Santa Clara Valley Transportation Authority

Date: January 29, 2021
Current Meeting: February 10, 2021
Board Meeting: N/A

BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
Technical Advisory Committee

THROUGH: Evelynn Tran, General Counsel and Interim General Manager/CEO

FROM: Director of Planning and Programming, Deborah Dagang

SUBJECT: Fast Transit - Bus Stop Balancing

FOR INFORMATION ONLY

EXECUTIVE SUMMARY:

- This item provides an update of the Bus Stop Balancing program, an ongoing effort of VTA's Fast Transit Program to improve the speed of transit service.
- The first phase of improvements was implemented on February 8, 2021.
- This is an informational item.

STRATEGIC PLAN/GOALS:

Bus Stop Balancing aligns with VTA's business line to provide fast, frequent, and reliable transit. Optimizing bus stop spacing helps VTA's goal to reduce transit travel times and improve reliability.

BACKGROUND:

Transit riders and residents consistently tell VTA that it takes too long to get anywhere using the transit network. In fact, slow transit speeds are often the number-one complaint, and unfortunately the problem has only gotten worse over time. While Santa Clara County has grown, buses and trains spend more time in traffic, stopped at red lights, and dwelling at stops. VTA's average bus and train speeds have declined 20% in the past 30 years, and VTA's Fast Transit program aims to reverse the trend. The program takes a holistic approach to identifying and mitigating the various sources of delay.

The Fast Transit program consists of context-sensitive, short- and long-term speed improvement projects. Some are entirely within VTA's control, while others require coordination with local jurisdictions. The Bus Stop Balancing program works to "right-size" the number of bus stops in

the system, a source of transit delay that is within VTA's control. The Bus Stop Balancing program is the result of two efforts:

- **Next Network Service Plan (2016)** - During the public engagement process for VTA's transit system redesign, the community expressed a strong preference on the tradeoff between number of bus stops and speed. The community's strong preferences are the foundation for this project.
- **Fast Transit Program (2018-2019)** - This program developed VTA's transit speed policy, which serves as the agency's blueprint for tackling transit speed and reliability issues with local jurisdictions. Fast Transit examined the causes of VTA's declining speed and reliability and identified improvement projects such as the Bus Stop Balancing program.

The Bus Stop Balancing program executes two VTA policies:

- ***VTA's Transit Service Guidelines***, adopted by the VTA Board in 2018, applies industry best practices to VTA's Next Network foundation. The policy recommends bus stop spacing guidelines based on transit service class. The Bus Stop Balancing program executes the policy's ideal stop spacing, which is five stops per mile for Local routes and four stops per mile for Frequent routes.
- ***VTA's Transit Speed Policy***, adopted by the VTA Board in 2019, which establishes planning and investment policies that address the long-standing trend of declining speed and reliability. The Bus Stop Balancing program executes the policy's strategy to "remove sources of delay within VTA's control."

Although COVID-19 has changed the way we move in the region and there is less traffic, the program is long-term effort to improve transit speed beyond the pandemic.

DISCUSSION:

Bus Stop Balancing is a program to analyze VTA's bus stops and make changes where necessary (adding, removing, and moving stops) to optimize stop spacing and speed up service. The program's first phase was implemented February 8 on Routes 56, 66, and 68. The stops on these routes were much closer together than ideal and the buses spent nearly one-third of their travel time at stops. Also, riders on these routes make particularly long trips that could be greatly improved by faster bus speeds.

Community Engagement and Values

Bus stop spacing is a tradeoff that balances walking distances with transit speed. More closely-spaced stops provide customers with more convenient access, as they are likely to experience a shorter walk to the nearest bus stop. However, having too many transit stops can also slow service down, since each additional stop requires the bus to decelerate, come to a complete stop, load and unload riders, collect fares, and then accelerate and re-merge into traffic. Therefore, the number and location of stops is a tradeoff between faster service and shorter walking distances.

There is no "right answer" in this tradeoff, though VTA riders and residents have consistently

told VTA there are too many stops in the system and some should be removed to speed up service. Through a series of Next Network community engagement efforts over the course of several years, staff asked residents and riders to weigh in on the bus stop spacing tradeoff. Over 10,000 suggestions were received, many directly related to this tradeoff. Overwhelmingly, participants expressed the community's values loud and clear:

- Participants preferred more frequent, reliable service over shorter walks to bus stops.
- Participants preferred shorter transit travel times over shorter walks to bus stops. In other words, participants were willing to walk farther to bus stops in return for faster service.

