to separate road ways

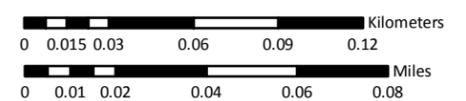


Source: Esri, DeLorme, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Study Area  
 Drainages

Town Square  
 Park/Green Space  
 Proposed Road  
 Existing Road

1 Roundabout at Damassa Rd  
 2 Single roadway expanded for two-way travel  
 3 Smooth transition from curve back to separate road ways  
 4 Possible location for "Town Square"



source(s): CAD data provided by City of Buellton Feb 2012

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 Avenue of Flags Corridor Constraints Study

**Figure 4**  
 Option Three:  
 Eastside Alignment

### 3.0 KEY ISSUES AND ANALYSIS

#### 3.1 LAND USE

##### Existing Conditions and Issues

While envisioned as a potential downtown core for the City, the Avenue of Flags corridor currently supports mostly a mix of lower density commercial, office, residential and motel uses within a loosely knit framework. The overall lack of density, retail commercial opportunities, obvious public gathering areas and wide right-of-way do not currently create a pedestrian-oriented environment essential to a vibrant downtown core. The various corridor concepts have the potential for helping to create the envisioned land use pattern. However, in doing so, they could affect the nature of existing land uses along the Avenue, in both positive and negative ways. In some cases, there may be opportunities created, because newly available land could be more comprehensively planned to integrate into the streetscape, and may more easily facilitate the development of the mix of land uses, pedestrian/bicycle systems and public gathering places envisioned in the Vision Plan. But in other cases access to existing building frontages may become problematic, and create a temporary impediment to economic opportunities.

This analysis identifies three key land use issues to be examined in this study:

- **LU-1: Access to existing commercial frontages.** *To what extent will the corridor concepts interfere or create opportunities for existing commercial development to gain direct access to the street frontage?*
- **LU-2: Compatibility with existing residential uses.** *How will the various roadway alignments affect existing nearby residences, notably from the standpoint of safety, noise, and visual quality?*
- **LU-3: Consistency with General Plan and Vision.** *How well do the roadway concepts fit with existing General Plan Land Use Element policy framework, as well as the land use concepts described in the Urban Design Plan and Community Vision?*

##### Description and Analysis of Key Issues

This section analyzes potential constraints associated with the proposed roadway alignments.

##### LU-1: Access to Existing Commercial Frontages

**Option 1.** This concept retains the existing roadway frontages to commercial establishments along the corridor. Therefore, it will not obstruct or modify access to existing commercial developments. No constraint is identified. However, it should be noted that if the lanes closest to the existing buildings were abandoned (instead of those closest to the median), additional opportunities

may be created for parking, sidewalks, or landscaping in front of existing buildings. This may be a positive change with respect to the existing condition.

**Option 2.** Access to existing commercial frontages may become problematic with Option 2, the Curve Concept. This concept would move the roadway away from existing building frontages as the roadway curves through what is now the grassy median area, notably those located on the western side of AOF between Second and Damassa Streets. By pulling the roadway away from direct commercial frontages, existing commercial and office property frontages would now be roughly 50 to 70 feet from the roadway, depending on the ultimate roadway configuration as it meanders through the right of way. This space may create difficulties for passing cars to recognize small commercial signs and entrances, which could adversely affect business. It may also make access to existing parking lots problematic, as driveways would need to be extended to meet the realigned Avenue. This would particularly affect highway or visitor servicing establishments (such as the gas station) between Central Avenue and AOF, commercial offices between Damassa Road and Second Street and all establishments on the eastern side of AOF between Damassa Road and Second Street, which are mainly smaller motels. A decrease in accessibility may affect certain businesses that depend on roadway frontage financially, an action that may not coincide in the short-term with the core Vision principle to encourage a robust local economy.

However, in the long-term as the corridor develops, future commercial uses could be better integrated into this revised alignment through design principles set forth in the Urban Design Plan, and carried forward in a future Specific Plan for the area. The major challenge would be the need to transfer ownership (or lease) portions of the right-of-way between the re-aligned road and existing commercial parcels to facilitate future commercial development closer to the roadway. This process would likely occur over an extended period of time.

**Option 3.** This option envisions aligning the roadway on the eastern side of the existing right-of-way, using the existing northbound lanes only between Second Street and Damassa Road. Thus, existing commercial uses adjacent to the eastern side of the right-of-way along that segment would not be impacted, because they would retain their current roadway frontage. However, commercial establishments on the western side of the right-of-way would now be about 115 feet from the realigned roadway, and would no longer have direct access to the road without significant temporary driveway extensions. This would likely adversely affect the several businesses between Highway 101 and Highway 246 including but not limited to the former Gracian site, Red Rose Court Motel, as well as the entire block between First Street and Highway 246. As with Option 2, impaired access may affect certain businesses that depend to some extent on pass by automobile traffic, notably motels and restaurants. This scenario would not affect existing commercial establishments either north of Damassa Road, or south of Second Street, where the roadway alignment would be retained.

In the long run, this alignment, as with the Curve Concept, would allow for potential to create a pedestrian-oriented commercial corridor with direct frontage on either side of a narrowed roadway. In addition, it has the potential to allow for the creation of larger and deeper lots on the western side of

the realigned AOF, with an average potential lot depth of about 200 feet between AOF and Central Avenue. This could provide a wide range of design opportunities to integrate mixed uses, a civic center, public open space, and bicycle/pedestrian linkages within this area. However, as with Option 2, the western side of the right-of-way would need to be transferred or leased to private entities willing to make a major investment creating new commercial opportunities within this area that takes better advantage of the new western frontage along the Avenue.

**Conclusion:** *Option 1 poses the fewest constraints associated with access to existing commercial frontage, and may create commercial frontage opportunities if the lanes abandoned were those closest to the median. Options 2 and 3 face similar challenges, though Option 2 likely has the highest constraints since it will affect access to existing building on either side of the right-of-way. Option 3 has the greatest potential for creating large contiguous parcels that could create a pedestrian-oriented mixed-use land pattern that could ultimately do the best job of implementing the vision from a design perspective.*

#### **LU-2: Compatibility with Existing Residential Uses**

**Option 1.** Currently there are two types of residential uses along the Avenue, a mixed-use development on the western side of AOF north of Second Street, and several older motels along the eastern side between Second Street and Damassa Road. The mixed use development was intended to be directly responsive to the recommendation of the Urban Design Plan to create a more intensive land use pattern that would be consistent with a future downtown area. The development includes high density residential above and behind commercial retail/office units. Many units within the older motels are being used as long-term residential units. Although important in the sense that they provide some measure of relatively affordable housing, these transient units are not consistent with the long-term vision of the Avenue and the City's General Plan as a more dense mixed-use land use pattern.

That said, because Option 1 would not change existing building frontages, no adverse effect to existing residential uses would occur. However, existing proximity to the roadway presents adverse safety and noise impacts with respect to existing residents, particularly children and older people. Elevated sound levels may impact our physical health, stress levels, and quality of life. This option does not present the same degree of opportunity for flexible design solutions that may address these concerns, since the roadway lanes will be separated by a very wide median. Although it might be possible to locate residential uses within a portion of this median, this would present design challenges in terms of integrating development into a relatively narrow space between the lanes in such a way to minimize safety and noise impacts to future residents.

Additionally, Option 1 aims at creating opportunities, through new streets and alleys, for development behind the eastern side of the Avenue, such as residential units above garages or artist live/work units with studios on the ground floor and residential above. While this concept does foster and support local

artists and artisans, as envisioned in the Vision Plan, this locations proximity to Highway 101 may be greatly impacted by noise without additional barriers/buffers along Zaca Creek and Highway 101.

**Option 2.** In this concept, the road would be moved away from existing frontages as the roadway curves through what is now the grassy median area. By doing so, opportunities for pedestrian-friendly development are created between existing parcels and the new road configuration along the Avenue between Second Street and Damassa Road. The newly created space would provide a greater separation from existing residential uses and the realigned roadway. This has the potential to minimize noise impacts from the roadway to residents in two ways—through the increased distance to the vehicular noise source, and by the curvature of the roadway slightly slowing the traffic. This would also minimize safety concerns of parents relative to their children playing near the street, particularly since cars currently travel relatively fast on the Avenue.

As with Option 1, the older motels that are being used as long-term residential units are not consistent with the long-term vision of the Avenue and the City's General Plan as a more dense mixed-use land use pattern. That said, the greater distance from the Avenue may incrementally reduce safety and noise hazards that could arise from the proximity to AOF. In the long run, however, these uses would likely be redeveloped as higher density mixed uses more integrated into the downtown area.

Additionally, Option 2 as with Option 1 aims at creating opportunities, through new streets and alleys, for development behind the eastern side of the Avenue, such as residential units above garages or artist live/work units with studios on the ground floor and residential above. While this option does foster this concept, as envisioned in the Vision Plan, increasing densities on the eastern side of the Avenue will ultimately expose future residents to the substantial noise source of U.S. Highway 101. Still, by moving the roadway more to the middle of the existing right of way, future residents may be slightly farther from this freeway noise source.

**Option 3.** By abandoning the western side of the roadway, new space can be created along the Avenue. This space, even more so than with Option 2, creates excellent opportunities for additional mixed-use development, since there could be large contiguous parcels between Central Avenue and AOF approximately 200 feet in depth.

