BERKELEY CITY COUNCILMEMBER
TERRY TAPLIN
DISTRICT 2

CONSENT CALENDAR
JuneMarch 21, 2023

To: Honorable Mayor and Members of the City Council

From: Councilmember Terry Taplin (Author)

Subject: 51B Bus Rapid Transit

RECOMMENDATION

1) Refer to the City Manager commencement of a feasibility analysis and community engagement process to develop options for the implementation of Bus Rapid Transit (BRT) improvements along AC Transit's 51B route; options are to be developed in tandem with internal city departments, including Public Works, Fire, and Economic Development, and interagency partners, including AC Transit, the Alameda County Transportation Commission, and UC Berkeley Bear Transit; community engagement is to emphasize students, transportation advocates, transit riders, the disability rights community, the faith community, the senior community, local merchants, and tenants; consultation with AC Transit and UC Berkeley Bear Transit on planning, scoping, and implementation is to begin as soon as possible.the development of an implementation and community engagement plan to install Bus Rapid Transit, including dedicated bus lanes, transit signal priority, elevated platforms, and enhanced sections, on the AC Transit 51B route along University Avenue from Sixth Street to Shattuck Avenue and along Shattuck Avenue from University Avenue to Durant Avenue, with engagement centering pedestrian, cyclist, transit and mobility justice advocates, the disability rights community, local faith communities, merchants, neighboring residential communities inclusive of tenants, seniors, and students, and historically marginalized communities.

2) Refer $150,000 to the FY 2025-2026 budget process for consulting costs to conduct corridor studies along University Avenue, from Seawall Drive, to Oxford Street, and along Oxford Street and Fulton Street, from Virginia Street to Durant Avenue, to identify appropriate road safety improvements that advance city-adopted safety, transportation, and climate goals and are continuous with work currently underway on the Addison Bicycle Boulevard, and explore improvements for curb management, i.e. accessible parking (blue curbs), loading zones for third party deliveries, etc.300,000 to the Fiscal Year 2024-2025 Budget Process to conduct a Complete Street Corridor Study antecedent to the installation of a cycle track along University Avenue from 6th Street to Oxford Street, consistent

~~with the City of Berkeley's 2017 Bicycle Plan and integrating pedestrian amenities consistent with the City of Berkeley's 2020 Pedestrian Plan. As per the Bicycle Plan, the study will be evaluated in the context of the modal priorities established by the City of Berkeley General Plan's 2001 Transportation Element and the Alameda County Transportation Commission's (ACTC) 2016 Countywide Multimodal Arterial Plan.~~

~~3)~~ Refer $150,000 to the FY 2025-2026 budget process for consulting costs to conduct a comprehensive accessibility analysis of the city's 4-way intersections and return recommendations to achieve uniformity and consistency of ADA improvements, i.e. width of curb cuts to accommodate wheelchair access, auditory functions of crossing signals, siting of facilities, bulb-outs, shortening crossing distances, and other safety improvements where appropriate and optimal.~~300,000 to the Fiscal Year 2024-2025 Budget Process to conduct a Complete Street Corridor Study antecedent to the installation of a cycle track along Oxford Street from Virginia Street to Durant Avenue consistent with the Bicycle Plan and integrating pedestrian amenities consistent with the Pedestrian Plan. As per the Bicycle Plan, the study will be evaluated in the context of the modal priorities established by the Transportation Element and ACTC's Countywide Multimodal Arterial Plan. It will be coordinated with proposed improvements to transit performance on this Primary Transit Route, such as bus boarding islands, transit-only lanes, transit signal priority/queue jump lanes, far-side bus stop relocations, and other improvements as described in AC Transit's 2016 Major Corridor Study.~~

3)

~~4) Refer $X to the Fiscal Year XX-XX Budget Process to install quick-build bus station improvements along the AC Transit 51B route.~~

~~5) Initiate consultation with AC Transit and UC Berkeley Bear Transit as soon as possible on the planning, scoping, and implementation of these items.~~

BACKGROUND

Existing Transit Lanes
Currently, Berkeley has a transit lane on Bancroft Way between Telegraph and Downtown that is used by westbound buses, and a transit lane is planned for Durant Ave for eastbound buses. Bus lines using these lanes continue on to Shattuck, University, and Telegraph.

Shattuck, University, and Telegraph Avenues
Berkeley's University Avenue runs West to East from the Berkeley Marina and I-80 Freeway to its termination at UC Berkeley's Crescent Lawn. University Avenue is dubbed the "Gateway to Berkeley" due to the location of the city's lone Amtrak Station at the intersection of Fourth Street, the avenue's proximity to both the North Berkeley and Downtown Berkeley BART stations, the regularly congested I-80 exit onto the avenue, and the service of AC Transit's 51B, 52, 79, 88, 802, and FS lines. University

Avenue is a wide street with two travel lanes in each direction, parking lanes, turn pockets, and a center median.

As the map below illustrates, the intersections of Ninth Street at University and Addison, respectively, are especially critical for safety at Rosa Parks Elementary.

