

One Bus To Move Them All?

A global, regional, and local look at
AC Transit's new Tempo BRT line

Mari Hsu — 4 Dec 2020

Fall 2020 — URBP 226



Image from <https://www.tempo.actransit.org/>

Overview/Intro

Planning for the East Bay Bus Rapid Transit began in 2002, and the route opened in August of 2020.¹ This first system in the East Bay joins a network of systems across the world that began in England in the 1970s.² Both ends of what became the Tempo line, Berkeley and San Leandro, put up some resistance to the system which diminished the extent of the route. Just shy of 10 miles were built, linking downtown Oakland to San Leandro via what will hopefully be the best bus service along the busiest corridor in AC Transit's service area. While some of the points raised against the plan were fair, the drawn-out nature of the process has left a lot of people very frustrated and support for future similar projects is unknown. Changes in bus service and ridership due to COVID-19 are also affecting Tempo and all of AC Transit – the loss of farebox revenues has dramatically reduced funding across California and is endangering projects.³ Tempo seems to be holding its own, though, and provides service along what continues to be AC Transit's busiest corridor.

BRT Globally

Bus Rapid Transit (BRT) has overtaken Light Rail Transit (LRT) in construction popularity around the world; 2016 was the fifth year in a row that more miles of BRT lanes were opened than LRT⁴ and that trend showed no sign of diminishing going into 2020. This popularity is likely due to BRT's low barrier to entry. Most of the infrastructure for a bus system already exists – roads, depots, buses, and lane paint are known quantities for purchase, implementation, and maintenance within a municipal budget. Although rail projects generate a lot of excitement and futuristic designs, BRT has the advantage of being more flexible (in

1. "Pick Up the Tempo: Lessons From Oakland's 20-Year BRT Saga," *TransitCenter Blog*, September 17, 2020, <https://transitcenter.org/lessons-from-oaklands-tempo-bus-rapid-transit-project/>

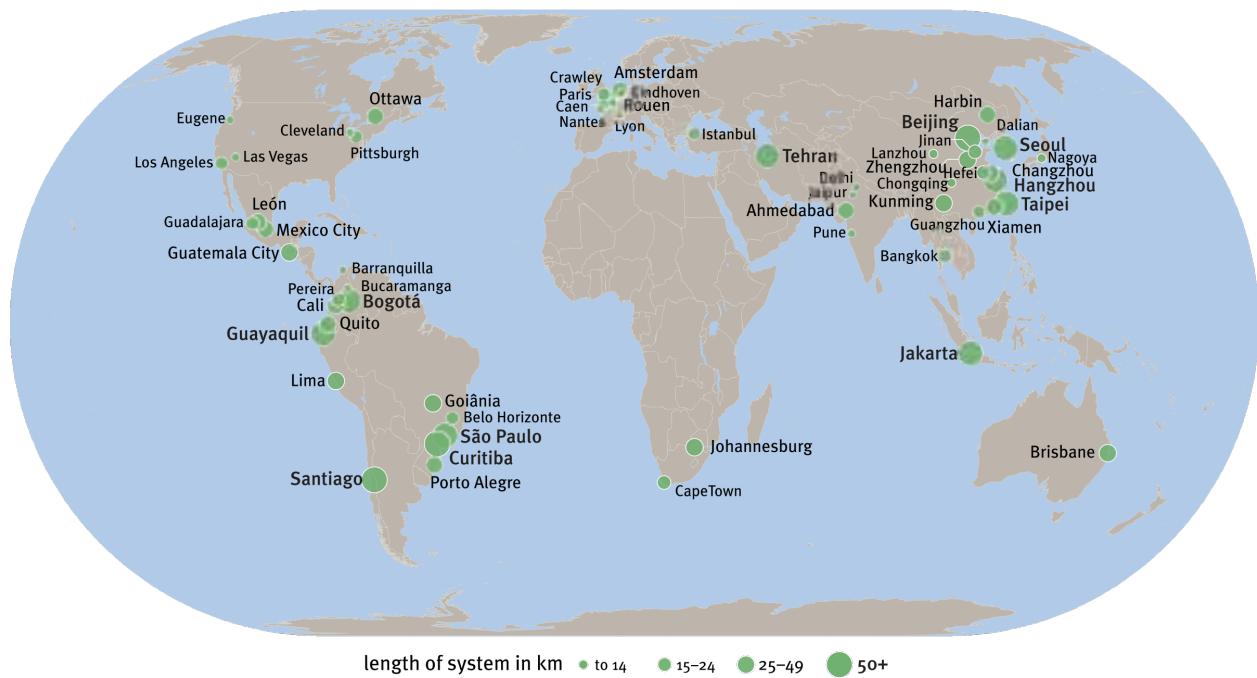
2. Wikipedia, Bus rapid transit, [Accessed 2-Dec-2020], Edit Date November 29, 2020, https://en.wikipedia.org/wiki/Bus_rapid_transit#History

3. Frank Jimenez [LAO Contact], *Impact of COVID-19 on State Transportation Revenues* (California Legislative Analyst's Office, September 17, 2020), <https://lao.ca.gov/Publications/Report/4268>

4. "Rapid Transit Trends Show Record Growth in 2016, with Huge Increases in China, Brazil," ITDP, February 17, 2017, <https://www.itdp.org/2017/02/17/rapid-transit-trends/>

terms of both routes and implementation) while delivering a similar level of service and environmental benefits.⁵ As of January 2019, nearly every country and sovereign state⁶ on every continent except Antarctica had at least one operating BRT system.⁷