Similar to the other options, the older motels that are being utilized as long-term residential units are not consistent with the long-term vision of the Avenue and the City's General Plan as a more dense mixed-use land use pattern. The effects on this side of the AOF would be similar to those expected under Option 1.

Additionally, as with Option 2, Option 3 aims at creating opportunities, through new streets and alleys, for development behind the eastern side of the Avenue, such as residential units above garages or artist live/work units with studios on the ground floor and residential above. While this option does foster and this concept, as envisioned in the Vision Plan, increasing densities on the eastern side of the Avenue will

ultimately expose future residents to the substantial noise source of U.S. Highway 101. Such residents may be slightly closer to U.S. Highway 101 than would be the case under Option 2, so potential noise impacts to future residents from the freeway may be slightly greater than expected under the that scenario.

**Conclusion:** *Options 2 and 3, while creating short-term challenges for existing residents, may ultimately be superior in the long-term. Both concepts allow for implementing the City’s long-term goals of the Avenue while potentially creating greater opportunities for developing noise buffers in order to enhance the visual aesthetics of both the Avenue and nearby residential neighborhoods. Option 2 would bring the roadway slightly farther from the freeway, so future residents along the Avenue may have slightly lesser noise exposure than under either Options 1 or 3. Option 1 is the easiest to implement in the short-term, and is potentially less disruptive to existing residents, but would not create the envisioned downtown environment to the same extent as either of the other options.*

**LU-3: Consistency with General Plan and Vision**

The City’s General Plan includes several goals and policies related to the future development and physical form of the Avenue of Flags, as summarized below:

**Table 1. Relevant General Plan Goals and Policies**

Table 1. Relevant General Plan Goals and Policies	
<i>Goals</i>	
4	To revitalize the Avenue of Flags and Highway 246 core as an identifiable “downtown,” the physical and social center of Buellton and an inviting place for visitors and residents alike.
<i>Policies</i>	
L-8	New development and changes in existing use should adhere to the pattern of land use recommended in the Avenue of Flags/ Highway 246 Urban Design Plan for the Avenue of Flags Revitalization Area. Non-conforming uses should be encouraged to relocate elsewhere at locations appropriate to the use. Vertical and horizontal mixed-use development should be encouraged in relation to lot depth, and a commercial orientation shall be maintained along the street frontage of the Avenue.
L-9	The entrances to Buellton from the east and west on Highway 246, and from the north and south on the US 101 freeway and Avenue of Flags should be considered important features. New public and private development in these locations should include elements such as signage, landscaping and appropriate architectural detailing that announces that one has arrived in Buellton. Such elements should also be designed to reduce the speed of vehicles entering the City for the safety of pedestrians and bicyclists using and crossing arterial roads. Entrance monuments, as described in the Avenue of Flags/Highway 246 Urban Design Plan shall also be encouraged.
L-11	New development shall incorporate a balanced circulation network that provides safe, multi-route access for vehicles, bicycles and pedestrians to neighborhood centers, greenbelts, other parts of the neighborhood and adjacent circulation routes.
L-23	For property with a General Commercial (GC) land use designation and frontage upon Avenue of Flags or Highway 246, new residential development may only be allowed: as part of mixed use projects, located above or behind commercial uses facing the street; and where sufficient vehicle access and parking is provided for both residential and commercial uses. Exemptions to this policy may only be granted by a majority vote of the City Council when all of the following findings can be made: compelling public interests are served or circumstances particular to a project or site warrant such an exemption, the viability of the remaining commercial corridor is not jeopardized; and the City’s economic and fiscal goals are not compromised.
L-30	New development should be required to incorporate streetscape features promoted in the Avenue of Flags/Highway

<b>Table 1. Relevant General Plan Goals and Policies</b>	
	246 Urban Design Plan or otherwise contribute toward the cost of installing such features along the property frontage. New development should also adhere to planning principles promoted in the Avenue of Flags/Highway 246 Urban Design Plan: storefronts should be sited close to the street to better define the street edge and building frontages at street level should be appropriately designed at a human scale.
L-31	The City should identify one or more potential sites for a new civic center to compliment revitalization goals and create a discernable downtown. To the extent feasible, the Civic Center should incorporate a new City Hall, leisure and cultural services (e.g., library, senior/community center, etc.) and public services performed by other governmental agencies (e.g., sheriff, fire administration, building and safety, etc.).
L-32	The City should actively promote and pursue development of a unified street scene along the Avenue of Flags as envisioned in the Avenue of Flags/Highway 246 Urban Design Plan. Elements include new district monumentation and signage, thematic paving features, decorative street furnishings (e.g., a clock, benches, banners, flags, light standards, trash receptacles, etc.), embellished pedestrian crosswalks and redevelopment of center medians into park-like settings.

The following table analyzes each option’s consistency with these goals and policies, and the extent to which they may be more easily attained relative to one another.

<b>Table 2. Policy Consistency Analysis</b>				
<b>Goals or Policies</b>	<b>Policy Summary (see Table 1 for full description)</b>	<b>Option 1: Retain Median</b>	<b>Option 2: Curve Concept</b>	<b>Option 3: East Side Alignment</b>
Goal 4	Revitalize AOF as Downtown Core	This option is consistent with this goal.	This option is consistent with this goal.	This option is consistent with this goal.
Policy L-8	Adhere to Urban Design Plan Land Use Pattern	This option would retain the existing AOF right-of-way, and thus would allow for the Urban Design Plan land use pattern to be easily implemented.	This option would create new space on either side of the roadway, which would generally allow the Urban Design Plan land use pattern to be implemented. However, it would create access challenges for the existing mixed use development on the west side of AOF, which was intended to be consistent with the Urban Design Plan.	This option would create large new spaces on the west side of the roadway, which would generally allow the Urban Design Plan land use pattern to be implemented, and provide multiple design options. However, it would create access challenges for the existing mixed use development on the west side of AOF, which was intended to be consistent with the Urban Design Plan.
Policy L-9	Establish Entrance Features	Because of the wide separation of the two sides of the roadway, this option does not provide a clear visual entrance to the area, notably since development will be separated by the roadway side by as much as 150 feet. The existing park in the median between 1 <sup>st</sup> and 2 <sup>nd</sup> Street intended to do this, but is not readily readable as an entrance.	This concept would create the opportunity for a clear entrance to the downtown near the proposed roundabout, as the roadway narrows and development will become more dense in the downtown core.	This concept would create the opportunity for a clear entrance, particularly in conjunction with a possible town square near the intersection of AOF and Second Street.
Policy L-11	Accommodate	This option is generally	This option is consistent	This option is consistent with

**Table 2. Policy Consistency Analysis**

Goals or Policies	Policy Summary (see Table 1 for full description)	Option 1: Retain Median	Option 2: Curve Concept	Option 3: East Side Alignment
	Multi-Modal Transportation	consistent with this policy. Cars, bikes and pedestrians could be accommodated. However, the wide roadway separation will make it challenging for pedestrian traffic to easily recognize businesses on the other side of the street, which may discourage walking to some extent. Similarly, the separated one-way couplet will also make it challenging for cars going in one direction to easily recognize and stores on the other side of the street.	with this policy. Cars, bikes and pedestrians could be accommodated. The single roadway meandering through the downtown will also likely slow traffic to some extent, which will allow for a relatively safe pedestrian environment.	this policy. Cars, bikes and pedestrians could be accommodated. The single roadway with businesses on either side will encourage pedestrian traffic, particularly if nearby parking opportunities are made available.
Policy L-23	Residential Allowed with Mixed Use	This option is consistent with this policy.	This option is consistent with this policy.	This option is consistent with this policy.
Policy L-30	Include Urban Design Plan Streetscape Features	This option is generally consistent with this policy. While stores may be located directly adjacent to the roadway, the wide roadway separation will not create the visually dense look that is associated with a downtown area. As noted above, pedestrian and auto access to retail establishments will not be as strongly facilitated as with the other options.	This option is consistent with this policy. Because of the narrowed right-of-way, storefronts near the road will create the streetscape framework envisioned in the urban design plan.	This option is consistent with this policy. Because of the narrowed right-of-way, storefronts near the road will create the streetscape framework envisioned in the urban design plan.
Policy L-31	Accommodate Civic Center Site	This option is potentially consistent with this policy. It will be challenging to design a civic center in such a way as to allow for easy access from both northbound and southbound sides of the street, unless it were put in the median somehow. In that case, the design opportunities are limited because it will be flanked on either side by the roadway.	This option is consistent with this policy. A Civic Center complex could be designed in the new spaces created by this design option.	This option is consistent with this policy. A Civic Center complex could be designed in the new spaces created by this design option, possibly even more easily than under Option 2, since there will be larger contiguous land areas created in this configuration..

<b>Goals or Policies</b>	<b>Policy Summary (see Table 1 for full description)</b>	<b>Option 1: Retain Median</b>	<b>Option 2: Curve Concept</b>	<b>Option 3: East Side Alignment</b>
Policy L-32	Create Unified Street Scene	Under this option, a unified street scene may be created, but it will be visually focused on the median, not the pedestrian street life on either side. The separation posed by the median will make it a challenge to create a unified corridor from a functional perspective, since pedestrians and cars will be so widely separately, depending on whether they are going north or south bound. It will not be easy to recognize signs or other activities across the street, and in the case of car traffic, it will be difficult to even recognize storefronts on the other side, especially if public buildings or large structures are eventually constructed in the median.	This option would easily allow for the creation of a unified street scene, since activities will be focused on a relatively narrow roadway, and multi-modal traffic will be focused along the roadway. The curve may also discourage cars from speeding to some extent.	This option would easily allow for the creation of a unified street scene, since activities will be focused on a relatively narrow roadway, and multi-modal traffic will be focused along the roadway.