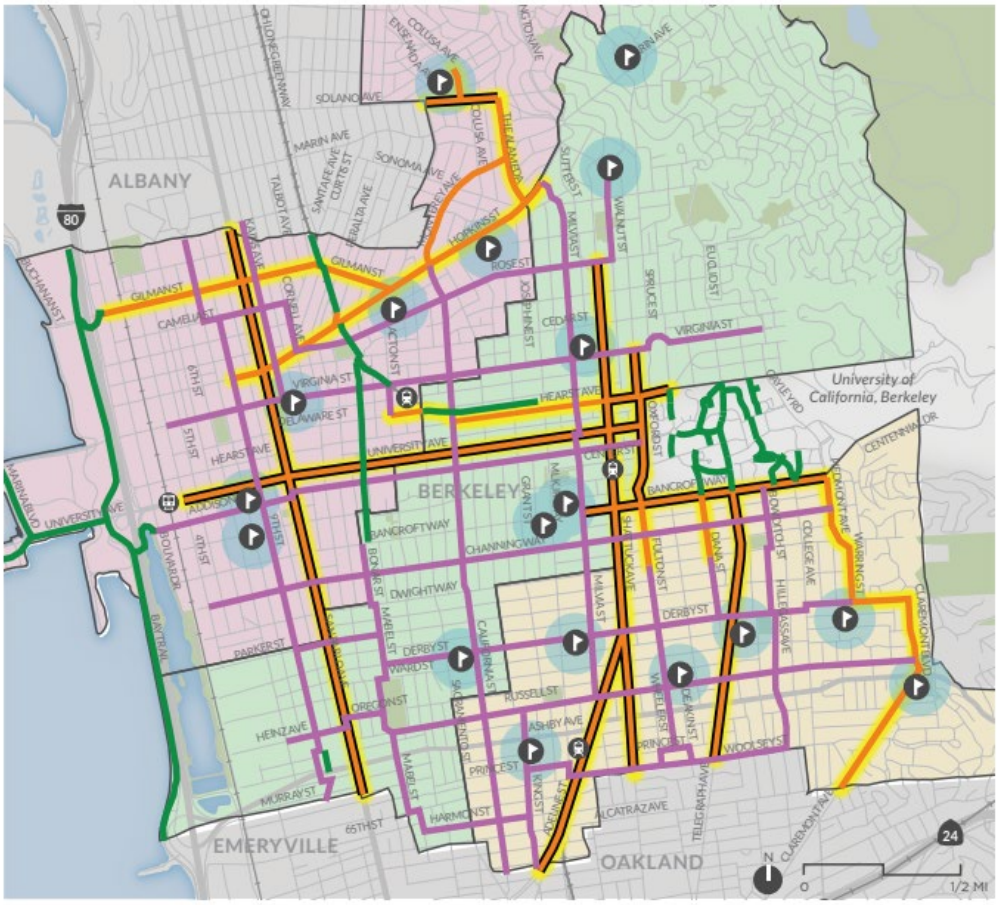


FIGURE 5-2: LOW-STRESS BIKEWAY NETWORK VISION WITH BERKELEY SCHOOLS

- PAVED PATH
- BICYCLE BOULEVARD NETWORK
- CYCLETRACK [4]
- COMPLETE STREET CORRIDOR STUDIES - LOW STRESS BIKEWAY RECOMMENDATION
  - STUDY CYCLETRACK [4]*
  - PRIMARY TRANSIT ROUTE - STUDY CYCLETRACK [4]*
- SCHOOL WITH 1/8 MILE BUFFER
- ENROLLMENT BOUNDARIES

2017 Bicycle Plan

Berkeley's Shattuck Avenue runs North to South from Indian Rock Park in the Berkeley Hills to 45th Street in Oakland near the intersection of Telegraph Avenue. Shattuck Avenue serves as the main street of Berkeley, running through its Downtown, which is home to the Downtown Berkeley BART Station, AC Transit and Bear Transit stations, and various restaurants and office spaces.

Telegraph Avenue, from Woolsey Street on the Oakland border up through Dwight Way near UC Berkeley, is in the midst of its own Multimodal Corridor Project[1] that may result in BRT infrastructure in the coming years. Should this project be completed or significantly underway at the time of the development of BRT plans for Shattuck and University Avenues, close attention should be paid to its initial impacts, successes, and failures so that future applications of BRT infrastructure build on these lessons.

Bus Rapid Transit

While diverse in their application around the world, Bus Rapid Transit is typically a transportation corridor that prioritizes fast and efficient bus service that may include dedicated bus lanes, traffic signal priority, elevated platforms, and off-board fare collection.[2] There is no one-size-fits-all approach to BRT and a University Avenue BRT is sure to look different than it might on Telegraph Avenue or International Boulevard in Oakland. However, pursuit of a quicker and more efficient bus corridor along University should result in dedicated bus lanes and elevated platforms at existing AC Transit stops. Most transit planners consider center running bus lanes--such as provided on International Boulevard and Van Ness Avenue in San Francisco--as more effective than curbside bus lanes. However, this would have to be determined in the course of planning the project. Relative to other rapid transit improvements such as light rail, BRT's advantages include lower upfront capital requirements, a higher degree of flexibility in their application, and a much quicker implementation timeline.[3]

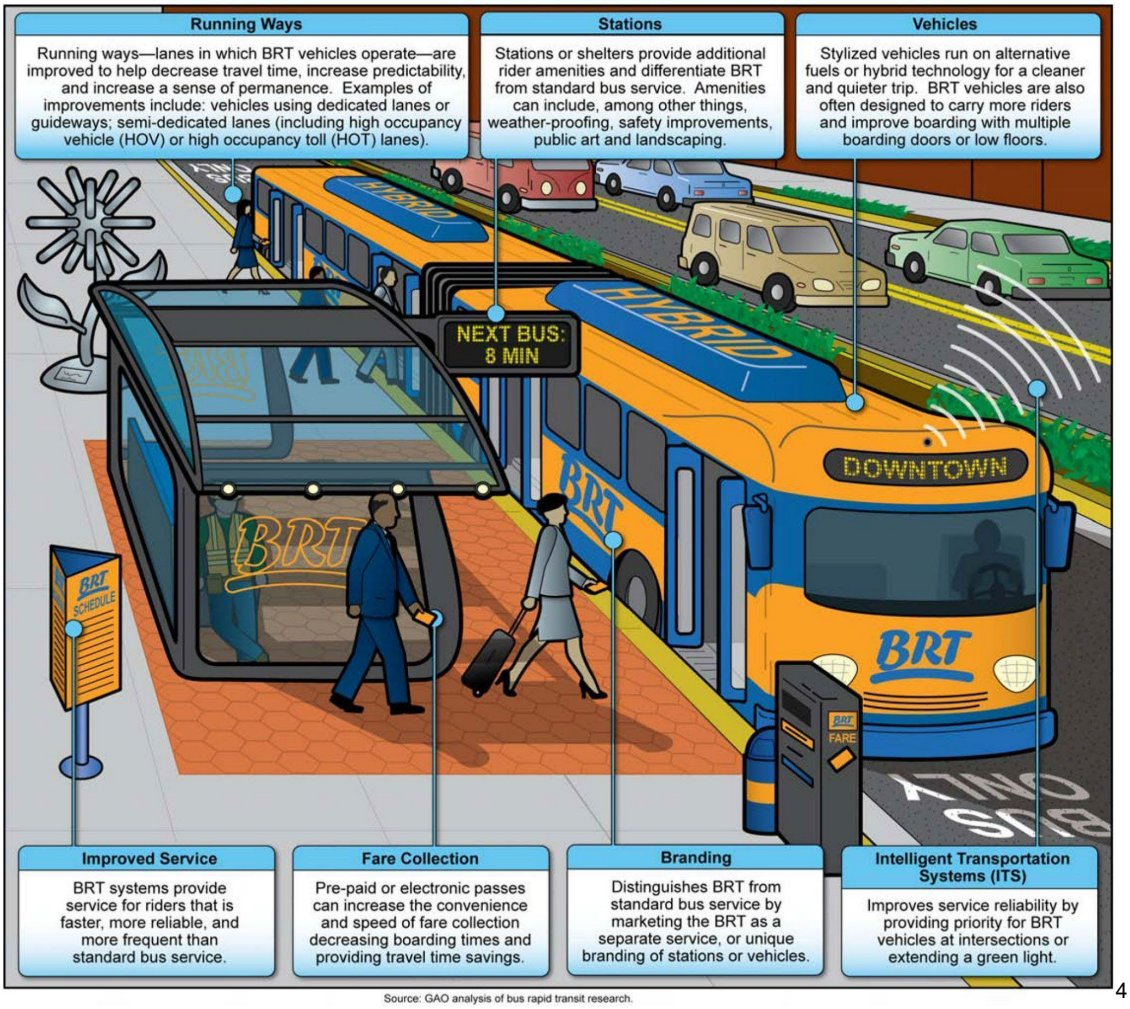
[1] https://berkeleyca.gov/your-government/our-work/capital-projects/telegraph-avenue-multimodal-corridor-project#:~:text=The%20Telegraph%20Avenue%20Multimodal%20Corridor,bike%20lanes%2C%20and%20transit%20improvements.

[2] https://www.transit.dot.gov/research-innovation/bus-rapid-transit

[3] https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1023&context=jpt

Van Ness Avenue, San Francisco

Figure 1: Characteristics of Bus Rapid Transit



Source: GAO analysis of bus rapid transit research.[4]

Population Trends

According to the City of Berkeley's 2023 Housing Element Update,[5] the city's population has grown steadily since 2000, increasing approximately 9% each decade. The Department of Finance estimates that the city's population was 122,580 in 2020. The Association of Bay Area Governments' Plan Bay Area 2040 projections anticipate Berkeley's population to reach about 136,000 by 2030 and 141,000 by 2040.