Bus Rapid Transit Around the World



Global BRT systems in 2011, from ITDP's *Recapturing Global Leadership in Bus Rapid Transit*

Access via rapid transit is especially important, since rapid transit is the most efficient way to transport large numbers of people around a metropolitan area. Furthermore, in addition to increasing congestion and traffic injuries and deaths, automobile-based mobility has been a leading contributor to climate change and pollution, all of which threaten the health and prosperity of city residents around the world. It is critical for cities to enable access for residents that avoids use of single-occupancy vehicles.⁸

5. Taotao Deng and John D. Nelson, "Recent Developments in Bus Rapid Transit: A Review of the Literature," *Transport Reviews* 31, no. 1 (2011): 69–96, <https://doi.org/10.1080/01441647.2010.492455>

6. Wikipedia, List of sovereign states, [Accessed 28-Oct-2020], Last Edited October 23, 2020, https://en.wikipedia.org/w/index.php?title=List_of_sovereign_states

7. Zheng Li and David A. Hensher, "Performance Contributors of Bus Rapid Transit Systems within the ITDP BRT Standard: An Ordered Choice Approach" (2019), <http://hdl.handle.net/2123/19903>

8. Michael Marks, *People Near Transit: Improving Accessibility and Rapid Transit Coverage in Large Cities* (ITDP, October 2016), 6, <https://www.itdp.org/publication/people-near-transit/>.

In 2016, the Institute for Transportation & Development Policy (ITDP) released the report quoted above to introduce a new metric for quantifying transit accessibility in cities – People Near Rapid Transit (PNT). The decision to build specifically “rapid” transit is based on the reliability of such systems, as opposed to standard service. Rapid service is defined in the report as BRT (as defined in the ITDP Guide⁹), LRT, or metro; several calculations about extent of system, stop spacing, and vehicle design also factor into the designation.

While the changes suggested by PNT are interesting, the more compelling argument for BRT systems is in the data collected to build the recommendation. By calculating a population-weighted density value, ITDP was able to show that even cities with a comparatively low density like Rotterdam are still able to provide a high PNT; even though Paris has 100% PNT, it is still lower density than cities like NYC (around 75% PNT). Rapid transit can serve a wide range of city densities very efficiently and effectively, though lower densities clearly require more infrastructure development to serve the same number of riders.¹⁰ As suburbanization increases post-COVID-19, it will be interesting to see how lower-density areas are or are not included in transit service plans.

BRT in the US

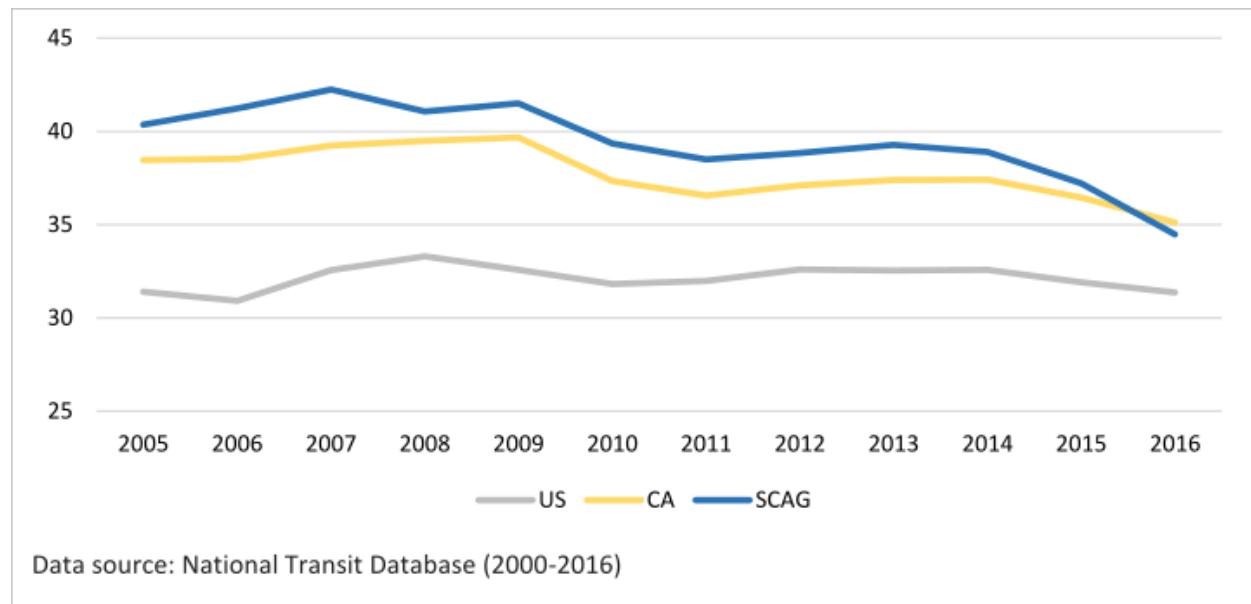
Understanding the use of and need for BRT in the US requires an understanding of both current travel patterns and the limited way in which those travel patterns are assessed. The Urban Mobility Report is used by researchers and planning professionals all across the country, but the methodology described in Appendix A describes how only driving times are used as a measure of congestion.¹¹ This is solely a mobility report, and does not touch on issues of accessibility and although the authors do explicitly call out trucking, there is no mention of buses. While understanding driving travel time is important, in order to move people away from

9. *The Online Bus Rapid Transit Planning Guide*, 4th ed. (Institute for Transportation & Development Policy, 2017), <https://brtguide.itdp.org/branch/master/guide/>