**Conclusion:** While all options are generally consistent with the General Plan policy framework, Options 2 and 3 create better opportunities to create spaces and streetscape features more in keeping with the Urban Design Plan, and by extension, the City’s Vision for the Avenue as its downtown core.

### 3.2 VEHICULAR CIRCULATION

A traffic analysis of the three corridor options was completed to determine the vehicular operations and intersection levels of service. The study area consisted of Avenue of Flags between SR 246 and Jonata Park Road including the intersections of:

- Avenue of Flags/SR 246
- Avenue of Flags/Second Street
- Avenue of Flags/Damassa Street
- Avenue of Flags/Jonata Park Road
- U.S. 101/Avenue of Flags/Central Avenue

### Existing Conditions and Issues

Existing traffic volumes for the study area were acquired from the 2005 General Plan Update Traffic Analysis. For the purposes of this analysis, the weekday PM peak hour intersection turning movement traffic volumes were used. This period generally represents the peak hour throughout the day.

Given the existing roadway geometrics and existing traffic volumes, the current intersection operations are shown in Table 3. All intersection and minor street movements are operating with a Level of Service C or better, which meets City standards.

### Future Traffic Volumes

The traffic analysis considered future traffic growth as presented in the 2005 General Plan Update Traffic Analysis. Generally, traffic volumes in the Avenue of Flags corridor are projected to increase by a factor of 2.3 between current conditions and General Plan buildout.

The most often used indicator of the ability of a roadway or intersection to accommodate traffic is Level of Service (LOS), which sets a standard based on a scale from LOS "A", free-flow conditions, to LOS "F", which refers to unstable conditions approaching gridlock. A more complete description of each Level of Service standard is contained in the General Plan Update Baseline Report. The projected future intersection Level of Service conditions are shown in Table 4, assuming the existing travel lanes in the corridor. The following intersections are not expected to meet City LOS C standards with current lane configurations:

- Avenue of Flags/SR 246
- Avenue of Flags/Damassa Street
- Avenue of Flags/Jonata Park Road-US 101 SB Ramps

The following vehicular circulation issues will be examined in the study:

- **VC-1: Intersection Level of Service and Delay.** *Do the intersections meet City standards for intersection level of service given the reduction in lanes under each scenario? (City standards require that Level of Service "C" or better shall generally be maintained on all streets and intersections, lower levels of service may be accepted during peak times or as a temporary condition, if improvements to address the problem are programmed to be developed.)*
- **VC-2: Parking.** *Does these concepts allow for any increase in on-street parking?*
- **VC-3: Feasibility of Roadway Design.** *Can the alternatives be constructed according to current design standards?*
- **VC-4: Truck Access.** *Will the alternatives allow for truck delivery access along the corridor?*
- **VC-5: Impact to Adjacent Streets.** *Will the modifications result in any changes to either access or traffic volumes on adjacent streets such as Central Avenue, McMurray Road and Damassa Road?*

### Description and Analysis of Key Issues

For each of the three scenarios, the existing approach and departure lanes on Avenue of Flags between SR 246 and First Street were assumed to be maintained. Also, the landscaped island between First and Second Streets was assumed to remain.

Existing and future traffic volumes were adjusted as necessary to account for circulation according to each scenario. Intersection level of service conditions were calculated, turn lane warrants were determined, and potential queuing conditions were estimated. For each scenario, this section analyzes the key issues identified above.

**VC-1: Intersection Level of Service and Delay**

The results of the intersection level of service conditions for Existing and Buildout traffic volumes are shown in Tables 3 and 4, respectively. It should be noted that the intersection of Avenue of Flags/SR246 is expected to operate with a LOS D with Buildout traffic volumes under all scenarios.

Study Intersection Approach	Existing		Option 1		Option 2		Option 3	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 SB Off-Central-Ave of Flags								
<i>Southbound</i>	11.4	<i>B</i>	14.2	<i>B</i>	5.0	<i>A</i>	5.0	<i>A</i>
<i>Eastbound</i>	9.5	<i>A</i>	11.5	<i>B</i>	7.3	<i>A</i>	7.3	<i>A</i>
<i>Northbound</i>	7.2	<i>A</i>	7.8	<i>A</i>	6.6	<i>A</i>	6.6	<i>A</i>
2. Ave of Flags SB/Damassa Rd					5.3	<i>A</i>		
<i>Westbound</i>	13.3	<i>B</i>	15.2	<i>C</i>			19.6	<i>C</i>
3. Ave of Flags NB/Damassa Rd								
<i>Eastbound</i>	12.0	<i>B</i>	12.0	<i>B</i>	-	-	-	-
<i>Westbound</i>	11.6	<i>B</i>	11.9	<i>B</i>	-	-	-	-
4. Ave of Flags SB/2 <sup>nd</sup> St					4.8	<i>A</i>		
<i>Eastbound</i>	11.2	<i>B</i>	11.7	<i>B</i>			11.7	<i>B</i>
<i>Westbound</i>	12.2	<i>B</i>	12.4	<i>B</i>			12.4	<i>B</i>
5. Ave of Flags NB/2 <sup>nd</sup> St								
<i>Eastbound</i>	10.7	<i>B</i>	11.4	<i>B</i>	-	-	-	-
<i>Westbound</i>	10.1	<i>B</i>	10.4	<i>B</i>	-	-	-	-
6. Ave of Flags SB/1 <sup>st</sup> ST								
<i>Eastbound</i>	10.4	<i>B</i>	10.4	<i>B</i>	10.4	<i>B</i>	10.4	<i>B</i>
<i>Westbound</i>	11.0	<i>B</i>	11.0	<i>B</i>	11.0	<i>B</i>	11.0	<i>B</i>
7. Ave of Flags NB/1 <sup>st</sup> ST								
<i>Eastbound</i>	9.5	<i>A</i>	10.3	<i>B</i>	11.1	<i>B</i>	11.1	<i>B</i>
<i>Westbound</i>	-	-	-	-	-	-	-	-
8. Ave of Flags/SR 246	32.1	<i>C</i>	32.1	<i>C</i>	32.1	<i>C</i>	32.1	<i>C</i>

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in italics; \*\* = delay greater than 120 seconds; **Bold** text = deficient operation.

Study Intersection <i>Approach</i>	Buildout without realignment		Option 1		Option 2		Option 3	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 SB Off-Central-Ave of Flags								
<i>Southbound</i>	20.7	<i>C</i>	32.8	<i>D</i>	34.8	<i>D</i>	34.8	<i>D</i>
<i>Eastbound</i>	32.8	<i>D</i>	20.7	<i>C</i>	27.5	<i>D</i>	27.5	<i>D</i>
<i>Northbound</i>	42.5	<i>E</i>	42.5	<i>E</i>	13.0	<i>B</i>	13.0	<i>B</i>
2. Ave of Flags SB/Damassa Rd					14.2	<i>B</i>		
<i>Westbound</i>	**	<i>F</i>	**	<i>F</i>			**	<i>F</i>
3. Ave of Flags NB/Damassa Rd								
<i>Eastbound</i>	**	<i>F</i>	**	<i>F</i>	-	-	-	-
<i>Westbound</i>	**	<i>F</i>	**	<i>F</i>	-	-	-	-
4. Ave of Flags SB/2 <sup>nd</sup> St					10.2	<i>B</i>		
<i>Eastbound</i>	16.9	<i>C</i>	23.8	<i>C</i>			24.6	<i>C</i>
<i>Westbound</i>	24.1	<i>C</i>	29.3	<i>D</i>			18.5	<i>C</i>
5. Ave of Flags NB/2 <sup>nd</sup> St								
<i>Eastbound</i>	24.6	<i>C</i>	23.7	<i>C</i>	-	-	-	-
<i>Westbound</i>	16.5	<i>C</i>	15.6	<i>C</i>	-	-	-	-
6. Ave of Flags SB/1 <sup>st</sup> ST								
<i>Eastbound</i>	13.3	<i>C</i>	15.4	<i>C</i>	14.7	<i>C</i>	14.7	<i>C</i>
<i>Westbound</i>	13.5	<i>C</i>	17.4	<i>C</i>	17.3	<i>C</i>	16.5	<i>C</i>
7. Ave of Flags NB/1 <sup>st</sup> ST								
<i>Eastbound</i>	14.9	<i>C</i>	17.7	<i>C</i>	21.9	<i>C</i>	18.4	<i>C</i>
<i>Westbound</i>	15.2	<i>C</i>	15.0	<i>C</i>	16.7	<i>C</i>	15.0	<i>C</i>
8. Ave of Flags/SR 246	44.1	<i>D</i>	44.1	<i>D</i>	44.1	<i>D</i>	44.1	<i>D</i>

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in italics; \*\* = delay greater than 120 seconds; **Bold** text = deficient operation

