



Agenda Item

Orange City Council

Item #: 8.2.

9/23/2025

File #: 25-0517

TO: Honorable Mayor and Members of the City Council

THRU: Jarad Hildenbrand, City Manager

FROM: Christopher Cash, Public Works Director

1. SUBJECT

Discussion of potential traffic modifications and safety enhancements to the Orange Plaza

2. SUMMARY

Chapman Avenue and Glassell Street intersect Plaza Square, the circular roadway surrounding Plaza Park. Staff have evaluated several suggested concepts for enhancing Plaza Park, as well as modifying the Chapman and Glassell approaches to Plaza Square. These are discussed below for the City Council's consideration.

3. RECOMMENDED ACTION

Provide staff with direction on any combination of potential modifications that the City Council wishes to pursue.

4. FISCAL IMPACT

None at this time. Potential costs will vary significantly based on the specific enhancements selected and are discussed in the report. Actual fiscal impacts will be determined and reported when engineering design and construction contracts are awarded, or when a related budget appropriation is requested.

5. STRATEGIC PLAN GOALS

Goal 5: Improve infrastructure, mobility, and technology

Goal 6: Ensure the preservation of historic resources

6. DISCUSSION AND BACKGROUND

Over the years, in response to concerns over Plaza incursions, several modifications have been implemented to the approaches to the circular roadway, including the installation of reflective raised pavement markers, supplemental traffic signs, roadway delineators, and nighttime traffic signal timing modifications.

In March 2022, the City Council authorized the purchase of protective bollards to be installed at select locations along the perimeter of Plaza Park. These bollards were intended to protect pedestrian walkways within Plaza Park. Additionally, lighting upgrades were made to Plaza Park to enhance the visibility of the circle during nighttime hours. In November 2022, a construction contract was awarded, and the installation was completed in early 2023.

After a recent vehicle incursion into Plaza Park, City Council directed staff to evaluate additional options, including roadway modifications, park enhancements, and operational changes that could potentially reduce future incidents. Specifically, staff were asked to evaluate the following concepts:

1. Additional crash rated bollards
2. Boulders
3. Rumble strips
4. Nightly street closure
5. Raised median islands

Supplemental Bollards

In 2023, 16 crash-rated bollards (two at the beginning of each of the eight pedestrian walkways leading to Plaza Park) were installed, as shown in Attachment 1. These bollards were aesthetically designed in consultation with the City's historic preservation consultant and the Old Towne Preservation Association (OTPA) and placed at locations expected to most benefit pedestrians and park visitors. The configuration of the existing bollards effectively forms a row of four bollards facing each of east and westbound Chapman Avenue, and north and southbound Glassell Street.

Staff have developed a concept to augment the existing bollards, which would be achieved by adding eleven additional bollards to each row, as shown in Attachment 2. Doing so would increase the width of the existing bollard rows while also filling in the gaps between. The supplemental bollards being contemplated have been vetted through the City's historic preservation consultant and are also crash rated. Moreover, they would be slightly smaller but have a similar appearance (color and shape) to the existing 16. The additional width and density of the bollard rows effectively create barriers that substantially reduce the likelihood of errant vehicles (from any of the four directions of traffic) entering Plaza Park.

The cost of installing supplemental bollards is estimated to be approximately \$500,000.

Boulders

Depending on size and weight, boulders, whether natural or manufactured, can be heavy landscape elements with the potential to slow vehicles down; however, they are not engineered to be crash barriers. Whereas boulders, or similar objects, might be deployed in certain commercial parking lots, they are generally used in lower speed situations where impact is not expected to be head-on, and may be anchored into the ground. In the case of free-standing boulders in a potential head-on incident, there is the potential that the boulders become significantly displaced or fractured. Both scenarios could possibly result in the boulder or its fragments inadvertently causing injury or damage.

Rumble Strips

Rumble strips are commonly used on highways to provide audible and tactile information to drivers, including communicating the edge of the roadway to reduce incidents of drivers drifting off the road, or as a series of transverse (perpendicular) strips to alert motorists to slow down. While the installation cost is negligible, rumble strips are intended to generate noise. In the Old Towne setting, where residential dwellings, including mixed use buildings, are nearby, there are potential noise

impacts to residents, especially overnight.

While there are potential drawbacks, rumble strips can be implemented quickly and cost effectively.

Overnight Plaza Closure

The closure of the Plaza to vehicle traffic, specifically the circular roadway and the “spoke” streets (100 blocks of Glassell and Chapman) that feed into it, involves several considerations.

For perspective, Glassell Street and Chapman Avenue, respectively, carry approximately 800 and 1,000 vehicles, respectively, in the vicinity of the Plaza between the hours of 10PM and 5AM. Moreover, there are approximately 125 on-street parking spaces within the footprint of the potential closure area. The Plaza also serves as an emergency response route, limited truck route, and provides direct storefront access to many businesses. The closure could require late night visitors to park away from their destinations, potentially affecting businesses; leave parked vehicles stranded or needing to be towed; and increase emergency response times.