Pedestrian Collisions

The City of Berkeley's 2020 Pedestrian Plan[6] determined that Shattuck and University Avenues represent two of the top five streets with pedestrian collisions between 2008 and 2017, ranked first and fifth, respectively, as well as two of the top four streets with fatal or severe pedestrian collisions in the same time period, ranked first and third (tied) respectively.

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[4] https://www.gao.gov/blog/2016/04/13/rapid-buses-for-rapid-transit

[5] https://berkeleyca.gov/sites/default/files/documents/Combined_HousingElementFinal_redline.pdf

[6] https://berkeleyca.gov/sites/default/files/2022-01/2020-Pedestrian-Plan.pdf

AC Transit

In AC Transit's 2019 Annual Report[7], they reported a systemwide ridership of over 53 million customers, reflecting a 2.5% increase (1.28 million riders) over the previous year. This occurred at a time when major transit providers nationwide reported a ridership decline of 2.8%. Key factors attributed to this growth included proactive efforts to maintain high service levels, adding service frequency, and a robust local economy. That same year, AC Transit released its first Strategic Plan[8] in about 20 years. In April of 2022, an Addendum[9] was added to address the effects of the ongoing COVID-19 pandemic.

The pandemic has had an enormous impact on transit operations and economic activity. In 2020, fewer people needed to ride the bus, whether to commute to work or get around the city for personal errands and activities. Schools and colleges closed their campuses and several office workers began working from home. Although there has been a recovery in ridership[10] beginning in 2021, pre-pandemic levels have not been reached. Fiscal Year 2021-2022 saw an annual ridership of almost 29 million customers, which was a 36% increase (7.6 million riders) over the previous fiscal year. Service is at around 85% of pre-pandemic levels, which is the equivalent of deleting one out of every seven trips.

Feedback Received

The District 2 Council office solicited feedback from the community through several in-person and virtual listening sessions in the development of this item. A rough outline of stakeholder engagement follows:

On February 24, 2023, Maulin Chokshi of the University Avenue [Merchants] Association emailed the Berkeley Chamber of Commerce regarding this item's scheduled committee hearing, and stated regarding recent pedestrian crossing improvements to University Avenue, which was forwarded the District 2 office: "The bulb-outs are a mess to drive around and [I am] not personally for it." At subsequent public meetings, Mr. Chokshi reiterated his opposition to transit priority lanes and pedestrian safety improvements to the extent that they compete for space with on-street parking.

On March 2, during the initial FITES Committee hearing, the Berkeley Chamber of Commerce offered to co-host a hybrid listening session with my office geared toward chamber members and the business community at large. The committee also recommended that the meeting be open to community members in Central Berkeley and Downtown.

[7]https://www.actransit.org/sites/default/files/2021-03/0017-20%20Annual%20Report%202019_small_FNL.pdf
[8]https://www.actransit.org/sites/default/files/2021-03/AC%20Transit%20Strategic%20Plan.pdf
[9]https://www.actransit.org/sites/default/files/2022-12/0230-22%20Strat%20Plan%20Adden_FNL.pdf
[10]https://www.actransit.org/ridership

On April 5, David Mayeri from the UC Theatre emailed Council, City Manager, and District 2 staff to express his disapproval of any BRT improvements that would remove even a single parking space or lane as well as any bike lane improvements, emphasizing that these improvements would negatively impact the UC Theatre's load-ins and customer access to parking. Mr. Mayeri stated that the city's Bicycle Plan is outdated and that the city should address its climate goals by subsidizing e-bikes for residents.

On April 10, the Berkeley Chamber of Commerce and the District 2 office held a hybrid listening session at the UC Theatre and online via Zoom, in which community members emphasized a desire to see the city analyze and improve accessibility for mobility and vision-impaired community members at the city's major intersections city-wide. Community members also recommended that the city's disaster and fire policies be included among reviews of pertinent city policies and that the Berkeley Fire Department be brought on as an early and continuous internal stakeholder. Attendees also cited potential tradeoffs between median trees and parking lanes in the case that staff eventually recommend transit lanes. One community member expressed a preference for tree-lined sidewalks. Maulin Chokshi from the University Avenue Association cited potential parking space losses as a concern.

On April 25, the District 2 office met with representatives of the Berkeley Fire Department, which emphasized its willingness to work with city staff as a close partner throughout the city manager's community engagement process.

On April 26, the District 2 office accompanied a vision-impaired community member on a walking tour of the major intersections in the vicinity of Civic Center and the Downtown BART station to discuss irregularities and inconsistencies in the siting and width of curbing cuts and the timing and signaling of auditory crossing systems.

On May 24, the District 2 office met with representatives of the Center for Independent Living, who emphasized that the standard ADA guidelines should be the floor for improvement considerations, as they often do not account for issues such as not enough room on raised platforms for multiple wheelchair users or fatigue due to inclines. Staff also highlighted ongoing concerns with unreliable updates on AC Transit's app and difficulty reading construction updates signs for individuals who are visually impaired.

On June 8, Dr. Nicola Spence from Alpha Design Custom Furniture emailed to articulate a bias against transit improvements on principle, asserting that transit improvements "destroyed" San Francisco.

On June 8, the District 2 office hosted a virtual listening session via Zoom open to the public. Attendees included staffers from AC Transit, transit riders, and commissioners from the Transportation and Infrastructure Commission and the Environment and Climate Commission. Attendees discussed inter-agency collaboration.

Responses to Feedback
The June 2023 revisions to this item have incorporated significant additions to address concerns with respect to the Americans with Disabilities Act (ADA). Uniformity and consistency are key features of accessibility improvements. The Fire Department will also be closely integrated into the scoping and planning of any corridor study.

Feedback from the University Avenue Association illustrates that infrastructure upgrades that are nevertheless consistent with already-existing City Council policy on Complete Streets may modify motorist behavior in ways that are conspicuous and consciously involuntary rather than incentivized by reflex or instinct. It is important to underscore that certain notifications to motorist behavior, such as slower speeds, are an intentional outcome of street improvements to reduce serious injuries and fatalities.

For example, surveys on other commercial corridors in San Francisco[11] and Oakland[12] have shown initial overestimations of the share of corridor patrons who arrive by personal motor vehicle vs. transit, walking, or other modes. Additionally, research has demonstrated that demand-based pricing for parking can reduce Vehicle Miles Traveled by reducing time spent searching for parking.[13] In Downtown Berkeley, the new Center Street Garage in particular has a surplus of vacant parking spaces throughout the day and has yet to regain pre-pandemic revenues. To the extent that public policy is concerned with convenience for motorists one way or another, it is important to focus on the availability or elasticity of vacant parking rather than its gross supply. This paradigm is compatible with the City's ongoing efforts to maximize the positive externalities of reduced VMT and pedestrian safety, as exemplified in the Climate Action Plan and Vision Zero Action Plan.