10. Marks, *People Near Transit: Improving Accessibility and Rapid Transit Coverage in Large Cities*

11. David Schrank, Tim Lomax, and Bill Eisele, *2019 Urban Mobility Report* (Texas A&M Transportation Institute, August 2019), <https://mobility.tamu.edu/umr/report/>

individual cars the analysis needs to include other options. Planning decisions are based on these evaluations, and without the data planners cannot effectively argue for alternative solutions. An accessibility-based analysis would also allow assessment of the effect of land use decisions on travel times. The continued narrow focus on mobility increases sprawl and highway expansion to the detriment of other development options that would increase accessibility by reducing the need for travel.¹²



Transit Trips Per Capita; reprinted exactly from original in *Falling Transit Ridership*

As shown above, there has been a consistent decline in transit ridership since 2005; there has also been an increase in vehicle ownership per capita across the same years. Areas with extensive freeway systems and large amounts of parking available have seen particular increases, since there's little public barrier to car ownership and the local transit systems are not able to compete on either accessibility or mobility. Many of these new owners are former transit riders who have switched, and are unlikely to go back; one of the best ways to get ridership numbers back up would be to encourage occasional transit use rather than sole reliance. There are far more people who would be open to occasionally leaving the car at home

12. Joe Cortright, *Measuring Urban Transportation Performance: A Critique Of Mobility Measures and a Synthesis*, technical report (Impresa and CEOs for Cities, September 2010), <https://web.archive.org/web/20150503142100/http://www.ceosforcities.org:80/research/driven-apart>

than those who are ready or able to do that all the time, and by providing more frequent and reliable transit options agencies may be able to eventually reverse the trend.¹³ All of this has been complicated by the current use of individual vehicles as a protection against COVID-19. Mass transit solutions for moving forward will now need to include ventilation and sanitizing plans, as well as a whole new style of messaging about safety, to re-attract former riders.

BRT is in an excellent option to capture occasional riders – it can provide service at speeds comparable to driving alone, and most of the infrastructure already exists or is comparatively simple to deploy. Any COVID-19 safety features being implemented on local bus service should also translate conveniently to BRT. This relative affordability allows it to also be an effective economic development tool for municipalities and regions that are able to deploy it in a way that is sensitive to local needs. A 2015 report looking at BRT systems across the US concluded that they are "associated with positive development and job location outcomes" in most cases when they maximize accessibility, minimize barriers, and take good advantage of available partnerships (among other factors). With these broad-reaching opportunities and options, BRT has the potential to provide better outcomes than alternative systems.¹⁴

One particular hurdle in the US is the development of BRT along existing bus lines. Many systems have arisen because a trunk line is "upgraded" to BRT, but does not include upgrades to the feeder lines. This rail-style planning, where the BRT is simply a back-and-forth shuttle between stations, is a very limited view of what it can be. Incorporating wider system changes will address more of the existing issues with bus systems like transfers and over-crowded stations, and will also take better advantage of the route flexibility of buses over rail.¹⁵ BRT systems in the US need to prove themselves before larger stylistic changes are possible.

13. Michael Manville, Brian D Taylor, and Evelyn Blumenberg, *Falling Transit Ridership: California and Southern California* (UCLA Institute of Transportation Studies and SCAG, January 2018), <https://trid.trb.org/view/1500403>

14. Arthur C. Nelson and Joanna Ganning, *National Study of BRT Development Outcomes* (University of Utah and the National Institute for Transportation and Communities, December 2015), https://nitc.trec.pdx.edu/research/project/650/National_Study_of_BRT_Development_Outcomes

15. Annie Weinstock et al., *Recapturing Global Leadership in Bus Rapid Transit : A Survey of Select U.S. Cities* (ITDP, May 2011), https://itdpdotorg.wpengine.com/wp-content/uploads/2014/07/20110526ITDP_USBRT_Report-LR.pdf

BRT in the East Bay

The East Bay Bus Rapid Transit (EBBRT) project is not the first one in California; although one has been in the works along Van Ness in San Francisco for a long time, EBBRT is the longest BRT system in the Bay Area.¹⁶ Although the whole route does not meet the full ITDP standards¹⁷ it is still a major improvement for this high-traffic corridor. Originally intended to stretch nearly 20 miles from Berkeley to Bayfair Bart, AC Transit's 1 Tempo line opened in early August as the first true BRT line in the East Bay. The line was cut in half - it runs 9.5 miles from Oakland's Uptown Transit Center at 20th and Broadway to the San Leandro Transit Center at the San Leandro Bart Station. This was due to opposition by residents in Berkeley and San Leandro, mostly over preserving parking and vehicle travel lanes,¹⁸ but also due to lack of coordination with agencies doing other much-needed street improvement projects along the same streets.¹⁹

Many factors contributed to the implementation of EBBRT – metrics, citizen feedback, messaging and outreach, inter-agency coordination, feeder lines, funding sources, labor interests, etc. Over 20 years of planning cannot be summed up briefly and do justice to all of them. However, the most obvious aspects here are the elimination of the Berkeley and Bay Fair ends of the line. The combination of a few factors is discussed below in assessing what led to changing the line terminals and how it might influence future projects.

Why International Boulevard?