**Option 1.** With a single lane in each direction, except for the approach to the SR 246 intersection, the intersections in the corridor would be expected to operate acceptably at LOS C or better assuming existing traffic volumes. With traffic growth expected for buildout conditions, several movements at uncontrolled intersections on the corridor would have minor movements operating unacceptably at LOS D, E and F. These include:

- Southbound and Northbound movements at the US 101 SB Off-ramp
- Westbound approach on Damassa Road at the Southbound Avenue of the Flags
- Eastbound and westbound approaches on Damassa Road at the Northbound Avenue of the Flags

**Option 2.** With the Curve concept, the intersections in the corridor would be expected to operate acceptably at LOS C or better assuming existing traffic volumes. With traffic growth expected for buildout conditions, the following movements at uncontrolled intersections on the corridor would have minor movements operating unacceptably at LOS D and E:

- Southbound and Northbound movements at the US 101 SB Off-ramp

**Option 3.** With a two lane road on the east side of the median between Second Street and Damassa Road (and allowing for a transition of about 250 street from the Second Street intersection northward to accommodate this narrowing), the intersections in the corridor would be expected to operate acceptably at LOS C or better assuming existing traffic volumes. With traffic growth expected for buildout conditions, several movements at uncontrolled intersections on the corridor would have minor movements operating unacceptably at LOS D and F. These include:

- Southbound and Eastbound movements at the US 101 SB Off-ramp
- Westbound approach on Damassa Road at Avenue of the Flags

**Conclusion:** *Each option would allow the intersections along the Avenue to operate at LOS C assuming current traffic volumes, even when reduced to one lane in either direction. At buildout, portions of the US 101 offramp to the Avenue would operate at LOS D or worse for each option. While other intersections would operate unacceptably under Options 1 and 3, this is not the case for Option 2, where all intersections would maintain acceptable operational characteristics.*

### **VC-2: Parking**

There is currently 42 feet of pavement on either side of the median, which allows for two travel lanes and parallel parking on both sides of each directional set of travel lanes.

**Option 1.** The single lane in each direction will create additional space that can be used for either expanded properties, wider sidewalks, Class II bike lanes, diagonal parking, or a combination of these elements. If parallel parking is maintained on both sides of the travel lane, 5 feet could be used for bike lanes and approximately 9-feet of additional width would be available for expanded properties and/or wider sidewalks. The incorporation of diagonal parking would require approximately 30-32 feet for the travel lane and the parking aisle, leaving about 10-12 feet for wider sidewalks. Note that increased parking opportunities may be possible whether the interior lane (near the median) or exterior lane (near building frontages) is abandoned in this scenario. That said, there are differences in the nature of parking opportunities depending on the approach, depending on whether the City wishes to add bike lanes and diagonal parking to the corridor. Generally, the design should avoid placing bike lanes side by side with diagonal parking. By abandoning the inner (median) lanes, diagonal parking can be placed there with bike lanes on the outside next to the buildings and possibly continued parallel parking. If it is desired to add diagonal parking on the building side, the outer lanes should be abandoned.

**Option 2.** This option would create a “blank slate” for incorporation of either parallel or diagonal parking along the corridor as well as bike lanes and unlimited space for sidewalks. (The combination of diagonal parking and bike lanes would not be recommended.)

**Option 3.** With 42 feet of pavement available on the east side roadway, there would be enough space for one travel lane in each direction as well as parallel parking on each side. The roadway would need to be expanded in order to provide either bike lanes or diagonal parking. The existing westside roadway could be transformed into a diagonal parking aisle fronting the existing business. However, this would require a strategy to provide access to these drive aisles.

**Conclusion:** *Each option would provide a variety of design opportunities that would allow ample parking along the Avenue.*

### **VC-3: Feasibility of Roadway Design**

It should be noted that in developing these scenarios, several concepts were considered about possible road realignments that might be appropriate north of Damassa Road to improve the existing awkward intersection where the offramp meets the Avenue and Jonata Park Road, which would not involve Caltrans. For example, we examined if it would be possible to create a roundabout at this intersection. W-Trans concluded that because of the difficult existing roadway geometry in this area, it would not be functionally practical to devise a realignment of the existing freeway offramp intersection with Jonata Park Road and the Avenue without involving Caltrans. A lower cost short-term solution would be to put a stop sign at the end of the offramp at this intersection. This would result in side-by-side stop signs (including the existing stop at Jonata Park Road, which is unusual but can work). Thus, this concept is not carried further in this analysis.

**Option 1.** The roadway modifications would be achievable and most economical considering that they would fit within the existing roadway alignment.

**Option 2.** The design of the roundabout would be the most critical element of this design option. The roundabout was determined to operate with acceptable levels of service assuming single lane approaches. In order to serve large vehicles, the roundabout would need to be approximately 110-120 feet in diameter. The design of the roundabout at Damassa Road would be feasible, given the space options and connection to Damassa Road at that intersection. Note that under this scenario, the existing median-separated roadway would need to transition to a single two-lane roadway in the block north of the intersection with Second Street. This would require about 250 feet of distance, which is roughly half the distance between Second Street and the existing mid-block crossing to the north, or roughly one-fourth of the way between Second Street and Damassa Road. This is feasible, but will functionally shorten the total distance of where the roadway has been narrowed between these two roads from 1,000 to 750 feet.

**Option 3.** The most crucial element of this alignment would be the transition from the two-lane road to the roadway couplet. As with Option 2, approximately 200 to 250 feet of transition length would be needed for this conversion.

**Conclusion:** *Each option can be feasibly designed, although Option 1 can be achieved most easily, since it can be accomplished within the framework of the existing roadway.*

#### **VC-4: Truck Access**

All of the alternatives can be designed to accommodate adequate truck access. However, all alternatives would have a more difficult time accommodating long-term large truck parking.

#### **VC-5: Impact to Adjacent Streets**

**Option 1.** Except at Damassa Road, single lanes in each direction would adequately serve the existing and projected traffic demand in the corridor. Since Level of Service conditions would meet City standards and be within the LOS C range, these conditions would not be to a level that generally encourages traffic to seek alternative routes. The intersection with Damassa Road would have significant delay, which would encourage this side street traffic to seek alternative routes.

**Option 2.** This alternative would result in the least impact to adjacent streets, including Damassa Road. The construction of the roundabout intersection would provide adequate capacity for future traffic growth, which would provide an attractive route.

**Option 3.** See discussion for Option 1.

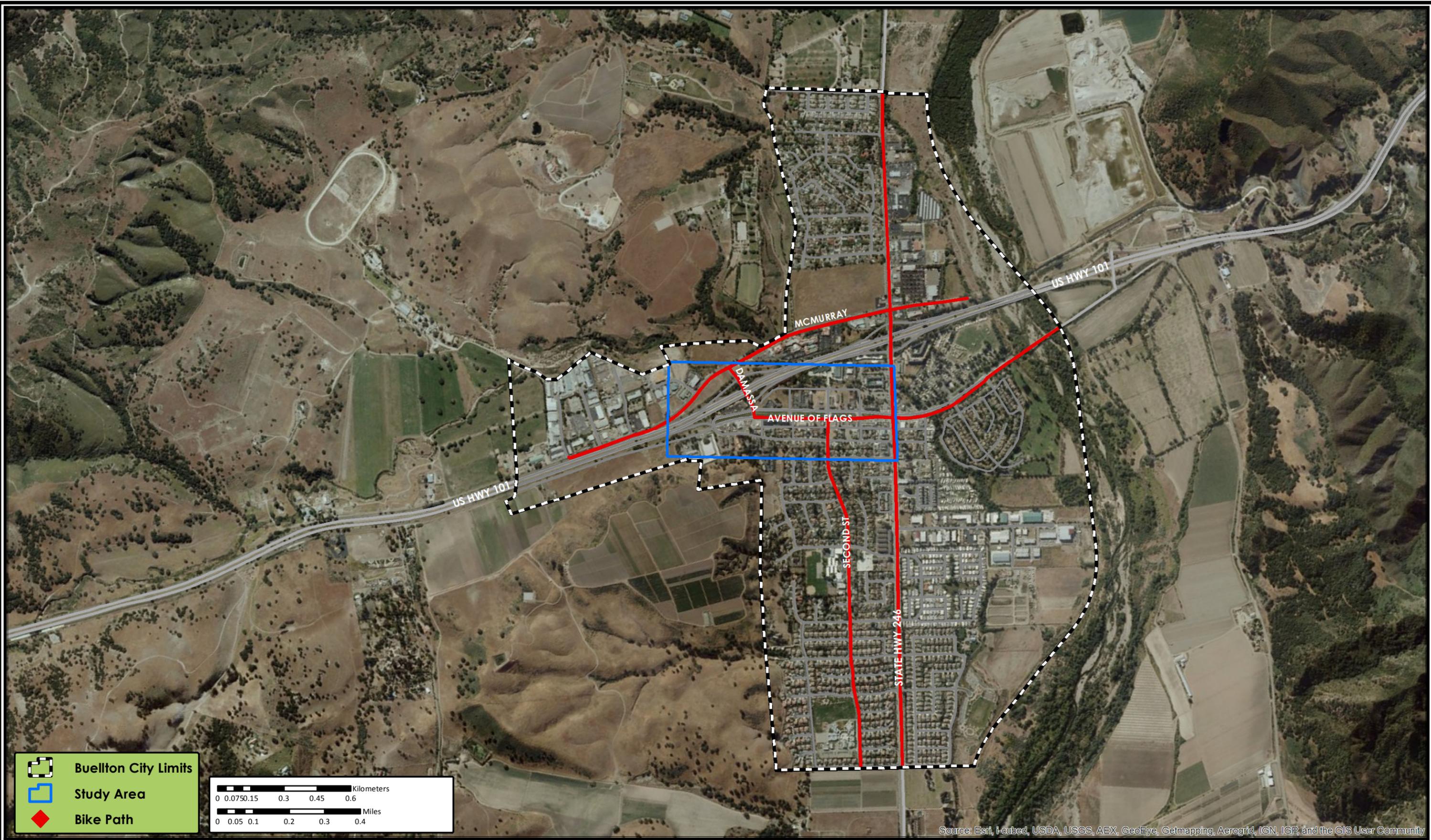
**Conclusion:** *Implementation of Option 2 would result in the least impact to traffic adjacent streets, although the amount potentially diverted as a result of implementing either Option 1 or 3 would be relatively minor.*