These community values are the foundation of the project and guided the analysis phase.

Analysis

The analysis phase applied the community's values to suggest bus stop changes, while minimizing the number of riders who would be left with a longer walk to the bus stop. The analysis methodology was informed by best practices from five peer agencies that had successfully implemented similar campaigns. The staff recommendations were a result of interdepartmental coordination between Service Planning, Passenger Facilities, and Operations. Bus operators provided valuable suggestions from their front-line experience and staff conducted field surveys to verify that the recommendations would maintain safe walking conditions between remaining stops.

Certain areas along these routes had more closely-spaced stops compared to others. In these instances, efforts were made to ensure that any stop proposed for removal would have a stop within a quarter-mile walk. The following factors were considered to determine which stops to remove:

- Ridership levels (only stops with low ridership were discontinued)
- Transfer points (stops that connect to other routes remain)
- Nearby public services (stops near senior centers, medical facilities, and other important community services remain)
- Accessibility for mobility devices (stops regularly used by riders with mobility devices remain)
- Bus operator feedback (valuable local knowledge from those who drive the route daily helped to determine where stops should be)
- Operational and safety factors (stops may not have been in ideal places because of local conditions)
- Traffic movements (for example, stops are ideally placed after intersections instead of before intersections where right-turning cars delay buses and riders)

The data-driven analysis guided by the community's preferences, operator suggestions, and pre-pandemic ridership data suggested that 66 out of the 489 stops (13%) on the three routes should be removed (the total number of stops does not double-count where route 66 and 68 overlap).

Staff then informed riders of the proposal and sought feedback prior to making the changes.

Feedback and Implementation

Prior to implementation, staff initiated a multi-faceted effort to inform and solicit specific feedback from riders on the stops proposed for removal. This subsequent phase asked riders *how* VTA should best put in practice the tradeoff between transit speeds and the number of bus stops on these three routes. Strategies for soliciting feedback included:

- Staff posted multilingual rider notices on every bus stop along the three routes (in English, Spanish, and Vietnamese). The notices included a "You Are Here" map to direct transit riders to the nearest stop and asked for their feedback. Rider notices are included as Attachment A.
- Staff posted large advertisements at shelters along the three routes.
- The audio onboard announcement system for Route 56, 66, and 68 buses announced changes to bus stops.
- Operators helped transit riders to find their nearest stops.
- A project page on VTA's website provided analysis details, rider information, and an interactive map with all stops along the route and which stops were planned for removal and rationale (such as spacing, safety, ridership, or operational concerns).
- Staff published blogs on vta.org and weekly social media posts on Facebook, Instagram, and Twitter.

Following feedback from the community and riders, staff revised the plan. Three stops were added back so they would remain in active service. The remaining changes were implemented on February 8:

- **Route 56:** 28 out of 159 stops were removed. The remaining stops cover 95% of riders.
- **Route 66:** 29 out of 181 stops were removed. The remaining stops cover 98% of riders.
- **Route 68:** 12 out of 204 stops were removed. The remaining stops cover 99% of riders.

Next Steps

Starting later in 2021, staff will recommend stops for removal along the San Carlos and Stevens Creek corridors in the next phase of the Bus Stop Balancing program. San Carlos Street and Stevens Creek Boulevard are two high-priority corridors for the Fast Transit program. Subsequent phases of the program will continue evaluating bus stop spacing at the route level and at the corridor level.

Related Efforts

Better Bus Stops Program. In addition to right-sizing the number of stops in the system, VTA is installing amenities at bus stops all over the network through its Better Bus Stops program. The program is funded in part by 2016 Measure B and funds shelters, lighting, benches, seating, and waste collection amenities at stops. In the first cycle of this program, staff installed benches, seats, and lighting at select stops on Routes 56, 66, and 68. More bus stop improvements are

coming to these routes with shelters and improved sidewalks later in 2021.

Transit Signal Priority. Staff are working with the City of San Jose to bring transit signal priority to the Monterey corridor (Routes 66 and 68) this summer, which would give buses priority for green lights to reduce another source of delay. Staff are working with City of Sunnyvale staff to bring transit signal priority to Sunnyvale intersections along Route 56 as well.

Finally, staff will explore strategies to expedite the passenger boarding process later in 2021.