The community has been clear that a vibrant, mixed-use corridor such as University Avenue will need to carefully balance the need for loading zones and curbside management to accommodate commercial uses while ensuring safe access for all road users and improving public transit reliability. Neglecting this reality would risk illegally double-parked vehicles thwarting any traffic-calming efforts. Therefore, Staff's consultation with merchants and logistics experts will be critical for maintaining a safe and harmonious environment for the variety of uses along the corridor. Traffic fatalities and increasing automobile dependence are not only an unacceptable cost to pay for economic development; implementing evidence-based solutions for congestion and safety can and should foster a thriving environment for local commerce.

[11] https://sf.streetsblog.org/wp-content/uploads/sites/3/2013/08/Geary-Presentation-Mar-07_31_13.pdf
[12] https://www.ocf.berkeley.edu/~abroaddu/wp-content/uploads/2015/01/FINAL-REPORT.pdf
[13] Shoup, D. C. (2006). Cruising for parking. Transport policy, 13(6), 479-486.

There is no empirical evidence showing that the business closures in downtown San Francisco were caused by public transit improvements. San Francisco retailers have blamed recent closures on a variety of factors ranging from crime to online shopping or remote work, but not public transit.[14] To the contrary, as cited above, surveys have found that public transit is essential for a significant share of customers shopping in commercial corridors. ~~While the causes are likely manifold and will require further study, transit-only lanes have not been identified as a contributing factor.~~

RATIONALE

City of Berkeley Plans

The City of Berkeley's Climate Action Plan,[15] adopted in 2009, envisions public transit, walking, cycling, and other sustainable mobility modes as the primary means of transportation for residents and visitors. To do so, it lists various goals, such as increasing the safety, reliability, and frequency of public transit and managing parking effectively to minimize driving demand and encourage and support alternatives to driving. It also addresses the fact that transportation emissions are the largest source of greenhouse gas emissions, a trend that has continued as of the 2019 Greenhouse Gas Inventory.

The Berkeley Strategic Transportation Plan[16], adopted in 2016, envisions the city's streets, sidewalks, and pathways as multimodal, serving people walking, bicycling, riding transit, driving, and moving goods. To do so, it lists various goals, such as encouraging people to walk, bicycle, and ride transit, improving transit efficiency, designing street networks that ensure comfortable, safe environments for users of all abilities, and prioritizing transit services along transit routes.

The City of Berkeley's Strategic Plan[17], adopted in 2018, includes long-term goals such as providing state-of-the-art, well-maintained infrastructure, amenities, and facilities, creating a resilient, safe, connected, and prepared city, and fostering a dynamic, sustainable, and locally-based economy. That same year, the city declared a climate emergency and committed to mobilize to end greenhouse gas emissions swiftly.

The Berkeley Vision Zero Action Plan[18], adopted in 2019, is a strategy to eliminate all traffic fatalities and severe injuries while increasing safe, healthy, and equitable mobility for all. To do so, it lists various goals, such as creating safer transportation options for people who walk, bike, and take transit, which would make these modes more attractive

[14] Li, R. & Whiting, S. (2023). Westfield mall blamed 'rampant criminal activity' for Nordstrom closing in S.F. Here's what the data says. San Francisco Chronicle. Retrieved from https://www.sfchronicle.com/sf/article/westfield-mall-blamed-nordstrom-closure-criminal-18076486.php

[15] https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Climate-Action-Plan.pdf

[16] https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-strategic-transportation-best-plan

[17] https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Strategic-Plan.pdf

[18] https://berkeleyca.gov/sites/default/files/2022-02/Berkeley-Vision-Zero-Action-Plan.pdf

and reduce the number of car trips in Berkeley, which can mean fewer severe and fatal collisions.

AC Transit's Recovery

Supporting AC Transit's recovery enhances the mobility and safety of Berkeley residents while simultaneously improving the walkability and bikeability of the city as well as breathing life into the local economy.

Any successful transportation project that seeks to increase the speed and reliability of AC Transit service in Berkeley will need to serve a longer route than the single relatively short corridor segment within Berkeley. There are several transit corridors within Berkeley connecting to other cities that AC Transit has identified as needing upgraded types of service. It would be important for the city to work with AC Transit to identify the routings which would be the most productive.

Shattuck, University, and Telegraph Avenues

The central location of University Avenue and the variety of communities it connects makes this corridor an incredibly important focus for the city's housing and transportation planning for the coming decades. University Avenue has had a number of housing developments completed recently, with additional developments under construction. With University Avenue likely seeing a growth in new housing development under the forthcoming Housing Element, it is important for Berkeley's transportation infrastructure to keep up with the changing needs of its old and new residents. On top of the expected growth in Berkeley's population and thus its transportation needs, climate change and the urgency of pedestrian and cyclist safety require that the transportation system of the City's future be one that prioritizes public transit and bicycle travel over the use personal automobiles. With this in mind, the 2017 Bicycle Plan recommends a Complete Streets Corridor Study for University Avenue.[19]

Furthermore, these three avenues are each unique and each present their own problems when considering the addition of BRT. The application of BRT on the downtown stretch of Shattuck Avenue, which could improve the service of AC Transit's 18 and various other lines which briefly serve Shattuck Avenue at the start and end of their routes, will require careful consideration of the already congested conditions of the street. The construction of elevated platforms on University Avenue as a pilot for BRT while completion of Telegraph Avenue's project is underway and Shattuck Avenue rapid transit is being considered will allow for some near-term service improvements while giving staff the time necessary to study how to bring multimodal improvements to the rest of the corridors as fastidiously as possible.

Breakdown of Recommended Improvements

Dedicated bus lanes improve travel speeds and reliability by reducing delays caused by other traffic. Transit signal priority uses technology to reduce dwell time at traffic signals for transit vehicles, such as extending the duration of green lights or shortening that of

[19]https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Bicycle-Plan-2017_AppendixH_Complete%20Streets%20Corridors.pdf

red lights. Raised platforms make it easier and more accessible for passengers to board or alight from buses by decreasing the distance between the platform and the vehicle, therefore increasing route efficiency.

ADA Compliance

The recommended improvements also help advance the city's goal of increasing mobility access for transit riders and cyclists with disabilities. ADA Accessibility Standards for transportation facilities are issued by the US Department of Transportation and include guidance for bus boarding and alighting areas, shelters, signs, and more.[20]

Impact to Local Businesses and Economy

In addition to advancing various climate and public safety goals of the city, investing in bus and bicycle infrastructure benefits local businesses and the economy. The League of American Bicyclists's report entitled "Bicycling Benefits Business"[21] illustrates that the bicycle industry and its related transportation, tourism, and health benefits spur job creation, economic activity, and cost savings. The Outdoor Industry Association reported that outdoor recreation consumers spend $887 billion annually and create 7.6 million jobs.[22]

The National Institute for Transportation and Communities published a peer-reviewed study examining BRT lines and found that the areas within a half-mile of BRT corridors increased their share of new office space by one third from 2000-2007, and new multifamily apartment construction doubled in those half-mile areas since 2008.[23] PolicyLink released a report entitled "Business Impact Mitigations for Transit Projects"[24] that address BRT projects, concluding that best practices include providing the right type of financial and technical assistance and proactive outreach to businesses built on constant communication, flexibility, and trust.

ENVIRONMENTAL IMPACTS

The City estimates that transportation-related emissions accounts for approximately 60% of our community's total annual greenhouse gas emissions.[25] By encouraging alternatives to car transportation by making public transportation options quicker and more appealing, policy stands to lower the emissions from our community's dominant source of carbon emissions.