Prior to the implementation of Route 1R, Route 82/82L was the primary route between downtown Oakland and Bay Fair BART along International Boulevard and

16. "Santa Clara County Bus Rapid Transit," TransForm, <https://www.transformca.org/landing-page/santa-clara-county-bus-rapid-transit>

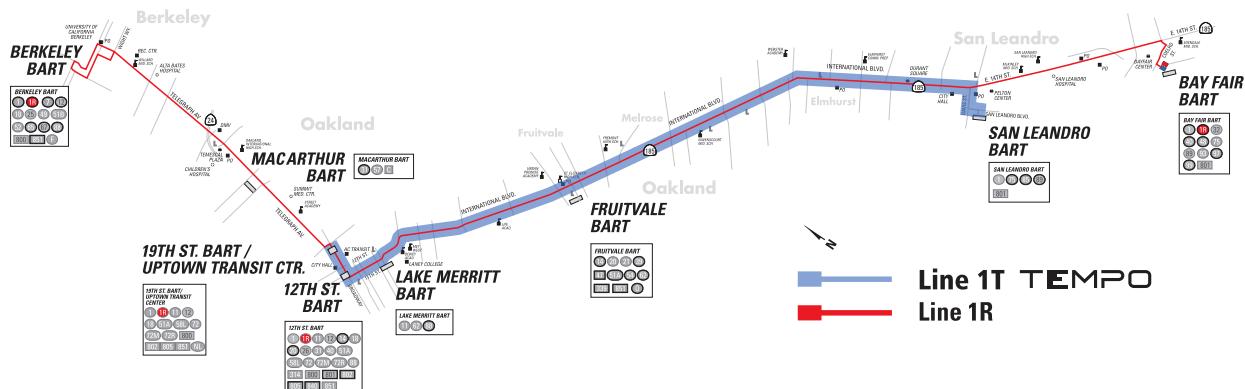
17. *The Online Bus Rapid Transit Planning Guide*

18. Michael Cabanatuan and Rachel Swan, "East Bay's new bus rapid transit line to bring a new Tempo to East Oakland," *San Francisco Chronicle*, August 8, 2020, <https://www.sfchronicle.com/bayarea/article/East-Bay-s-new-bus-rapid-transit-line-to-bring-15468242.php>

19. City of San Leandro, "RE: Comments on East Bay Bus Rapid Transit (BRT) Project, Draft Environmental Impact Statement/Draft Environmental Impact Report, May 2007," City Council Minute Orders, [Staff Report], July 2, 2007, <http://weblink.sanleandro.org/publicweblink8/0/doc/191335/Page1.aspx>

East 14th Street. This route had greater than 20,000 boardings on an average weekday. ... [H]owever, service reliability was poor and travel times highly variable due to problems of operating in congested mixed-flow traffic lanes.²⁰

August 2, 2001 was the official launch of the plan for AC Transit's first BRT line. The initial proposed cost of less than \$172 million was 40% of a comparable light rail system and would open in 2016.²¹ Over 40,000 passengers daily were riding the three bus lines in that corridor, which was also choked with other traffic. The projection of attracting another 20,000 riders per day would require enticing people out of their cars to create freer-flowing traffic and reduce environmental impacts on the neighborhoods along and near the corridor.²²



Map of 1R and Tempo routes overlaid. Adapted from AC Transit, simplified and combined by the author; included as vector PDF for zoom capabilities.

In the fall of 2006, AC Transit launched the 1R route that ran from downtown Berkeley (weekdays only; downtown Oakland on weekends) to Bayfair Bart to help alleviate some of these issues.²³ Barely a year later, it was seeing nearly 11,000 average weekday boardings, the

20. *Final Environmental Impact Statement/Final Environmental Impact Report* (AC Transit, January 2012), Part 4, 2.3-3, <http://www.actransit.org/final-environmental-impact-statementfinal-environmental-impact-report-feisfeir/>.

21. Roger Rudick, "Oakland BRT Line Opens," StreetsBlogSF, August 7, 2020, <https://sf.streetsblog.org/2020/08/07/oakland-brt-line-opens-sunday/>

22. "Telegraph Ave. – International Blvd. route alignment chosen for East Bay's initial Bus Rapid Transit project," AC Transit, [Press Release], August 3, 2001, <http://www.actransit.org/2001/08/03/telegraph-ave-international-blvd-route-alignment-chosen-for-east-bays-initial-bus-rapid-transit-project/>

23. Wikipedia, List of AC Transit routes, [Accessed 23-Nov-2020], Edit Date January 6, 2017, https://en.wikipedia.org/w/index.php?title=List_of_AC_Transit_routes&oldid=758539956#Rapid_service

bulk of which were happening in the central International Blvd segment. In 2008, major increases were seen in ridership along the northern Telegraph Ave segment as well. The report closes with a note that exclusive right-of-way is in the works to improve bus service along this route.²⁴ These findings solidified the understanding of a need for BRT along this corridor.

In 2010, \$15mil for BRT had been approved by the Federal DOT under the *New Starts and Small Starts Program*.²⁵ The Final Environmental Impact Statement / Report (FEIS/R) was released to the public in early 2012²⁶ and generated lots of comments and feedback. The Oakland section of the route seems to have been uncontested, but both San Leandro and Berkeley demanded changes. By 2013, the combined 1 and 1R routes were seeing an average daily ridership of over 20,000 people – double the number for the next busiest lines. Alone, the 1R was still the number one line in ridership numbers but the on-time performance was stuck under 60% due to inescapable traffic congestion.²⁷

A major benefit of using BRT here instead of light rail, aside from cost, is the ability to re-route buses around immobile traffic jams, thereby increasing the quality and timeliness of the service.²⁸ However, it seems that no effort was made to incorporate this into EBBRT, unfortunately, as it could provide a way to keep up a higher level of service and on-time performance by bypassing traffic jams along the trunk line. Arguments of consistency and equity may have been factors – notifying waiting riders when a bus is re-routed is difficult, as is ensuring that parallel routes are actually faster.