Closing the Plaza would also divert traffic onto other streets in the area. Through and regional traffic might re-route to parallel arterial and collector roads, including Batavia and Collins avenues, and Cambridge and Shaffer streets; however, traffic with a nearby destination would need to weave through the local street network, much of which is residential.

Furthermore, a nightly closure would require daily set-up and tear-down of traffic control and barriers, and availability of city crews, similar to that for special events. While the footprint of the closure would be slightly reduced compared to those for the typical Plaza events, it is still recommended that the closure perimeter be secure with barriers, as shown in Attachment 3.

The City rents barriers for special events such as Street Fair. For daily deployment, purchasing barriers would be more cost-effective. In addition, set-up, monitoring (including providing emergency vehicle access when required,) and tear-down would need to be performed by an in-house city crew. While such accommodations can be made for the occasional special event, providing this level of daily staffing would likely be infeasible within existing resources. As a result, additional staff would need to be hired, in conjunction with augmenting work responsibilities of existing personnel. Lastly, different barrier systems may be available but require additional research - and there is often an inverse relationship between capital costs and ongoing labor needs.

A rough range of estimated costs for operating this option 365 days a year (depending on barrier system) would be as follows:

- Initial Capital Outlay: \$500,000 to \$800,000
- Annual Staffing (subject to labor cost increases): \$150,000 to \$400,000

Raised Median Island

A key feature of many circular roadway approaches is the splitter island, a raised median island that increases in width as it approaches the circle. Splitter islands can serve several potential functions, including, among others, providing shelter for pedestrians, encouraging slower speeds, channelizing traffic into the circular roadway, separating in and outbound traffic, and providing an opportunity to add landscaping.

In the case of the Plaza, the splitter islands at each of the four approaches would contain landscaping designed in consultation with the City's historic preservation consultant. The result is expected to be a visible and functional roadway feature that can be seen by approaching motorists and provides the aforementioned traffic benefits. In the event that an errant or drunk driver attempts to continue straight through, the raised curb is expected to slow or stop vehicles before they reach Plaza Park. Should any vehicles reach the park perimeter, they would presumably be travelling at slower speeds.

The splitter island could also be supplemented with modified pavement markings, traffic signs, and upstream flashing beacons. Attachment 4 depicts the conceptual layout of splitter islands in the Plaza. While the introduction of raised medians would require minor reconfiguration of Street Fair vendor booths, there appear to be opportunities to re-design the layout in a manner that minimizes event impacts.

The estimated cost is approximately \$300,000.

Recommendation

Staff does not recommend installing boulders or rumble strips for the reasons mentioned above. In addition, the closure concept is not recommended due to cost and logistic challenges.

The median islands are a common circular roadway entry feature that is widely accepted to be effective in controlling approach speeds and channelizing traffic. They can also be designed to be effective entry features that are aesthetically compatible with the surrounding area.

While the raised median islands are expected to reduce frequency and severity of Plaza incursions, expanding the effective area of the crash bollards could provide an added layer of protection for both the Plaza and any occupants within.

Based on the above, staff recommend the combination of median islands and additional bollards, with a total cost of approximately \$900,000. Funding for some of these improvements would be eligible for Gas Tax expenditures with the remainder of the improvements coming from the General Fund.

Staff have previously vetted these recommended potential improvements with the City's historic preservation consultant due to its location within the Historic District. Further, these recommendations have been discussed with OTPA.

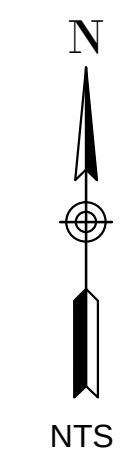
7. ATTACHMENTS

- Attachment 1 - Existing Bollard Configuration
- Attachment 2 - Enhanced Bollard Configuration
- Attachment 3 - Street Closure Schematic w/Meridian Barrier
- Attachment 4 - Splitter Island Concept

Attachment 1 - Existing Bollard Configuration

Legend:

○ Existing Bollards



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Attachment 2 - Enhanced Bollard Configuration

DRAWN	NAME	DATE	SCALE:	HORIZ. AS NOTED	VERT. AS NOTED	F.B.	PG.	SHEET #	OF ##	SHEETS
DESIGNED	DESIGN	MM/DD/YY								
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Attachment 2 - Enhanced Bollard Configuration

Legend:

- Existing Bollards
- Proposed Bollards



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Attachment 2 - Enhanced Bollard Configuration

SCALE:		HORIZ. AS NOTED	F.B. _____ PG. _____	SHEET # OF ## SHEETS
VERT. AS NOTED				##

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Attachment 3 - Street Closure Schematic w/ Meridian Barrier



Closure Example (Meridians)



Attachment 4 - Splitter Island Concept

LEGEND:
Landscape to be determine at a later time