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[20]https://federalist-e3fba26d-2806-4f02-bf0e-89c97cfba93c.app.cloud.gov/preview/atbcb/usab-uswds/ada-alternative/ada/#ada-810

[21]https://bikeleague.org/sites/default/files/Bicycling%20Benefits%20Business.pdf

[22]https://outdoorindustry.org/resource/2017-outdoor-recreation-economy-report/

[23]https://t4america.org/wp-content/uploads/2016/01/NATIONAL-STUDY-OF-BRT-DEVELOPMENT-OUTCOMES-11-30-15.pdf

[24]https://www.policylink.org/sites/default/files/FINAL%20PolicyLink%20Business%20Impact%20Mitigation%20Strategies_0.pdf

[25]https://www.cityofberkeley.info/Clerk/City_Council/2018/12_Dec/Documents/2018-12-06_WS_Item_01_Climate_Action_Plan_Update_pdf.aspx

The goal of any new public transportation initiative must be to increase the local mode share of residents choosing public transportation over personal automobiles for commuting and other trips.. BRT offers many advantages for this pursuit. The U.S. Government Accountability Office reviewed implemented BRT projects in 2012 and found that "13 of the 15 project sponsors…reported increases in ridership after 1 year of service and reduced average travel times of 10 to 35 percent over previous bus services."[26] Additionally, a 2013 study of Fruitvale and Ashby BART stations found that improved bicycle facilities such as protected bike lanes and secure bike storage increased the bicycle mode share of BART commuters.[27] Paired with the multimodal project along Telegraph Avenue, Berkeley has the potential for a large increase in transit ridership and thus a decline in greenhouse gas emissions if the City follows through on BRT in the coming years.

FISCAL IMPACTS

Staff and consultant costs. An estimated $150,000 for consulting costs to conduct corridor studies, an estimated $150,000 for consulting costs to conduct a comprehensive accessibility analysis of the city's 4-way intersections, and costs associated with commencing a feasibility analysis and community engagement process for potential bus rapid transit improvements.~~300,000 for the staff costs of engaging a consultant for the Multimodal Corridor Project. An estimated $30,000 for two elevated platforms, or "bus bulbs", at an estimated cost of $15,000 per platform.~~[28]

CONTACT

Councilmember Terry Taplin, District 2, (510) 981-7120, TTaplin@cityofberkeley.info

ATTACHMENTS

1. AC Transit Multimodal Corridor Guidelines

[26] https://www.gao.gov/products/gao-12-811

[27] Cervero, R., Caldwell, B., & Cuellar, J. (2013). Bike-and-ride: build it and they will come. Journal of Public Transportation, 16(4), 83-105. https://www.sciencedirect.com/science/article/pii/S1077291X22017611

[28] ~~https://berkeleyca.gov/sites/default/files/documents/2020%20Pedestrian%20Plan%20Appendix%20E%20%28adopted%29.pdf~~

BERKELEY CITY COUNCILMEMBER
TERRY TAPLIN
DISTRICT 2

CONSENT CALENDAR
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From: Councilmember Terry Taplin

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RECOMMENDATION

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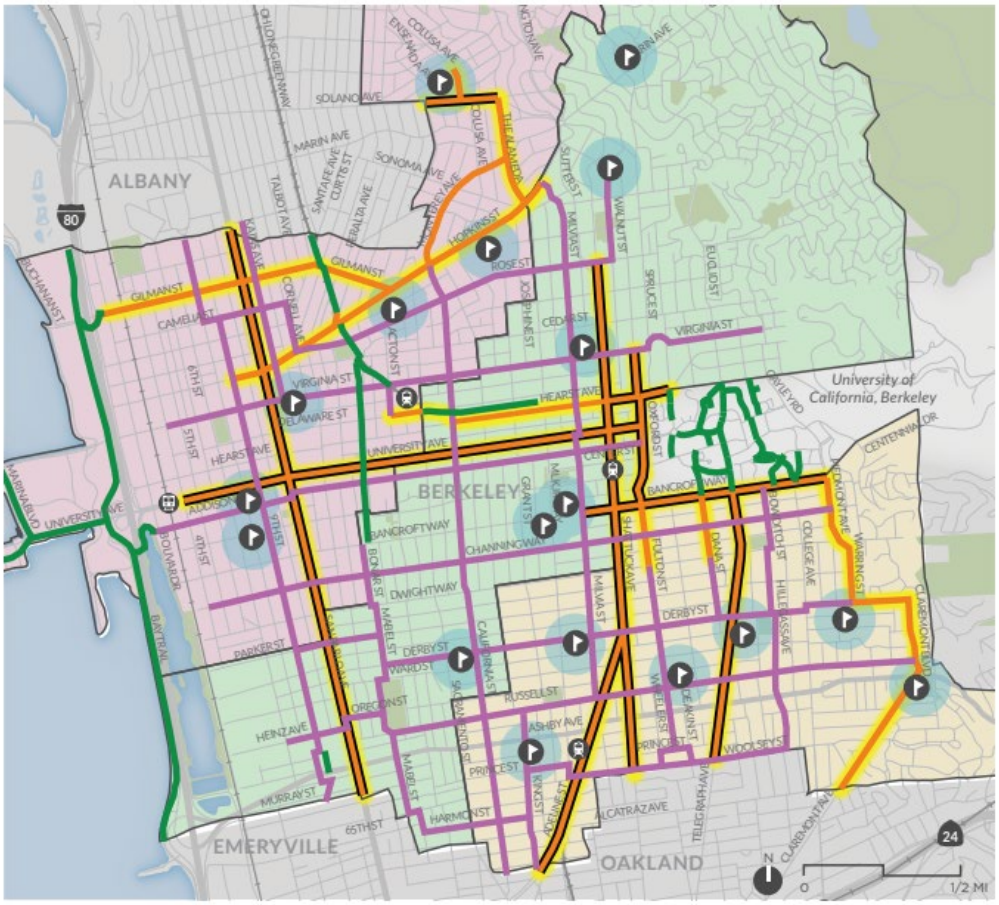

FIGURE 5-2: LOW-STRESS BIKEWAY NETWORK VISION WITH BERKELEY SCHOOLS

PAVED PATH

BICYCLE BOULEVARD NETWORK

CYCLETRACK [4]

COMPLETE STREET CORRIDOR STUDIES - LOW STRESS BIKEWAY RECOMMENDATION

STUDY CYCLETRACK [4]*

PRIMARY TRANSIT ROUTE - STUDY CYCLETRACK [4]*

SCHOOL WITH 1/8 MILE BUFFER

ENROLLMENT BOUNDARIES

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Telegraph Avenue, from Woolsey Street on the Oakland border up through Dwight Way near UC Berkeley, is in the midst of its own Multimodal Corridor Project[1] that may result in BRT infrastructure in the coming years. Should this project be completed or

[1]https://berkeleyca.gov/your-government/our-work/capital-projects/telegraph-avenue-multimodal-corridor-project#:~:text=The%20Telegraph%20Avenue%20Multimodal%20Corridor,bike%20lanes%2C%20and%20transit%20improvements.

significantly underway at the time of the development of BRT plans for Shattuck and University Avenues, close attention should be paid to its initial impacts, successes, and failures so that future applications of BRT infrastructure build on these lessons.