Although the next version of the plan had the system opening in 2017 for \$153mil, the touted average BRT cost of \$25mil per mile was not something that would win many over

24. Nelson\Nygaard Consulting Associates, *International/telegraph Corridor Rapid Bus Study – Phase IV*, technical report, ridership numbers : pg 2-2 (AC Transit, April 2009), http://www.actransit.org/wp-content/uploads/Line1r_3.pdf

25. “\$15 Million for Bus Rapid Transit Project,” AC Transit, [Press Release], February 1, 2010, <http://www.actransit.org/2010/02/01/15-million-for-bus-rapid-transit-project/>

26. *Final Environmental Impact Statement/Final Environmental Impact Report*

27. WSP and Parsons Brinckerhoff, *Major Corridors Study Final Report*, technical report, ridership numbers : Table 1 pg 21 (AC Transit, August 24, 2016), http://www.actransit.org/wp-content/uploads/Final-MCS-Report_August2016_v1.pdf

28. Deng and Nelson, “Recent Developments in Bus Rapid Transit: A Review of the Literature”

quickly.²⁹ Even as AC Transit's Board of Directors was putting their final stamp of approval on the BRT in early 2012,³⁰ opposition in Berkeley was heated. When construction began in late 2016, Berkeley was out of the picture and the opening date had slipped to 2018.³¹

Berkeley Opposition

The first public hearing about BRT in Berkeley was held on April 9th, 2008,³² with 39 public speakers, 10 of whom were flat-out opposed to the project. 13 of them were on the fence; most wanted the city, AC Transit, or independent third parties to conduct further studies around impacts to traffic flow and parking. Only seven speakers were unequivocally in support of the BRT project coming down Telegraph Avenue. Much of the concern was focused on the removal of on-street parking to create a dedicated bus lane. Some discussed the impact on parking availability in adjacent neighborhoods while others voiced concern for accessing businesses along the busy commercial street.

Almost exactly three years later, and only a year before the project was formally approved by Oakland and San Leandro, an excellent breakdown of the Berkeley opposition was published in the Berkeley Daily Planet.³³ The author neatly summarizes that opposition as individuals concerned about their own specific areas of interest (business traffic, neighborhood parking)... and “the usual suspects who make a career of being against everything proposed in Berkeley.” While this is an issue that is not unique to Berkeley in any way, it seems to be particularly strong – preservation can take many forms.

Other than historic and cultural sites and buildings, there are also other legal bases for

29. “The East Bay’s First Bus Rapid Transit Line Is Coming,” AC Transit, [Press Release], March 28, 2016, <http://www.actransit.org/2016/03/28/the-east-bay%20%99s-first-bus-rapid-transit-line-is-coming/>

30. “A Go-Ahead For Bus Rapid Transit,” April 30, 2012, <https://www.masstransitmag.com/home/press-release/10707566/ac-transit-a-goahead-for-bus-rapid-transit>

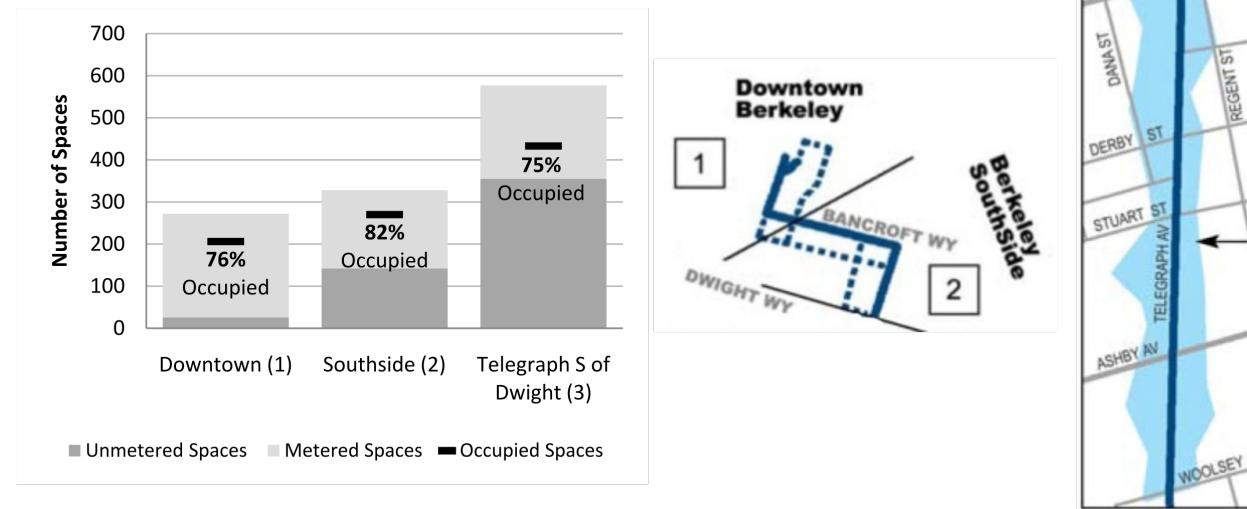
31. Ryan Levi, “AC Transit Breaks Ground on East Bay’s First Bus Rapid Transit Line,” KQED (San Francisco, CA), August 26, 2016, <https://www.kqed.org/news/11062141/ac-transit-breaks-ground-on-east-bays-first-bus-rapid-transit-line>