CLIMATE IMPACT:

The project has the potential to reduce greenhouse gas emissions by making small but cumulative reductions to delays on transit service. Every bus stop taken out of service from a route minimizes the number of times buses start and stop, dwell, and remain idle, which makes a cumulative impact on emissions from VTA's overall bus network.

Prepared By: Nikki Diaz
Memo No. 7637

Our Bus Stops Are Getting Spaced Out

Less stops, more go!

ROUTE 56

To make your ride on transit faster, we are proposing to remove stops where they are too close together. This means less time stopping in traffic, at red lights, and time spent picking up passengers on almost every block.

Para hacer que su viaje en transporte público sea más rápido, le proponemos eliminar las paradas que estén demasiado juntas. Esto significa menos tiempo para detenerse en el tráfico, en los semáforos en rojo y tiempo para recoger pasajeros en casi todas las cuadras.

Để làm cho chuyến đi của bạn trên phương tiện công cộng nhanh hơn, chúng tôi đề xuất loại bỏ các điểm dừng quá gần nhau. Điều này có nghĩa là ít thời gian dừng xe, ở đèn đỏ hơn và dành thời gian đón khách trên hầu hết các khu phố.

Let us know what you think!
¡Háganos saber lo que piensas!
Cho chúng tôi biết bạn nghĩ gì!

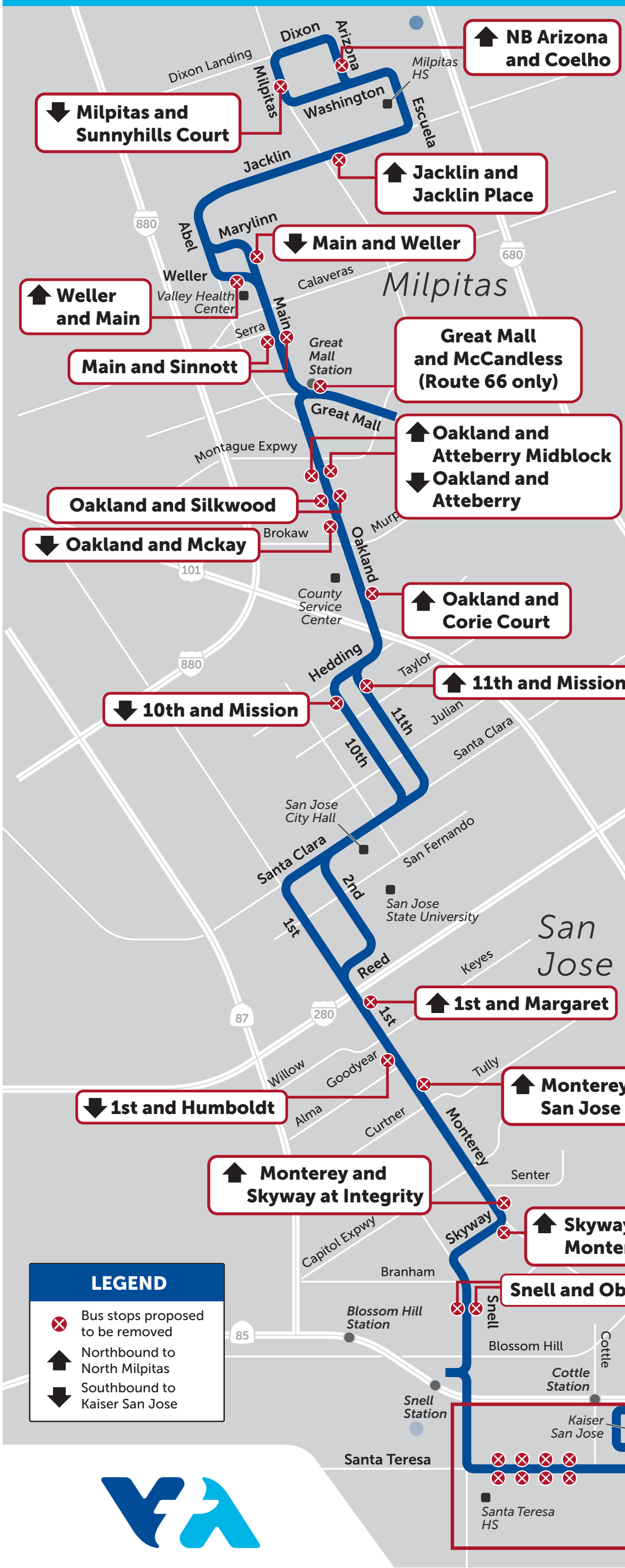
www.vta.org/BusStopBalancing
Email: *BusStopBalancing@vta.org*
408-321-5930

Effective February 8

2012-2244

Our Bus Stops Are Getting Spaced Out

Less stops, more go!