Bus Rapid Transit

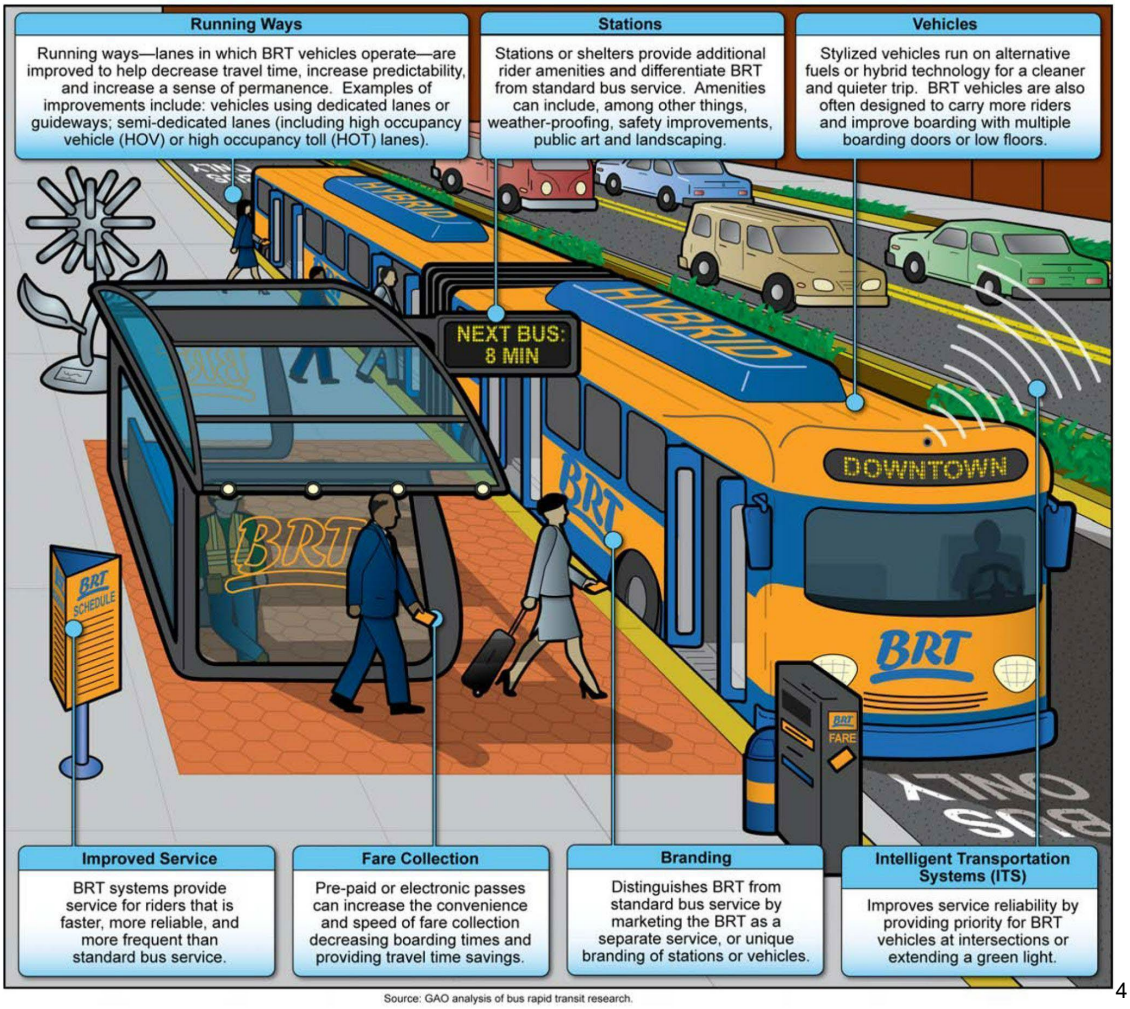
While diverse in their application around the world, Bus Rapid Transit is typically a transportation corridor that prioritizes fast and efficient bus service that may include dedicated bus lanes, traffic signal priority, elevated platforms, and off-board fare collection.[2] There is no one-size-fits-all approach to BRT and a University Avenue BRT is sure to look different than it might on Telegraph Avenue or International Boulevard in Oakland. However, pursuit of a quicker and more efficient bus corridor along University should result in dedicated bus lanes and elevated platforms at existing AC Transit stops. Most transit planners consider center running bus lanes--such as provided on International Boulevard and Van Ness Avenue in San Francisco--as more effective than curbside bus lanes. However, this would have to be determined in the course of planning the project. Relative to other rapid transit improvements such as light rail, BRT's advantages include lower upfront capital requirements, a higher degree of flexibility in their application, and a much quicker implementation timeline.[3]

[2] https://www.transit.dot.gov/research-innovation/bus-rapid-transit

[3] https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1023&context=jpt

Van Ness Avenue, San Francisco

Figure 1: Characteristics of Bus Rapid Transit



Source: GAO analysis of bus rapid transit research.[4]

Population Trends

According to the City of Berkeley's 2023 Housing Element Update,[5] the city's population has grown steadily since 2000, increasing approximately 9% each decade. The Department of Finance estimates that the city's population was 122,580 in 2020. The Association of Bay Area Governments' Plan Bay Area 2040 projections anticipate Berkeley's population to reach about 136,000 by 2030 and 141,000 by 2040.

Pedestrian Collisions

The City of Berkeley's 2020 Pedestrian Plan[6] determined that Shattuck and University Avenues represent two of the top five streets with pedestrian collisions between 2008 and 2017, ranked first and fifth, respectively, as well as two of the top four streets with fatal or severe pedestrian collisions in the same time period, ranked first and third (tied) respectively.

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[4] https://www.gao.gov/blog/2016/04/13/rapid-buses-for-rapid-transit

[5] https://berkeleyca.gov/sites/default/files/documents/Combined_HousingElementFinal_redline.pdf

[6] https://berkeleyca.gov/sites/default/files/2022-01/2020-Pedestrian-Plan.pdf

AC Transit

In AC Transit's 2019 Annual Report[7], they reported a systemwide ridership of over 53 million customers, reflecting a 2.5% increase (1.28 million riders) over the previous year. This occurred at a time when major transit providers nationwide reported a ridership decline of 2.8%. Key factors attributed to this growth included proactive efforts to maintain high service levels, adding service frequency, and a robust local economy. That same year, AC Transit released its first Strategic Plan[8] in about 20 years. In April of 2022, an Addendum[9] was added to address the effects of the ongoing COVID-19 pandemic.

The pandemic has had an enormous impact on transit operations and economic activity. In 2020, fewer people needed to ride the bus, whether to commute to work or get around the city for personal errands and activities. Schools and colleges closed their campuses and several office workers began working from home. Although there has been a recovery in ridership[10] beginning in 2021, pre-pandemic levels have not been reached. Fiscal Year 2021-2022 saw an annual ridership of almost 29 million customers, which was a 36% increase (7.6 million riders) over the previous fiscal year. Service is at around 85% of pre-pandemic levels, which is the equivalent of deleting one out of every seven trips.

Feedback Received

The District 2 Council office solicited feedback from the community through several in-person and virtual listening sessions in the development of this item. A rough outline of stakeholder engagement follows:

On February 24, 2023, Maulin Chokshi of the University Avenue [Merchants] Association emailed the Berkeley Chamber of Commerce regarding this item's scheduled committee hearing, and stated regarding recent pedestrian crossing improvements to University Avenue, which was forwarded the District 2 office: "The bulb-outs are a mess to drive around and [I am] not personally for it." At subsequent public meetings, Mr. Chokshi reiterated his opposition to transit priority lanes and pedestrian safety improvements to the extent that they compete for space with on-street parking.