32. *Final Minutes of Regular Planning Commission Meeting and Special Transportation Commission Meeting*, City of Berkeley, Berkeley, CA, https://www.cityofberkeley.info/uploadedFiles/Clerk/Level_3_-_Commissions/040908MB32.pdf

33. Charles Siegel, “Public Comment : BRT, NIMBYs, and the New York Times,” *The Berkeley Daily Planet* (Berkeley, CA), March 22, 2011, <https://www.berkeleydailyplanet.com/issue/2011-03-23/article/37556>

preservation. For better or worse, parking is one of the “protected classes” under the California Environmental Quality Act (CEQA); along with impacts to water and air quality, projects must be assessed on their impact to local parking availability.³⁴ This seems counter-intuitive to the broad understanding that more parking encourages more driving,³⁵ and it’s widely understood that more driving has a negative environmental impact. (Recent efforts to find other uses for parking spaces in urban and suburban areas³⁶ frequently don’t include turning parking lanes into dedicated bus lanes.³⁷) However, it means that if a project is found to have an un-mitigated negative effect on the amount of available parking, alternatives including not building the project at all must be considered. Parking is not what most people would think of in the context of conservation, but it is a contentious issue and can lead to project cancellations.

FIGURE 4-4 EXISTING PARKING SUPPLY AND OCCUPANCY BY SEGMENT



Legibility somewhat enhanced from *BRT for Berkeley: A Proposal for Consideration* [pg 106].

34. Arthur F. Coon, “Is ‘Parking’ Really A CEQA Impact? Same As It Ever Was!,” *JDSupra Blog*, June 26, 2013, <https://www.jdsupra.com/legalnews/is-parking-really-a-ceqa-impact-same-53939/>

35. Emily Badger, “The problem with too much parking,” *The Washington Post*, January 15, 2016, <https://www.washingtonpost.com/news/wonk/wp/2016/01/15/the-problem-with-parking/>

36. S A Rogers, “Free of Parking: Cities Have a Lot to Gain from Recycling Car-Centric Space,” *99 Percent Invisible*, March 1, 2019, <https://99percentinvisible.org/article/free-of-parking-cities-have-a-lot-to-gain-from-recycling-car-centric-space/>

37. San Francisco: Meeting The Smart City Challenge (San Francisco Municipal Transit Authority, 2016), https://www.sfmta.com/sites/default/files/projects/2016/SF%20Smart%20City%20Challenge_Final.pdf

The parking issue was the most frequently-cited concern during public meetings and in various articles about the community opposition to any changes on Telegraph.³⁸ Berkeley put forth their Locally Preferred Alternative³⁹ in April of 2010 – it amounted to little more than the No-Build alternative studied under the CEQA requirements, so Berkeley effectively withdrew from the project. More extensive changes were allowed along Bancroft and Shattuck, but with the restrictions placed on the intervening section of Telegraph there was no way the bus would be getting to the other areas. Unfortunately the short-sighted concerns for private vehicles outweighed the potential benefits of better public transit for a busy corridor in Berkeley.

San Leandro Alterations

With the loss of the Berkeley end of the line, the residents between downtown Oakland and the Berkeley border also lost out on this service; due to bus depot needs, the end of the line was set at the Uptown Transit Center at 20th and Broadway in downtown Oakland. Again due to opposition, San Leandro's southern end of the line was shortened and many residents in those neighborhoods were also cut off from better bus service. San Leandro's objection was primarily to the dedicated bus lanes through the downtown area between the San Leandro and Bay Fair BART stations, as well as a lack of study of the increased traffic along alternate routes. It's unclear if this was due to citizen input or if this was from a city planning level.

Of the four plans AC Transit presented for the San Leandro route, the city chose to support Alternatives 2 and 4. They laid out their concerns about five of the CEAQ-mandated mitigation categories discussed in the Draft EIS/R (DEIS/R). The most extensive comments were dedicated to traffic/circulation and parking impacts. Issues with the former include lack of impact evaluation of increased, diverted traffic on side streets and at intersections.⁴⁰ This is a known issue with CEQA evaluations only requiring study of the first quarter- to half-mile

38. Riya Bhattacharjee, "Berkeley Residents Strongly Oppose BRT at Council Hearing," *The Berkeley Daily Planet* (Berkeley, CA), April 21, 2010, <https://www.berkeleymedia.org/issue/2010-04-20/article/35085>

39. *Presentation and Discussion: Berkeley Rapid Transit Locally Preferred Alternative*, Supplemental Agenda Material, Office of the City Manager, Berkeley, CA, April 29, 2010, <https://www.cityofberkeley.info/uploadedFiles/BRT.pdf>

40. San Leandro, "[San Leandro Comments on EBBRT DEIS/R, May 2007](#)"

surrounding a project. When evaluating changes to traffic flow, this is woefully inadequate and does not even begin to cover the issue of traffic diverted to other streets which may be further away. 95% of urban driving trips in the US are a mile or more,⁴¹ so studying an area only a half-mile from a project does not fully capture the potential traffic impacts of a project.