### **3.3 PEDESTRIAN AND BICYCLE CIRCULATION**

#### **Existing Conditions and Issues**

One of the core principles of the Vision and the General Plan itself is to accommodate multiple transportation opportunities, including bicycles and pedestrians. This is crucial to the overall success of the mixed-use core envisioned at the heart of the Land Use Element of the General Plan. The General Plan envisions enhanced bicycle connections between the McMurray Road area and the Avenue. Bicycle parking/racks are also envisioned along the Avenue of Flags to promote bicycle ridership.

In January 2012, the City adopted a Bikeway and Pedestrian Master Plan with the intent to create a bikeways and trails network that is safe, convenient, and enjoyable, and that facilitates transportation as well as recreation. The Avenue of Flags is identified as a key corridor in both the local and regional bicycle route network. Figure 5 shows the existing and planned bicycle network as shown in the Master Plan.



There are three general classifications of Bikeway Facilities: Class I (dedicated and separated bike path), Class II (bike lane), and Class III (bike route). Under the Bicycle and Pedestrian Master Plan, Avenue of Flags is designated at a minimum a Class II bike facility. A Class II is a bike lane established along streets with a significant bicycle demand. The lanes are signed and striped one-way facilities with a width generally of five feet. These lanes are also located between parking areas and traffic lanes.

While it does not appear that the different roadway configurations would impede the development of the facilities called for in the Master Plan, one or another road reconfiguration may provide better opportunities to integrate the bicycle path system into the overall land use design concept.

This analysis identifies the following pedestrian/bicycle circulation issues to be examined in this study:

- ***PBC-1: Potential conflicts/safety concerns with existing pedestrian/bicycle facilities.*** *To what extent will the corridor concepts interfere with existing pedestrian/bicycle facilities?*
- ***PBC-2: Compatibility with facilities envisioned under the Bicycle and Pedestrian Master Plan.*** *Will the various roadway scenarios accommodate the facilities envisioned for the corridor described in the Bicycle and Pedestrian Master Plan? And to what extent will the roadway concept create opportunities or impede the possibility of creating connectivity to adjacent land uses?*

### **Description and Analysis of Key Issues**

The purpose of this section is to analyze potential issues associated with the proposed roadway alignments, as they relate to pedestrian and bicycle circulation along the Avenue of Flags.

#### **PBC-1: Potential conflicts/safety concerns with existing pedestrian/bicycle facilities**

**Option 1.** This roadway configuration would create a wider median by eliminating one lane of traffic in either direction. This new space could be used to create bicycle lanes or pedestrian paths consistent with the Master Plan, or such facilities could be located within the existing median itself. This would likely improve the safety for both cyclists and pedestrians using the corridor as compared to the current condition, which features wide lanes that promote high-speed travel and overnight parking for truck drivers within the corridor. Under Option 1 (or any of the options), diagonal parking could replace parallel parking to help slow traffic, potentially creating a safer environment for pedestrians and bicyclists.

**Option 2.** Similar to Option 1, this roadway configuration would create opportunities for bicycle and pedestrian paths along the roadway within the newly created spaces on either side of the road. Because the roadway would be narrowed and curve slightly, traffic speeds would likely decrease from the current condition, which will improve bicycle and pedestrian safety along the corridor. It should be

noted, however, that unless clear sight lines are maintained around the curves, cyclists using the roadway may not be as clearly visible to automobile traffic as compared to if the roadway were straight.

**Option 3.** This concept retains the straight roadway while eliminating the southbound lanes on the western side of the Avenue between Second Street and Damassa Road, creating public space on one side of the roadway. As with the previous options, this roadway configuration would create opportunities for bicycle and pedestrian paths along the corridor within the newly created spaces west of the realigned Avenue. Because the roadway would be narrowed, traffic speeds would likely decrease from the current condition, which will improve bicycle and pedestrian safety along the corridor. It should also be noted that, unlike Option 2, the road would be straight, so sight lines can be more easily maintained, and both cyclists and pedestrians would be more visible to motorists.

**Conclusion:** *All options are superior to the current condition from a safety standpoint, especially since the newly created space will allow for a variety of transportation design options. While the clear sight lines associated with the straight road alignment under Options 1 and 3 may be slightly better than the under Curve Concept (Option 2), the latter concept will likely result in slightly lower automobile speeds, which in turn are important to promote bicycle and pedestrian safety.*

#### **PBC-2: Compatibility with Facilities Envisioned Under the General Plan and Bicycle/Ped Master Plan**

All three concepts potentially provide opportunities for connectivity to adjacent land uses consistent with both the General Plan and the Bicycle and Pedestrian Master Plan. Each option includes concepts that would connect pedestrians and bicyclists to nearby residential neighborhoods, commercial and industrial centers, park/green space, and the east side of Highway 101 from the downtown corridor. Each concept also includes the following features that promote connectivity to other parts of the City: 1) a possible pedestrian/bicycle bridge over Highway 101 south of Damassa Road; and 2) connections to trails along Zaca Creek that lead to the Santa Ynez River and elsewhere in the City.

The following discussion expands on differences between the three concepts.

**Option 1.** This option would be consistent with the concepts included in the General Plan and Bicycle/Pedestrian Master Plan. This option would remove one lane of travel from each side of the roadway, adding the abandoned lanes to the existing median area. This space may create an opportunity to implement either a Class I or Class II bicycle facility consistent with the City's Bicycle and Pedestrian Master Plan. Within the expanded median space are potential opportunities to create additional facilities such as public restrooms, bicycle racks/lockers, and plazas/parks. Currently, only one bike rack exists along the Avenue at the corner of Highway 246 and can only accommodate four bicycles. The City's General Plan Parks and Recreation Element recommends the expanded medians accommodate a linear park, which could accommodate either bicycle or pedestrian paths, similar to what already exists between First and Second Street.

**Option 2.** This option would be consistent with the concepts included in the General Plan and Bicycle/Pedestrian Master Plan. As with Option 1, this concept may also accommodate either a Class I or Class II bicycle facility along the corridor within newly created spaces. Through the creation of large new spaces on the sides of the roadway (rather than the median), Option 2 could provide greater opportunities than Option 1 to create facilities better integrated into the future land use scheme for the corridor.

Suggested improvements along the corridor provided in Option 1 associated with exiting highway traffic are also included in this concept.

**Option 3.** This option would be consistent with the concepts included in the General Plan and Bicycle/Pedestrian Master Plan. As with the other options, this concept may also accommodate either a Class I or Class II bicycle facility along the corridor within newly created spaces. Through the creation of large new spaces on one side of the roadway (rather than the median), Option 3 could provide greater opportunities than Option 1 to create facilities better integrated into the future land use scheme for the corridor.