On March 2, during the initial FITES Committee hearing, the Berkeley Chamber of Commerce offered to co-host a hybrid listening session with my office geared toward chamber members and the business community at large. The committee also recommended that the meeting be open to community members in Central Berkeley and Downtown.

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[7]https://www.actransit.org/sites/default/files/2021-03/0017-20%20Annual%20Report%202019_small_FNL.pdf

[8]https://www.actransit.org/sites/default/files/2021-03/AC%20Transit%20Strategic%20Plan.pdf

[9]https://www.actransit.org/sites/default/files/2022-12/0230-22%20Strat%20Plan%20Adden_FNL.pdf

[10]https://www.actransit.org/ridership

On April 5, David Mayeri from the UC Theatre emailed Council, City Manager, and District 2 staff to express his disapproval of any BRT improvements that would remove even a single parking space or lane as well as any bike lane improvements, emphasizing that these improvements would negatively impact the UC Theatre's load-ins and customer access to parking. Mr. Mayeri stated that the city's Bicycle Plan is outdated and that the city should address its climate goals by subsidizing e-bikes for residents.

On April 10, the Berkeley Chamber of Commerce and the District 2 office held a hybrid listening session at the UC Theatre and online via Zoom, in which community members emphasized a desire to see the city analyze and improve accessibility for mobility and vision-impaired community members at the city's major intersections city-wide. Community members also recommended that the city's disaster and fire policies be included among reviews of pertinent city policies and that the Berkeley Fire Department be brought on as an early and continuous internal stakeholder. Attendees also cited potential tradeoffs between median trees and parking lanes in the case that staff eventually recommend transit lanes. One community member expressed a preference for tree-lined sidewalks. Maulin Chokshi from the University Avenue Association cited potential parking space losses as a concern.

On April 25, the District 2 office met with representatives of the Berkeley Fire Department, which emphasized its willingness to work with city staff as a close partner throughout the city manager's community engagement process.

On April 26, the District 2 office accompanied a vision-impaired community member on a walking tour of the major intersections in the vicinity of Civic Center and the Downtown BART station to discuss irregularities and inconsistencies in the siting and width of curbing cuts and the timing and signaling of auditory crossing systems.

On May 24, the District 2 office met with representatives of the Center for Independent Living, who emphasized that the standard ADA guidelines should be the floor for improvement considerations, as they often do not account for issues such as not enough room on raised platforms for multiple wheelchair users or fatigue due to inclines. Staff also highlighted ongoing concerns with unreliable updates on AC Transit's app and difficulty reading construction updates signs for individuals who are visually impaired.

On June 8, Dr. Nicola Spence from Alpha Design Custom Furniture emailed to articulate a bias against transit improvements on principle, asserting that transit improvements "destroyed" San Francisco.

On June 8, the District 2 office hosted a virtual listening session via Zoom open to the public. Attendees included staffers from AC Transit, transit riders, and commissioners from the Transportation and Infrastructure Commission and the Environment and Climate Commission. Attendees discussed inter-agency collaboration.

Responses to Feedback
The June 2023 revisions to this item have incorporated significant additions to address concerns with respect to the Americans with Disabilities Act (ADA). Uniformity and consistency are key features of accessibility improvements. The Fire Department will also be closely integrated into the scoping and planning of any corridor study.

Feedback from the University Avenue Association illustrates that infrastructure upgrades that are nevertheless consistent with already-existing City Council policy on Complete Streets may modify motorist behavior in ways that are conspicuous and consciously involuntary rather than incentivized by reflex or instinct. It is important to underscore that certain notifications to motorist behavior, such as slower speeds, are an intentional outcome of street improvements to reduce serious injuries and fatalities.

For example, surveys on other commercial corridors in San Francisco[11] and Oakland[12] have shown initial overestimations of the share of corridor patrons who arrive by personal motor vehicle vs. transit, walking, or other modes. Additionally, research has demonstrated that demand-based pricing for parking can reduce Vehicle Miles Traveled by reducing time spent searching for parking.[13] In Downtown Berkeley, the new Center Street Garage in particular has a surplus of vacant parking spaces throughout the day and has yet to regain pre-pandemic revenues. To the extent that public policy is concerned with convenience for motorists one way or another, it is important to focus on the availability or elasticity of vacant parking rather than its gross supply. This paradigm is compatible with the City's ongoing efforts to maximize the positive externalities of reduced VMT and pedestrian safety, as exemplified in the Climate Action Plan and Vision Zero Action Plan.

The community has been clear that a vibrant, mixed-use corridor such as University Avenue will need to carefully balance the need for loading zones and curbside management to accommodate commercial uses while ensuring safe access for all road users and improving public transit reliability. Neglecting this reality would risk illegally double-parked vehicles thwarting any traffic-calming efforts. Therefore, Staff's consultation with merchants and logistics experts will be critical for maintaining a safe and harmonious environment for the variety of uses along the corridor. Traffic fatalities and increasing automobile dependence are not only an unacceptable cost to pay for economic development; implementing evidence-based solutions for congestion and safety can and should foster a thriving environment for local commerce.

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[11] https://sf.streetsblog.org/wp-content/uploads/sites/3/2013/08/Geary-Presentation-Mar-07_31_13.pdf
[12] https://www.ocf.berkeley.edu/~abroaddu/wp-content/uploads/2015/01/FINAL-REPORT.pdf
[13] Shoup, D. C. (2006). Cruising for parking. Transport policy, 13(6), 479-486.

There is no empirical evidence showing that the business closures in downtown San Francisco were caused by public transit improvements. San Francisco retailers have blamed recent closures on a variety of factors ranging from crime to online shopping or remote work, but not public transit.[14] To the contrary, as cited above, surveys have found that public transit is essential for a significant share of customers shopping in commercial corridors.

RATIONALE

City of Berkeley Plans

The City of Berkeley's Climate Action Plan,[15] adopted in 2009, envisions public transit, walking, cycling, and other sustainable mobility modes as the primary means of transportation for residents and visitors. To do so, it lists various goals, such as increasing the safety, reliability, and frequency of public transit and managing parking effectively to minimize driving demand and encourage and support alternatives to driving. It also addresses the fact that transportation emissions are the largest source of greenhouse gas emissions, a trend that has continued as of the 2019 Greenhouse Gas Inventory.

The Berkeley Strategic Transportation Plan[16], adopted in 2016, envisions the city's streets, sidewalks, and pathways as multimodal, serving people walking, bicycling, riding transit, driving, and moving goods. To do so, it lists various goals, such as encouraging people to walk, bicycle, and ride transit, improving transit efficiency, designing street networks that ensure comfortable, safe environments for users of all abilities, and prioritizing transit services along transit routes.

The City of Berkeley's Strategic Plan[17], adopted in 2018, includes long-term goals such as providing state-of-the-art, well-maintained infrastructure, amenities, and facilities, creating a resilient, safe, connected, and prepared city, and fostering a dynamic, sustainable, and locally-based economy. That same year, the city declared a climate emergency and committed to mobilize to end greenhouse gas emissions swiftly.