ROUTE 66

To make your ride on transit faster, we are proposing to remove stops where they are too close together. This means less time stopping in traffic, at red lights, and time spent picking up passengers on almost every block.

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Effective February 8

2012-2244

Our Bus Stops Are Getting Spaced Out

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ROUTE 68

To make your ride on transit faster, we are proposing to remove stops where they are too close together. This means less time stopping in traffic, at red lights, and time spent picking up passengers on almost every block.

Para hacer que su viaje en transporte público sea más rápido, le proponemos eliminar las paradas que estén demasiado juntas. Esto significa menos tiempo para detenerse en el tráfico, en los semáforos en rojo y tiempo para recoger pasajeros en casi todas las cuadras.

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408-321-5930

1st and Margaret

Monterey and San Jose Ave.

1st and Humboldt

Monterey and Skyway at Integrity

Cottle and Santa Teresa

Santa Teresa and Bayliss

Hale and Via Loma

Hale and Del Monte Ave
Hale and Park Plaza

Monterey and West Middle

LEGEND

- Bus stops proposed to be removed
- Northbound to San Jose Diridon
- Southbound to Gilroy Transit Center

Effective February 8

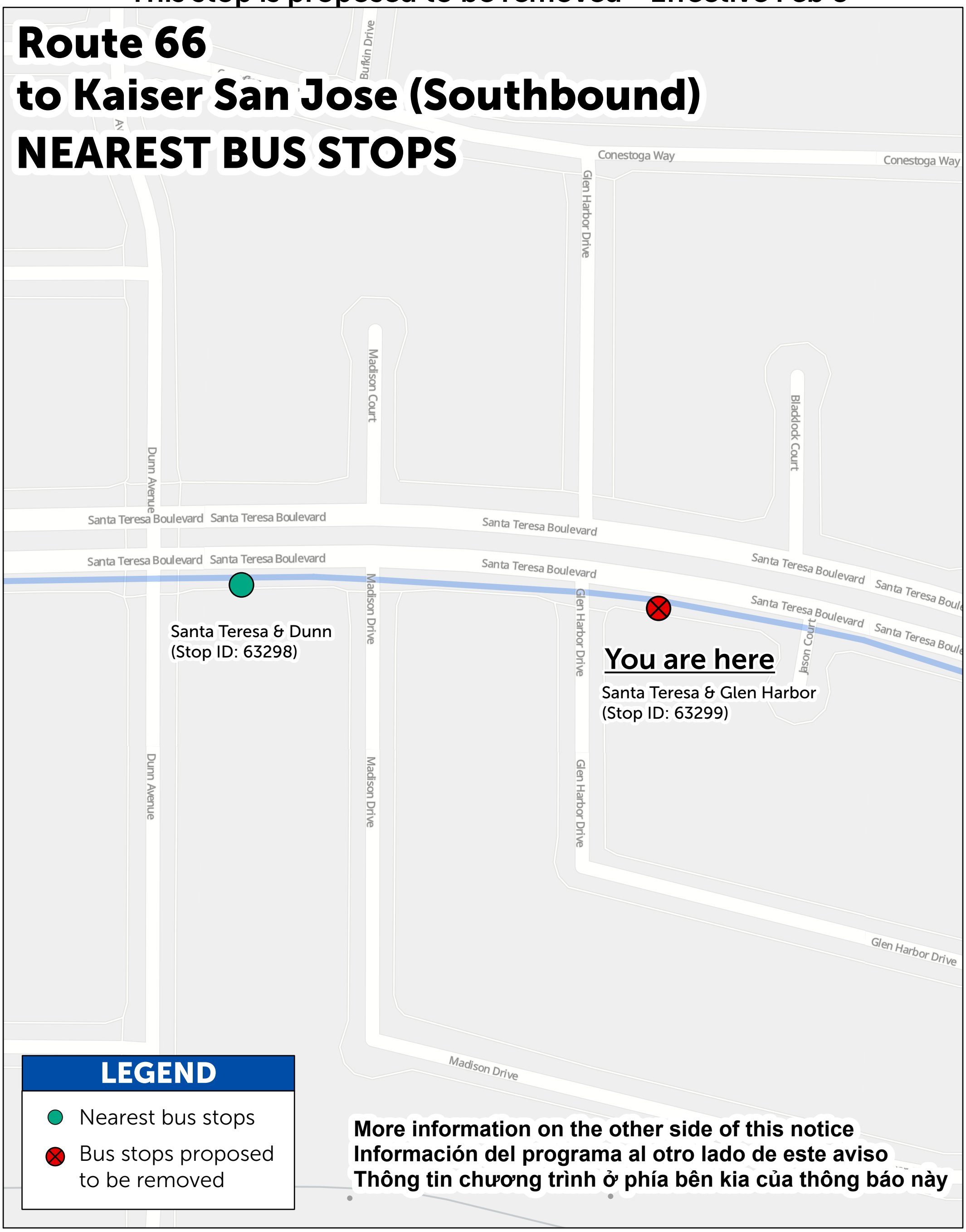
2012-2244

Our Bus Stops Are Getting Spaced Out

Less stops, more go!

This stop is proposed to be removed - Effective Feb 8

Route 66
to Kaiser San Jose (Southbound)
NEAREST BUS STOPS



LEGEND

- Nearest bus stops
- Bus stops proposed to be removed

More information on the other side of this notice
Información del programa al otro lado de este aviso
Thông tin chương trình ở phía bên kia của thông báo này

Fast Transit
Bus Stop Balancing

February 2021

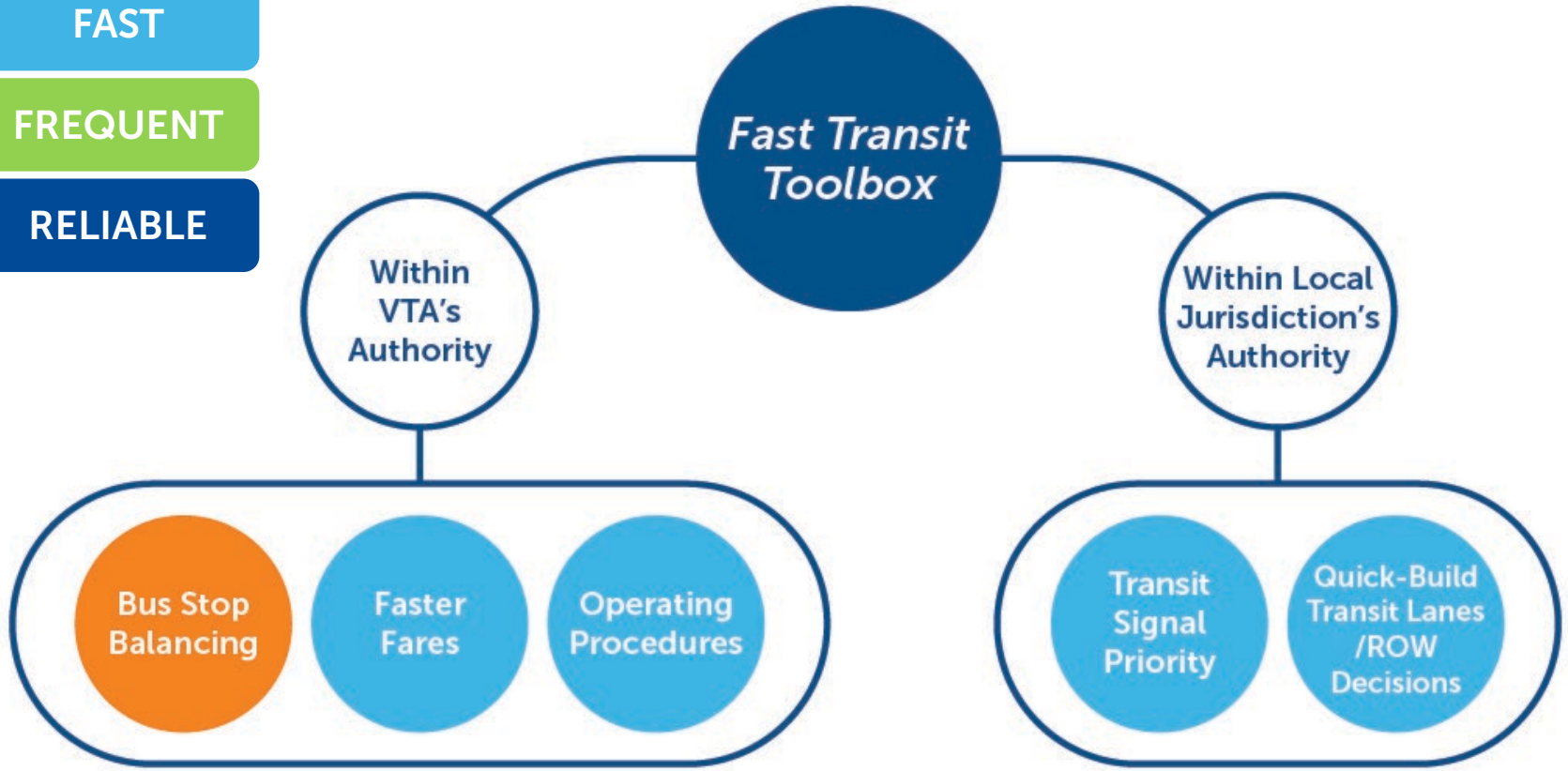
Santa Clara Valley Transportation Authority