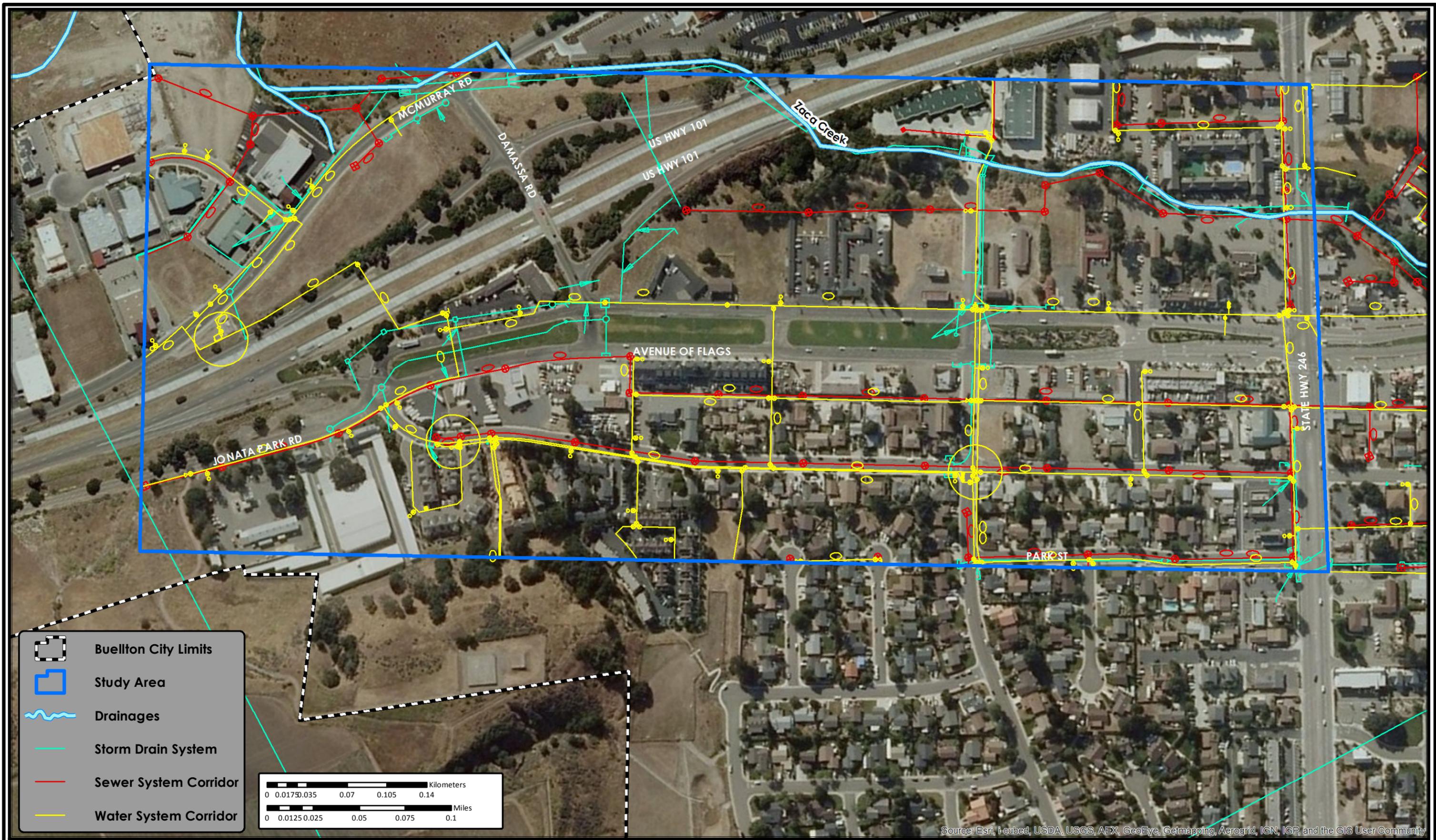
However, unlike the other scenarios, Option 3 may provide an opportunity to use the abandoned southbound right-of-way as a Class I bicycle boulevard, or outdoor public space that would integrate pedestrian and bicycle facilities into the fabric or future land uses that might front on this previously-used portion of the AOF right-of-way.

**Conclusion:** *Although each option can accommodate planned bicycle and pedestrian facilities, Option 3 is potentially superior to the other concepts. Not only is this concept compatible with the City's long-range planning policy framework, it may provide a unique design opportunity to re-use the current southbound lanes of the Avenue in a manner that integrates bicycles and pedestrian facilities into the fabric of a newly created downtown.*

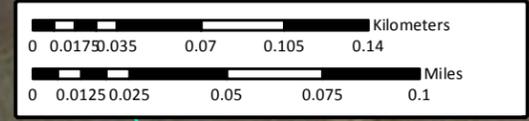
### 3.4 INFRASTRUCTURE

#### Existing Conditions and Issues

Roadway reconfiguration has the potential to disrupt existing water and sewer infrastructure in the area, and more crucially, make access to these lines more difficult by accommodating future building construction on top of what is now simply a public roadway. For example, an existing water main runs underneath the eastern portion of the Avenue (Figure 6). If this side of the roadway were abandoned, and transferred to private ownership for future development, the potential exists for this infrastructure to become inaccessible without a substantial disruption of future land uses. With respect to drainage, portions of the Avenue are within the 100-year flood zone (Figure 7), and current culverts to Zaca Creek are undersized. These issues are discussed in the analysis that follows.



-  Buellton City Limits
-  Study Area
-  Drainages
-  Storm Drain System
-  Sewer System Corridor
-  Water System Corridor



Source: Esri, Intel, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



source(s):  
 Water System CAD data provided by City of Buellton Feb 2012  
 Sewer System CAD data provided by City of Buellton Feb 2012  
 Storm Drain CAD data provided by City of Buellton Feb 2012

**City of Buellton**  
 Avenue of Flags Corridor Constraints Study

**Figure 6**  
**Infrastructure**

As shown in Figure 6, existing water main lines currently lay under the eastern portion of the Avenue. Lateral connections to this mainline within the AOF right-of-way also follow the alignments of:

- Second Street;
- the break in the median between Second Street and Damassa Road; and
- midway between Damassa Road and where AOF intersects Central Avenue.

According to the City of Buellton Public Works Department, most of the existing water system is about 50 years old, although some more recent developments in the City have upgraded piping. Fire flows are adequate and, other than routine maintenance, the system does not need any foreseeable upgrades. Thus, long-term access to water mains would be primarily needed for maintenance or to make unforeseen repairs. Water supply is sufficient to serve the area.

Zaca Creek is the primary drainage feature affecting the Avenue, as it runs generally parallel to, and east of, the roadway. Portions of the Avenue are within the 100-year flood plain of Zaca Creek (Figure 7). Thus, the higher ground along the roadway is generally on the western side of its alignment. Storm drainage facilities are located on the eastern (downslope) side of the Avenue north of Damassa Road, as well as underneath the median north of Damassa Road.

A sewer line runs underneath the western portion of the Avenue ultimately following the alignment of Jonata Park Road, generally north of Damassa Road. The City's overall wastewater collection system is in relatively good shape, although the Public Works Department plans to replace or rehabilitate some of the old brick manholes in the system, as needed.

This analysis identifies a key infrastructure issue to be examined in this study:

- ***I-1. Potential access difficulties with existing utility infrastructure.*** *To what extent will the corridor concepts interfere with or create opportunities for access to existing infrastructure?*

### **Description and Analysis of Key Issues**

The issues identified related to potential conflicts with buried utility infrastructure are analyzed in the following section.

#### **I-1: Potential Access Difficulties with Existing Utility Infrastructure**

**Option 1.** Since this concept would generally maintain the current roadway configuration, Option 1 would not impede access to any of the existing infrastructure facilities described above. The removal of one lane in either direction adjacent to the median would not affect any existing water or sewer lines. It should be noted, however, that any future development within the median area should

be designed to maintain access to lateral water and drainage infrastructure where they cross the AOF right-of-way.

**Option 2.** This concept would reconfigure the portion of the Avenue north of Second Street to meander through the center of the existing median. The areas that are currently paved would then be reused, either as future development, or into a redesigned open space system as part of a larger downtown development concept.

By reconfiguring the roadway, and potentially constructing buildings on newly created space, this may create difficulties in accessing and maintaining current utility infrastructure. This would be especially true for the existing water main under the eastern side of the Avenue north of Second Street, and possible the mid-block crossing between Second and Damassa. If portions of the eastern side of the roadway were abandoned, and transferred to private ownership for future development, the potential exists for this infrastructure to become inaccessible without a substantial disruption of future land uses.

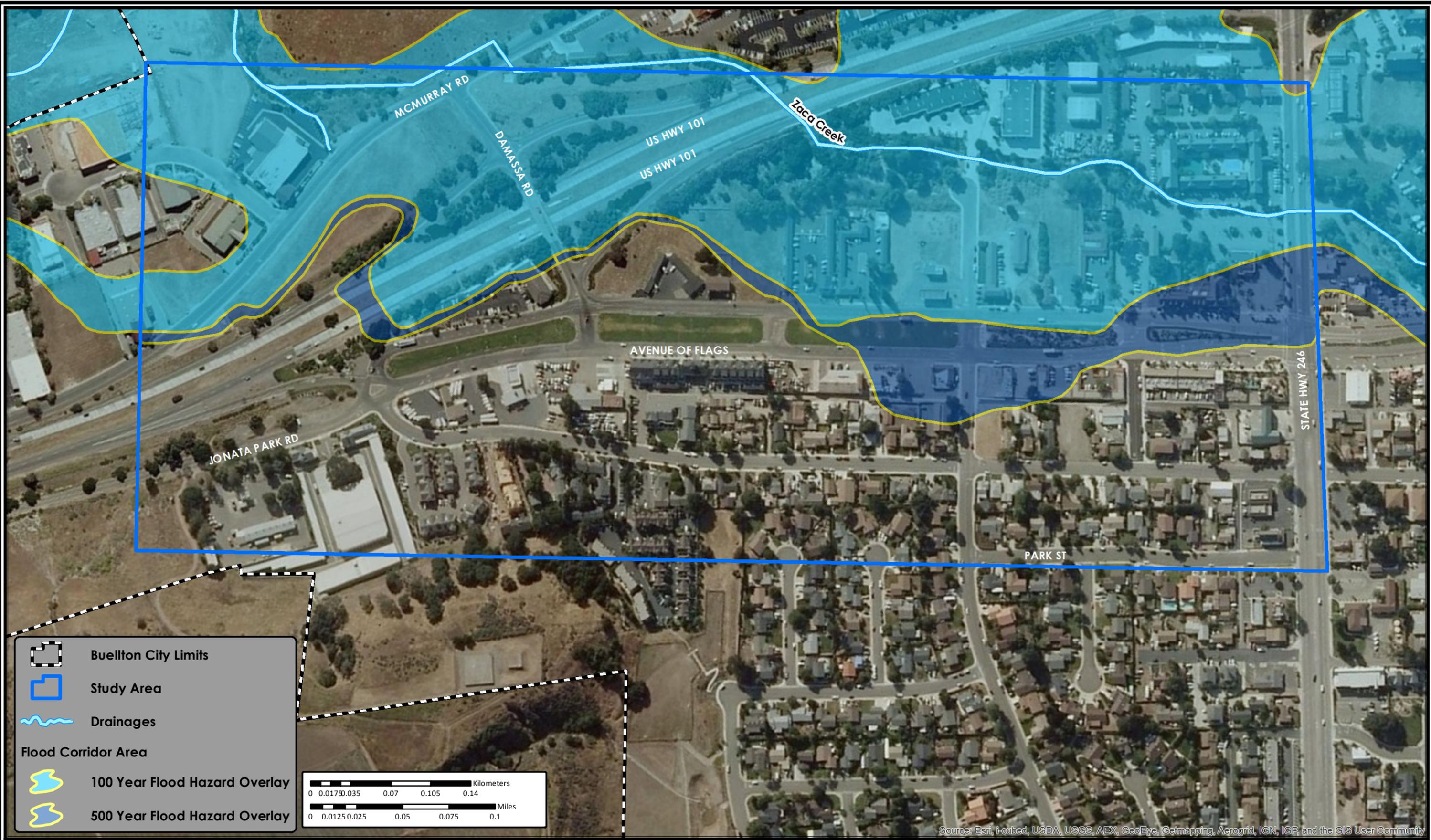
**Option 3.** Abandonment of the western side of the roadway and continued use of the eastern side would retain access to existing water main infrastructure that is aligned along the eastern side of the right-of-way. From this perspective, it is superior to Option 2. Access to an existing sewer line that runs beneath the western side of the AOF right of way generally north of Damassa Road would be retained, because a proposed roundabout at that location would provide a transition that maintains the western segment of the roadway north of this point.