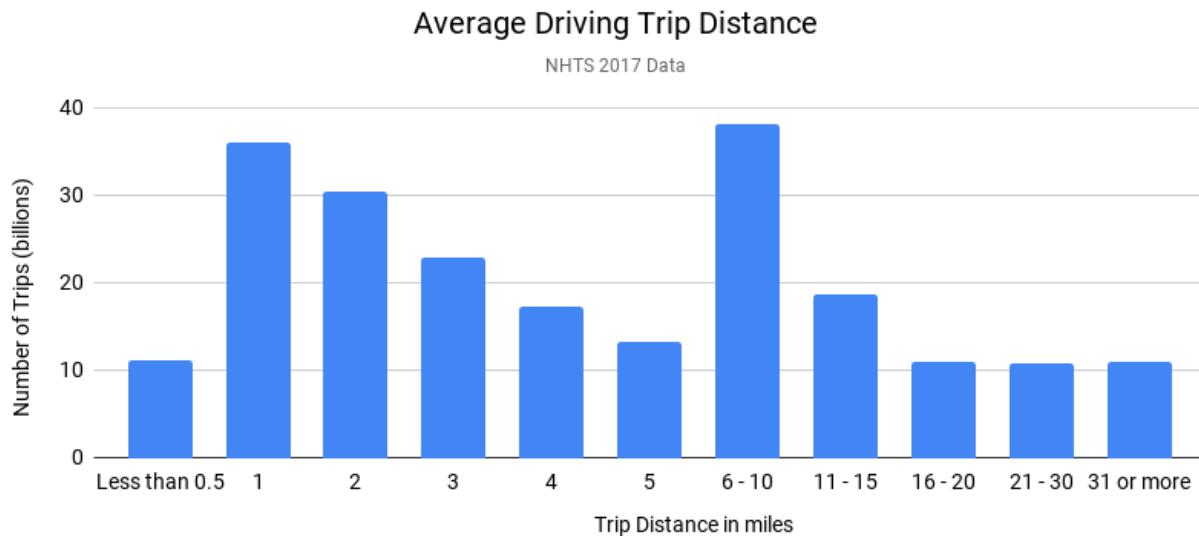


Chart recreated from NHTS 2017 *Popular Vehicle Trips Statistics : Distance*.

Another concern involved the *East 14th North Area Improvement Project* and the *East 14th South Area Median Project* happening along the same stretch that AC Transit was proposing to tear up for the dedicated BRT roadway. The South Area plan, published in 2004, spends six pages discussing the implication of dedicated BRT lanes through the area and demonstrating unacceptable negative impacts they would have.⁴² The lack of coordination from AC Transit along this stretch is surprising. It seems that no mitigation was proposed by the DEIS/R for the disruption to these two projects under Alternatives 1 and 3, and the city was very justified in using that lack to reject those proposals.⁴³

The parking impacts of dedicating one travel lane for BRT also faced opposition in San Leandro, this time at the city level with a memo from the Mayor's office stating that "on-street

41. National Household Travel Survey, "Popular Vehicle Trips Statistics : Distance," Federal Highway Administration, [Data Visualization], 2017, <https://nhts.ornl.gov/vehicle-trips>

42. City of San Leandro, "East 14th Street South Area Development Strategy : Appendices," [Development Strategy], April 2004, <https://www.sanleandro.org/civicax/filebank/blobdownload.aspx?BlobID=27787>

43. San Leandro, "[San Leandro Comments on EBBRT DEIS/R, May 2007](#)"

parking spaces are vital to San Leandro merchants.”⁴⁴ CEQA supports this, as many developers are able to avoid building more parking if they can prove that sufficient on-street parking is available as a mitigation.⁴⁵ Such a strong statement from the city would seem to have been influenced by the public, who feel that “the loss of parking was more detrimental to the community than the current travel delays.”⁴⁶ Like Berkeley’s decision, this seems solely focused on maintaining status quo for those who are comfortable with it and willfully ignoring the potential benefits of a change for everyone else.

Other mitigation concerns cited by the city were –⁴⁷

Land Use : Aside from the interference with the ongoing projects on East 14th Street, San Leandro didn’t feel that AC Transit had done enough to address the impact of a long-term construction project on the businesses along the bus corridor. In particular, one of the projects would be particularly negatively impacted by dedicated BRT lanes connecting to Bayfair BART; there was no allowance in that project for this change. They again cited the lack of study of impact of diverted traffic along alternate routes.

Environmental Justice : The “temporary” effects of construction to minority and low-income populations are not necessarily temporary; no mitigations were provided for impacts to businesses anywhere along the corridor. Although no evidence was presented in the document regarding this claim, it is clearly demonstrated repeatedly that the lack of access to generational wealth and other forms of collateral is a major barrier to minority and low-income business owners.

Noise : No noise impact studies were done along the alternate routes to assess the potential increase due to increased traffic.

44. San Leandro, “San Leandro Comments on EBBRT DEIS/R, May 2007,” 3.

45. Coon, “Is “Parking” Really A CEQA Impact?”

46. San Leandro, “San Leandro Comments on EBBRT DEIS/R, May 2007,” 3.

47. *ibid.*

San Leandro was ultimately supportive of the project; they were able to compromise on Alternatives 2 and 4 to get this service to some of their residents rather than none. The city is continuing to make improvements to the San Leandro Transit Center, and hopes that BRT will eventually extend to Hayward.⁴⁸ With the other projects along East 14th Ave, it will be interesting to see what route this extension will take. Hopefully the lack of coordination between major improvement projects will be addressed and any extension can be completed more quickly than the initial implementation.