Solutions that move you

FAST

FREQUENT

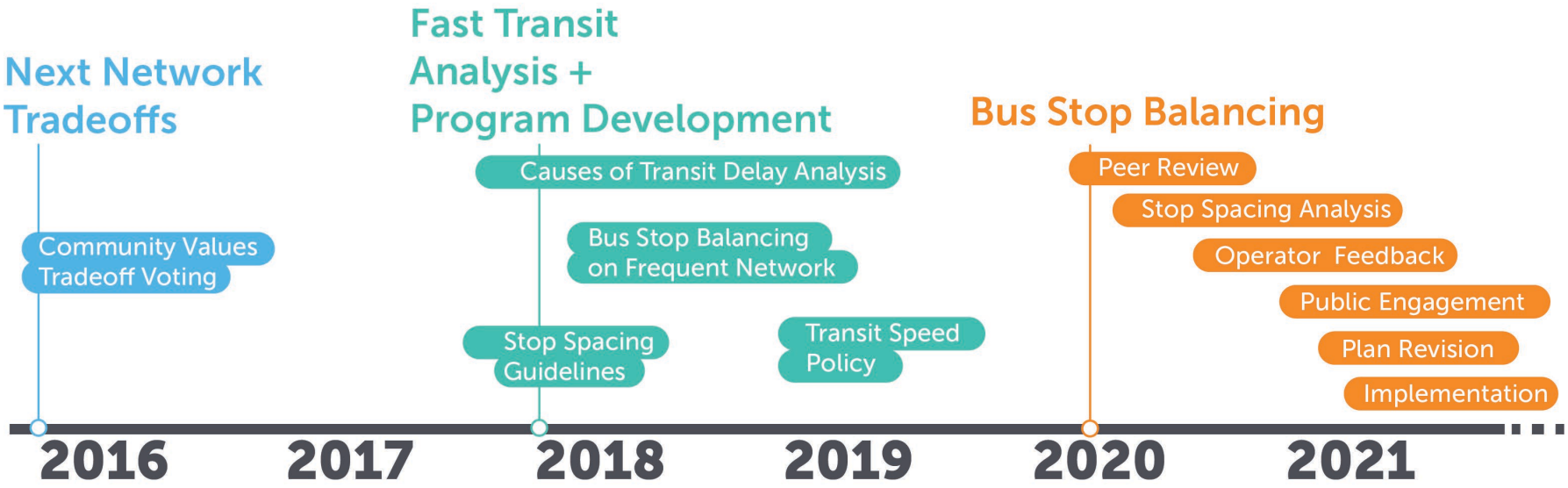
RELIABLE



Balancing stops is within VTA's control to reduce transit delay

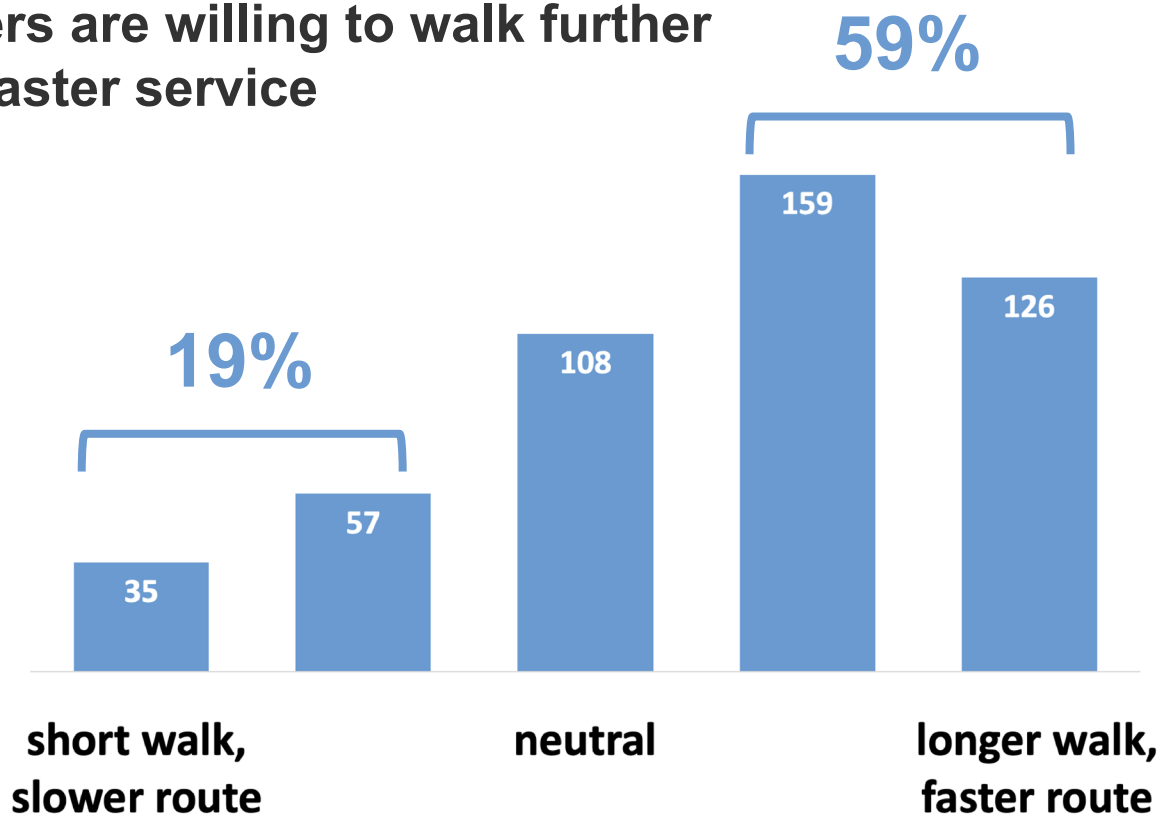
Solutions that move you

Bus Stop Balancing is a long-term program to speed up buses



Solutions that move you

Riders are willing to walk further for faster service

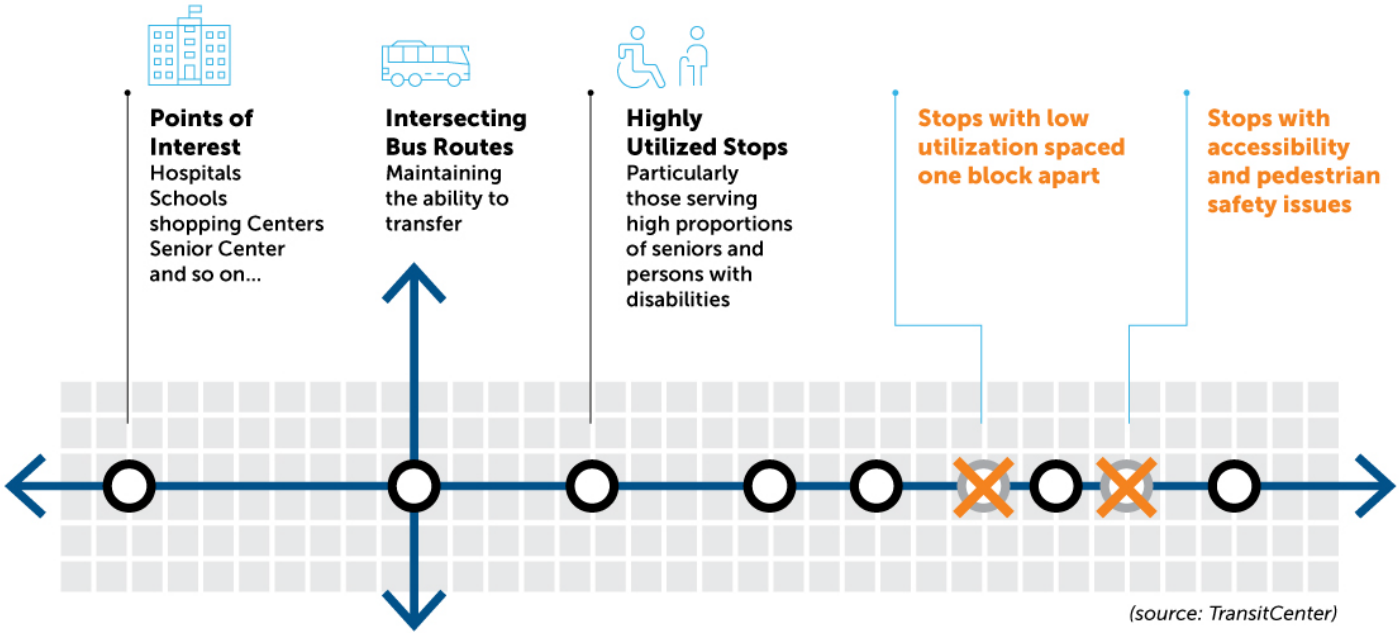


Solutions that move you

Solutions that move you