The Berkeley Vision Zero Action Plan[18], adopted in 2019, is a strategy to eliminate all traffic fatalities and severe injuries while increasing safe, healthy, and equitable mobility for all. To do so, it lists various goals, such as creating safer transportation options for people who walk, bike, and take transit, which would make these modes more attractive and reduce the number of car trips in Berkeley, which can mean fewer severe and fatal collisions.

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[14]Li, R. & Whiting, S. (2023). Westfield mall blamed 'rampant criminal activity' for Nordstrom closing in S.F. Here's what the data says. San Francisco Chronicle. Retrieved from https://www.sfchronicle.com/sf/article/westfield-mall-blamed-nordstrom-closure-criminal-18076486.php

[15]https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Climate-Action-Plan.pdf

[16]https://berkeleyca.gov/your-government/our-work/adopted-plans/berkeley-strategic-transportation-best-plan

[17]https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Strategic-Plan.pdf

[18]https://berkeleyca.gov/sites/default/files/2022-02/Berkeley-Vision-Zero-Action-Plan.pdf

AC Transit's Recovery

Supporting AC Transit's recovery enhances the mobility and safety of Berkeley residents while simultaneously improving the walkability and bikeability of the city as well as breathing life into the local economy.

Any successful transportation project that seeks to increase the speed and reliability of AC Transit service in Berkeley will need to serve a longer route than the single relatively short corridor segment within Berkeley. There are several transit corridors within Berkeley connecting to other cities that AC Transit has identified as needing upgraded types of service. It would be important for the city to work with AC Transit to identify the routings which would be the most productive.

Shattuck, University, and Telegraph Avenues

The central location of University Avenue and the variety of communities it connects makes this corridor an incredibly important focus for the city's housing and transportation planning for the coming decades. University Avenue has had a number of housing developments completed recently, with additional developments under construction. With University Avenue likely seeing a growth in new housing development under the forthcoming Housing Element, it is important for Berkeley's transportation infrastructure to keep up with the changing needs of its old and new residents. On top of the expected growth in Berkeley's population and thus its transportation needs, climate change and the urgency of pedestrian and cyclist safety require that the transportation system of the City's future be one that prioritizes public transit and bicycle travel over the use personal automobiles. With this in mind, the 2017 Bicycle Plan recommends a Complete Streets Corridor Study for University Avenue.[19]

Furthermore, these three avenues are each unique and each present their own problems when considering the addition of BRT. The application of BRT on the downtown stretch of Shattuck Avenue, which could improve the service of AC Transit's 18 and various other lines which briefly serve Shattuck Avenue at the start and end of their routes, will require careful consideration of the already congested conditions of the street. The construction of elevated platforms on University Avenue as a pilot for BRT while completion of Telegraph Avenue's project is underway and Shattuck Avenue rapid transit is being considered will allow for some near-term service improvements while giving staff the time necessary to study how to bring multimodal improvements to the rest of the corridors as fastidiously as possible.

Breakdown of Recommended Improvements

Dedicated bus lanes improve travel speeds and reliability by reducing delays caused by other traffic. Transit signal priority uses technology to reduce dwell time at traffic signals for transit vehicles, such as extending the duration of green lights or shortening that of red lights. Raised platforms make it easier and more accessible for passengers to board

[19] https://berkeleyca.gov/sites/default/files/2022-01/Berkeley-Bicycle-Plan-2017_AppendixH_Complete%20Streets%20Corridors.pdf

or alight from buses by decreasing the distance between the platform and the vehicle, therefore increasing route efficiency.

ADA Compliance

The recommended improvements also help advance the city's goal of increasing mobility access for transit riders and cyclists with disabilities. ADA Accessibility Standards for transportation facilities are issued by the US Department of Transportation and include guidance for bus boarding and alighting areas, shelters, signs, and more.[20]

Impact to Local Businesses and Economy

In addition to advancing various climate and public safety goals of the city, investing in bus and bicycle infrastructure benefits local businesses and the economy. The League of American Bicyclists's report entitled "Bicycling Benefits Business"[21] illustrates that the bicycle industry and its related transportation, tourism, and health benefits spur job creation, economic activity, and cost savings. The Outdoor Industry Association reported that outdoor recreation consumers spend $887 billion annually and create 7.6 million jobs.[22]

The National Institute for Transportation and Communities published a peer-reviewed study examining BRT lines and found that the areas within a half-mile of BRT corridors increased their share of new office space by one third from 2000-2007, and new multifamily apartment construction doubled in those half-mile areas since 2008.[23] PolicyLink released a report entitled "Business Impact Mitigations for Transit Projects"[24] that address BRT projects, concluding that best practices include providing the right type of financial and technical assistance and proactive outreach to businesses built on constant communication, flexibility, and trust.

ENVIRONMENTAL IMPACTS

The City estimates that transportation-related emissions accounts for approximately 60% of our community's total annual greenhouse gas emissions.[25] By encouraging alternatives to car transportation by making public transportation options quicker and more appealing, policy stands to lower the emissions from our community's dominant source of carbon emissions.

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[20]https://federalist-e3fba26d-2806-4f02-bf0e-89c97cfba93c.app.cloud.gov/preview/atbcb/usab-uswds/ada-alternative/ada/#ada-810

[21]https://bikeleague.org/sites/default/files/Bicycling%20Benefits%20Business.pdf

[22]https://outdoorindustry.org/resource/2017-outdoor-recreation-economy-report/

[23]https://t4america.org/wp-content/uploads/2016/01/NATIONAL-STUDY-OF-BRT-DEVELOPMENT-OUTCOMES-11-30-15.pdf

[24]https://www.policylink.org/sites/default/files/FINAL%20PolicyLink%20Business%20Impact%20Mitigation%20Strategies_0.pdf

[25]https://www.cityofberkeley.info/Clerk/City_Council/2018/12_Dec/Documents/2018-12-06_WS_Item_01_Climate_Action_Plan_Update_pdf.aspx

The goal of any new public transportation initiative must be to increase the local mode share of residents choosing public transportation over personal automobiles for commuting and other trips.. BRT offers many advantages for this pursuit. The U.S. Government Accountability Office reviewed implemented BRT projects in 2012 and found that "13 of the 15 project sponsors…reported increases in ridership after 1 year of service and reduced average travel times of 10 to 35 percent over previous bus services."[26] Additionally, a 2013 study of Fruitvale and Ashby BART stations found that improved bicycle facilities such as protected bike lanes and secure bike storage increased the bicycle mode share of BART commuters.[27] Paired with the multimodal project along Telegraph Avenue, Berkeley has the potential for a large increase in transit ridership and thus a decline in greenhouse gas emissions if the City follows through on BRT in the coming years.

FISCAL IMPACTS

Staff and consultant costs. An estimated $150,000 for consulting costs to conduct corridor studies, an estimated $150,000 for consulting costs to conduct a comprehensive accessibility analysis of the city's 4-way intersections, and costs associated with commencing a feasibility analysis and community engagement process for potential bus rapid transit improvements.

CONTACT

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ATTACHMENTS

1. AC Transit Multimodal Corridor Guidelines

[26] https://www.gao.gov/products/gao-12-811

[27] Cervero, R., Caldwell, B., & Cuellar, J. (2013). Bike-and-ride: build it and they will come. Journal of Public Transportation, 16(4), 83-105. https://www.sciencedirect.com/science/article/pii/S1077291X22017611