**Conclusion:** *Option 1 would result in the fewest access constraints to exiting utility infrastructure. Option 3, where the roadway is aligned along the eastern portion of the existing right-of-way, would also present relatively few constraints. Option 2 presents substantial constraints relative to access to the existing water main along the eastern side of the Avenue, and would likely require relocation of that facility to be integrated into the future roadway design.*

### 3.5 DRAINAGE AND FLOODING

#### Existing Conditions and Issues

Much of Buellton is subject to flooding, and in the case of the study area, the primary flood hazard comes from Zaca Creek, which runs roughly parallel to, and east of, the Avenue of Flags. During a 100-year storm, the creek overflows its channel and floodwaters flow down Highway 101 and through the Avenue of Flags/Highway 246 area. The culverts under Highway 101 and Highway 246 through the Avenue of Flags and Pea Soup Andersen property are currently restricted in handling the 100-year flow. Figure 7 shows the FEMA mapped flood hazard areas.



FEMA maps indicate that the eastern half of the roadway on south of Second Street is within the 100-year flood zone. This may have ramifications about an appropriate roadway reconfiguration. For example, if the road right-of-way were abandoned on the east side and given over to other land uses, this new development would be subject to the safety requirements and/or insurance constraints posed by being within the 100-year flood zone, as per S-3 of the City's General Plan Safety Element. In addition, depending on how the roadway is reconfigured, it could exacerbate the existing problem by creating an artificial impoundment area that creates additional flood concerns. According to the City's General Plan Public Facilities and Services element, one location that is known to need additional drainage capacity is the intersection of Avenue of Flags and Second Street. Previous projects set up the system to be improved; however the portion of the system across Avenue of Flags has been postponed until the master planning of the Avenue of Flags is completed.

This analysis identifies two key drainage issues to be examined in this study:

- ***D-1. Potential flood hazard exposure.*** *To what extent will the corridor concepts expose future downtown development to flood hazard?,*
- ***D-2: Opportunities to improve drainage facilities.*** *To what extent will the roadway concept create opportunities for improvement of drainage facilities?*

### **Description Analysis of Key Issues**

The purpose of this section is to analyze potential constraints associated with the proposed roadway alignments. The issues identified as the primary constraints related with the implementation of the proposed project within drainage are outlined in the following section.

#### **D-1: Potential Flood Hazard Exposure**

**Option 1.** Currently, the Avenue generally slopes downward from west to east and acts as the drainage route for nearby development into Zaca Creek, which is located approximately 250 to 450 feet east of the existing northbound lanes. According to the City's General Plan Public Facilities and Services element, one location that is known to need additional drainage capacity is the intersection of Avenue of Flags and Second Street.

This option would not substantially change the roadway alignment, and therefore would not expose future development along the Avenue to flood hazards to any greater extent than would otherwise occur at this time. Parcels along the east side of the Avenue south of Second Street are within the 100-year flood zone, and would remain that way under this option.

**Option 2.** This option would realign the roadway north of Second Street to meander through what is now the center of the median. In some areas, this would move the potential for development farther from Zaca Creek, but as proposed would not remove any parcels on the eastern side out of the

existing 100-year flood zone. It should also be noted that bringing potential development into what is now the median north of Second Street could expose small portions of such development to a 100-year flood hazard, roughly midway between Second Street and Damassa Road. Much of the median in this area is also in the 500-year flood zone, so development in that area would be subject to that level of hazard.

**Option 3.** The roadway would be configured along the eastern side of the current right-of-way. Thus, it would not change the existing flood hazard potential to parcels on the eastern side of the roadway. Similar to Option 2, a small portion of future development in what is now the median north of Second Street could be a 100-year flood hazard, roughly midway between Second Street and Damassa Road. Much of the median in this area is also in the 500-year flood zone, so development in that area would be subject to that level of hazard.

**Conclusion:** *Parcels along the eastern side of the Avenue would continue to be exposed to flood hazard from the 100-year storm under any option. Both options 2 and 3 could expose a small portion of future development north of Second Street to the 100-year flood zone, which is not currently the case. Overall, Option 1 is slightly superior to the other two concepts.*

#### **D-2: Opportunities to improve drainage facilities**

**Option 1.** The wide median would be retained under this option, and this provides some design opportunities to improve existing drainage issues. The median includes substantial areas of pervious surfaces, which are useful in allowing drainage to directly percolate into the ground, rather than running off as high-speed overland sheetflow, ultimately to Zaca Creek.

If future development along the Avenue incorporated Low Impact Development (LID) principles, which encourage a variety of design solutions to minimize runoff, existing flood hazard issues would incrementally improve. Narrowing the roadways is consistent with these concepts, as would be the inclusion of parks, and integrating pervious surfaces into parking areas.

Such design principles are supported by the Regional Water Quality Control Board, which has issued a helpful fact sheet to assist project planners and designers. This fact sheet can be found at: [www.waterboards.ca.gov/centralcoast/.../CA\\_LID\\_FAQ\\_05\\_20\\_2011.pdf](http://www.waterboards.ca.gov/centralcoast/.../CA_LID_FAQ_05_20_2011.pdf).

Additional information about the application of such principles can be found at the following website: <http://www.epa.gov/owow/NPS/lid/#guide>.

It is recommended that such principles be integrated into a future Specific Plan for the Avenue of Flags. If they are, there is substantial opportunity not only to reduce the area's contribution to regional flood hazard issues, but to improve water quality by minimizing runoff from future developments.

**Option 2.** By narrowing the roadway to curve through the center corridor, many design opportunities could be created to address drainage issues. The opportunities are potentially better than to what is possible under Option 1, since there will likely be less pervious roadway surface by concentrating the roadway in one location. Please refer to the reference materials cited in the discussion for Option 1.

**Option 3.** As with Option 2, the narrowed roadway and creation of large contiguous parcels within the current right-of-way create many design opportunities could be created to address drainage issues. The opportunities are potentially better than to what is possible under Option 1 (but similar to Option 2), since there will likely be less pervious roadway surface by concentrating the roadway in one location. Please refer to the reference materials cited in the discussion for Option 1.

**Conclusion:** *While each approach could provide opportunities to reduce flood hazard issues through implementation of Low Impact Development Principles in future designs, Options 2 and 3 may provide the best opportunities for this, since they will create large contiguous parcels that can be more effectively master planned to integrate such concepts.*

#### 4.0 SUMMARY AND CONCLUSIONS

Table 5 below summarizes the conclusions of the study. In general, each concept is consistent with the principles set forth in the General Plan and Community Vision. However, there are key differences related to potential constraints that each would face. Although most of these constraints can be addressed for any option, a key consideration is cost, both in terms of the money needed to design and implement these ideas, but also potential trade-offs relative to the degree to which the long term Vision is realized relative to the expectations of the community.

Overall, as shown in the table, Option 1 would be the easiest to implement, because it requires the least disruption of the existing roadway alignment, as well as utility infrastructure. At the same time, it is probably the option that does the least to achieve many of the community's long-range goals relative to creating a dense, vibrant downtown core such as is seen in many communities where these concepts have been applied. This is ultimately because of the design challenges posed by the wide median, which by its nature makes for a sprawling area that lacks some degree of visual and functional focus that is needed to create a downtown core of the type described in the City's Community Vision.