Some bus stops are too close together

The Basics of Bus Stop Balancing



Most stops are kept, especially near community destinations
For stops removed, the nearest stop was looked at for accessibility

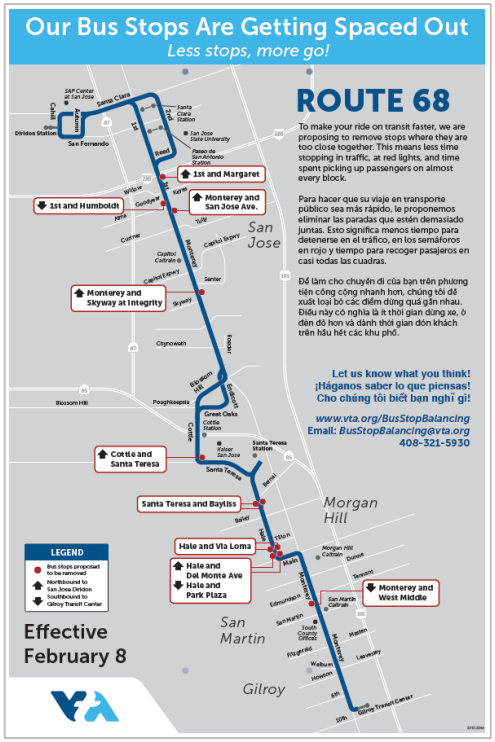
Route 56
18% of stops removed
95% of riders not impacted

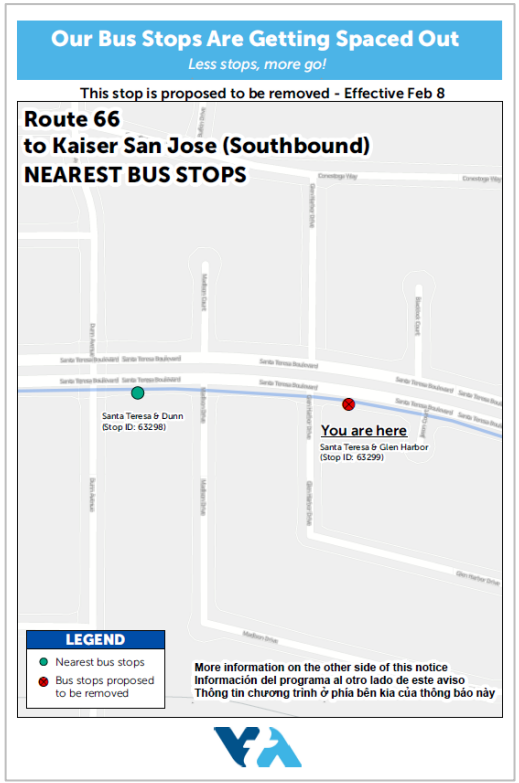
Route 66
16% of stops removed
98% of riders not impacted

Route 68
6% of stops removed
99% of riders not impacted

Rider feedback resulted in 3 stops removed from consideration

Notices





Solutions that move you

Next Steps

- Evaluate results
- Next phase of corridors late 2021

2021 Related Efforts

- Transit Signal Priority on routes 56, 66, 68
- Planned bus stop improvements
- Faster Fares (expedited boarding)

Summary

- Bus Stop Balancing focuses on “right-sizing” the number of bus stops
- Bus Stop Balancing is one part to achieving faster transit for all riders
- This is an information item