Key Issues:	Table 5. Summary of Issues and Constraints			
	Alternative Road Alignment Concepts			Superior Option
	Option 1: Retain Median	Option 2: The Curve	Option 3: East Side Alignment	
<b>Land Use</b>				
LU-1. Access to Existing Commercial frontages	Current configuration of the roadway; access to building frontages will be retained. No substantial constraints.	Existing commercial buildings would now be roughly 115 to 120 feet from the roadway, but long-term opportunities are good.	Existing commercial uses adjacent to the western side of the right-of-way would be impacted, but long-term opportunities are better than Option 2.	Option 1 in short-term; Options 2 or 3 in the long-term
LU-2. Compatibility with Existing Residential Uses	Easiest to implement in the short-term, and is potentially less disruptive to existing residents, but would not create the envisioned downtown environment to the same extent as either of the other options.	While creating short-term challenges for existing residents, may ultimately be superior in the long-term. Would bring the roadway slightly farther from the freeway, so future residents along the Avenue may have slightly lesser noise exposure than under either options 1 or 3.	While creating short-term challenges for existing residents, may ultimately be superior in the long-term. Proximity to freeway may result in slightly elevated noise impacts compared to other options.	
LU-3. Consistency with General Plan and Vision	While generally consistent with the General Plan policy framework, would not realize the City's vision as well as either options 2 or 3.	Generally consistent with the General Plan policy framework. Provides dense environment centered on narrowed roadway that would provide better opportunities than Option 1 to create spaces and streetscape features in keeping with the Urban Design Plan, and by extension, the City's Vision for the Avenue as its downtown core.	Generally consistent with the General Plan policy framework. Provides dense environment centered on narrowed roadway that would provide better opportunities than Option 1 to create spaces and streetscape features in keeping with the Urban Design Plan, and by extension, the City's Vision for the Avenue as its downtown core.	
<b>Vehicular Circulation</b>				
VC-1. Intersection Level of Service and Delay	<p>Except for the approach to the SR 246 intersection, the intersections in the corridor would be expected to operate acceptably at LOS C or better assuming existing traffic volumes. With traffic growth expected for buildout conditions, several movements at uncontrolled intersections on the corridor would have minor movements operating unacceptably at LOS D, E and F. These include:</p> <ul style="list-style-type: none"> <li>• Southbound and Northbound movements at the US 101 SB Off-ramp</li> <li>• Westbound approach on Damassa Road at the Southbound Avenue of the Flags</li> <li>• Eastbound and westbound approaches on Damassa Road at the Northbound Avenue of the Flags</li> </ul>	<p>Intersections in the corridor would be expected to operate acceptably at LOS C or better assuming existing traffic volumes. With traffic growth expected for buildout conditions, the following movements at uncontrolled intersections on the corridor would have minor movements operating unacceptably at LOS D and E:</p> <ul style="list-style-type: none"> <li>• Southbound and Northbound movements at the US 101 SB Off-ramp</li> </ul>	<p>With a two-lane road on the east side of the median, except for the approach to the SR 246 intersection, the intersections in the corridor would be expected to operate acceptably at LOS C or better assuming existing traffic volumes. With traffic growth expected for buildout conditions, several movements at uncontrolled intersections on the corridor would have minor movements operating unacceptably at LOS D and F. These include:</p> <ul style="list-style-type: none"> <li>• Southbound and Eastbound movements at the US 101 SB Off-ramp</li> <li>• Westbound approach on Damassa Road at Avenue of the Flags</li> </ul>	Each option has advantages:  Option 1 is the most easily designed; Option 2 would operate the best in the long-term; Option 3 is a reasonably compromise between design and operation.
VC-2. Parking	This option would accommodate either parallel or diagonal parking without substantial roadway modification. Diagonal parking should not be implemented on the same side as bike lanes because of possible safety conflicts.	This option would accommodate a variety of parking design options, since the entire roadway would be designed from scratch.	This option would accommodate parallel parking, but the roadway width would need to be expanded to allow diagonal parking.	
VC-3. Feasibility of Roadway Design	This option could be very easily designed within the existing paved roadway footprint.	This option would be the most complex to design, particularly with the roundabout, but could be feasibly achieved. . Approximately 200-250 feet of transition length would be needed north of Second Street to achieve narrowing.	The most crucial element of this alignment would be the transition from the two-lane road to the roadway couplet. Approximately 200-250 feet of transition length would be needed for this conversion.	
VC-4. Truck Access	This option can be designed to accommodate adequate truck access. However, it would have a more difficult time accommodating long-term large truck parking as compared to the current condition.	Same as Option 1.	Same as Option 1.	
VC-5. Impact to Adjacent Streets	Except at Damassa Road, single lanes in each direction would adequately serve the existing and projected traffic demand in the corridor. The intersection with Damassa Road would have significant delay, which would encourage this side street traffic to seek alternative routes.	This alternative would result in the least impact to adjacent streets, including Damassa Road. The construction of the roundabout intersection would provide adequate capacity for future traffic growth, which would provide an attractive route.	Similar to Option 1.	
<b>Pedestrian/Bicycle Circulation</b>				
PBC-1. Potential Conflicts/Safety Concerns with Existing Pedestrian and Bicycle Facilities	Superior to the current condition, especially since the newly created space will allow for a variety of transportation design options. Clear sight lines and slower speeds on narrowed roads are important to promote safety of existing cyclists and pedestrians.	Similar to Option 1, but curve concept will likely produce lower automobile speeds, which is important to promote bicycle and pedestrian safety. Curving road may slightly impede sight lines from cars, which could be counter to pedestrian safety.	Similar to Options 1 and 2, but with the advantages of both. Narrowed road will reduce speeds, and straight sight lines will help make bicycles and pedestrians more visible to cars. Possibly superior overall.	All would work, but Option 3 provides unique design opportunities

<b>Table 5. Summary of Issues and Constraints</b>				
<b>Key Issues:</b>	<b>Alternative Road Alignment Concepts</b>			<b>Superior Option</b>
	<b>Option 1: Retain Median</b>	<b>Option 2: The Curve</b>	<b>Option 3: East Side Alignment</b>	
PBC-2. Compatibility with Facilities Envisioned under General Plan and Ped/Bike Master Plan	<i>This option would be consistent with the concepts included in the General Plan and Bicycle/Pedestrian Master Plan. This option would remove one lane of travel from each side of the roadway, adding the abandoned lanes to the existing median area. This space may create an opportunity to implement either a Class I or Class II bicycle facility consistent with the City's Bicycle and Pedestrian Master Plan.</i>	<i>This option would be consistent with the concepts included in the General Plan and Bicycle/Pedestrian Master Plan. As with Option 1, this concept may also accommodate either a Class I or Class II bicycle facility along the corridor within newly created spaces.</i>	<i>Consistent with the General Plan and Bicycle/Pedestrian Master Plan, as it would allow either a Class I or Class II bicycle facility along the corridor within newly created spaces. May also provide an opportunity to use the abandoned southbound right-of-way as a Class I bicycle boulevard, or outdoor public space that would integrate pedestrian and bicycle facilities into the fabric or future land uses that might front on this previously-used portion of the AOF right-of-way.</i>	
<b>Infrastructure</b>				
I-1. Potential Access Difficulties with Existing Utility Infrastructure	<i>Since this concept would generally maintain the current roadway configuration, Option 1 would not impede access to any of the existing infrastructure facilities.</i>	<i>By reconfiguring the roadway, and potentially constructing buildings on newly created space, this may create difficulties in accessing existing water main under the eastern side of the Avenue north of Second Street, and possible the mid-block crossing between Second and Damassa.</i>	<i>This option would retain access to existing water main infrastructure that is aligned along the eastern side of the right-of-way.</i>	Option 1 or Option 3
<b>Drainage</b>				
D-1. Potential Flood Hazard Exposure	<i>This option would not substantially change the roadway alignment, and therefore would not expose future development along the Avenue to flood hazards to any greater extent than would otherwise occur</i>	<i>This concept may allow development in what is now the median north of Second Street, which could expose small portions of such development to a 100-year flood hazard, roughly midway between Second and Damassa.</i>	<i>Similar to Option 2, a small portion of future development in what is now the median north of Second Street could be a 100-year flood hazard, roughly midway between Second Street and Damassa Road.</i>	All are similar, though Options 2 and 3 face slightly higher flood hazards
D-2. Opportunities to Improve Drainage Facilities	<i>The wide median would be retained under this option, and this provides some design opportunities to improve existing drainage issues. The median includes substantial areas of pervious surfaces, which are useful in allowing drainage to directly percolate into the ground, rather than running off as high speed overland sheetflow, ultimately to Zaca Creek.</i>	<i>By narrowing the roadway to curve through the center corridor, many design opportunities could be created to address drainage issues. The opportunities are potentially better than to what is possible under Option 1, since there will likely be less pervious roadway surface by concentrating the roadway in one location.</i>	<i>As with Option 2, the narrowed roadway and creation of large contiguous parcels within the current right-of-way create many design opportunities could be created to address drainage issues. The opportunities are potentially better than to what is possible under Option 1 (but similar to Option 2), since there will likely be less pervious roadway surface by concentrating the roadway in one location.</i>	
<b>OVERALL</b>	<b><i>Easily designed, and will reasonably achieve most goals</i></b>	<b><i>Best long-term roadway operations; achieves most goals well</i></b>	<b><i>Compromise between ease of design and achieving key goals</i></b>	
<i>Orange = Substantial Challenges or Constraints</i> <i>Yellow = Moderate Challenges or Constraints</i> <i>Green = Few Challenges or Constraints</i>				

## 5.0 List of Preparers

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