Conclusion

Barely two months after the line opened, deep in the COVID-19 pandemic, the Tempo line was carrying nearly 20% of its anticipated capacity which still made it the most heavily used line in all of AC Transit's service area.⁴⁹ The service has become so popular that AC Transit has released a separate "bus crowding app" to allow customers to check the crowding levels on Tempo buses so that they won't be left behind at a stop when the bus has reached capacity.⁵⁰ Despite this popularity, there is also resentment about the time it took to open and the issues caused by construction along the route. Only four years past the deadline is not bad for a project that took 20 years, but shortening the timeline is necessary to deliver useful service and prove the efficacy of such systems.⁵¹

Twenty years is too long to implement not even 10 miles of a BRT route. It's unfortunate that it took so long and has delivered so little; the impact of COVID-19 on ridership going to provide further evidence to opponents that BRT is an unnecessary expense. The large swathes of low-income, Black, and immigrant communities along the route who rely on transit also stand to benefit the most from this service, but living in the between city spaces means they're

48. Andrew J Mogenson (Planning Manager, City of San Leandro), private email with the author, 2020-11-30.
49. Michael Eshleman (Service Planning Manager, AC Transit), interview with the author, 2020-10-07.

50. "AC Transit Now Offering Real-Time Onboard Crowding Information in the Fight Against COVID-19," AC Transit, [Press Release], November 4, 2020, <http://www.actransit.org/2020/11/04/ac-transit-now-offering-real-time-onboard-crowding-information-in-the-fight-against-covid-19/>

51. *TransitCenter Blog*, "[Lessons from Oakland's 20-Year BRT Saga](#)"

frequently excluded from accessing many of the transit options that serve downtowns.⁵²

Although these suburban areas are lower density than urban centers, they still have potential to be well-served by transit as shown by various PNT calculations. Urban density is not the only factor that creates access to transit; it depends on the system planners to value serving other areas as well.⁵³

Although many of the concerns raised about the BRT route were reasonable, the amount of time it took to build belies the National Bus Rapid Transit Institute's advocacy for BRT as a low-cost, rapid-implementation solution to providing rail-levels of service. At a total cost of \$232 million, unfortunately Tempo doubled cost since final approval in 2012 and ended up being nearly as expensive as non-electrified light rail.⁵⁴ Dedicated lanes are a critical feature of a BRT system⁵⁵ but they are not the only one, and simply running a bus along a fixed route ignores the advantages of it being a bus.⁵⁶ Including features that take advantage of the non-fixed-route options of a bus-based system may help alleviate other concerns but unfortunately, with a timeline and budget like Tempo it's going to be difficult to convince residents and riders that more BRT lines are beneficial.

It's unfortunate that short-sighted individuals in Berkeley prevailed to deprive whole unrepresented neighborhoods of rapid bus service. City-sponsored storage of private vehicles is not only an environmental hazard by decreasing barriers to driving,⁵⁷ but can be used as a stick to beat down major improvement projects. A better understanding of how each part fits into the whole ecosystem of a city might result in more long-term improvement projects. Better representation of marginalized voices could also help, but those are frequently the people who have the least ability to or interest in participating in public meetings. Hopefully the lessons from the Tempo project will not be prohibitive for another attempt, as AC Transit has several other routes in the system that would benefit from similar treatment. 

52. *TransitCenter Blog*, “[Lessons from Oakland’s 20-Year BRT Saga](#)”

53. Marks, *People Near Transit: Improving Accessibility and Rapid Transit Coverage in Large Cities*

54. Rudick, “[Oakland BRT Line Opens](#)”

55. *The Online Bus Rapid Transit Planning Guide*

56. Weinstock et al., *Recapturing Global Leadership in Bus Rapid Transit : A Survey of Select U.S. Cities*

57. Badger, “[The problem with too much parking](#)”

References

- “\$15 Million for Bus Rapid Transit Project.” AC Transit. [Press Release]. February 1, 2010. <http://www.actransit.org/2010/02/01/15-million-for-bus-rapid-transit-project/>.
- “AC Transit Now Offering Real-Time Onboard Crowding Information in the Fight Against COVID-19.” AC Transit. [Press Release]. November 4, 2020. <http://www.actransit.org/2020/11/04/ac-transit-now-offering-real-time-onboard-crowding-information-in-the-fight-against-covid-19/>.
- “Telegraph Ave. – International Blvd. route alignment chosen for East Bay’s initial Bus Rapid Transit project.” AC Transit. [Press Release]. August 3, 2001. <http://www.actransit.org/2001/08/03/telegraph-ave-international-blvd-route-alignment-chosen-for-east-bays-initial-bus-rapid-transit-project/>.
- “The East Bay’s First Bus Rapid Transit Line Is Coming.” AC Transit. [Press Release]. March 28, 2016. <http://www.actransit.org/2016/03/28/the-east-bay%E2%80%99s-first-bus-rapid-transit-line-is-coming/>.
- Badger, Emily. “The problem with too much parking.” *The Washington Post*, January 15, 2016. <https://www.washingtonpost.com/news/wonk/wp/2016/01/15/the-problem-with-parking/>.
- Bhattacharjee, Riya. “Berkeley Residents Strongly Oppose BRT at Council Hearing.” *The Berkeley Daily Planet* (Berkeley, CA), April 21, 2010. <https://www.berkeleydailyplanet.com/issue/2010-04-20/article/35085>.
- Cabanatuan, Michael, and Rachel Swan. “East Bay’s new bus rapid transit line to bring a new Tempo to East Oakland.” *San Francisco Chronicle*, August 8, 2020. <https://www.sfgate.com/bayarea/article/East-Bay-s-new-bus-rapid-transit-line-to-bring-15468242.php>.
- BRT for Berkeley: A Proposal for Consideration.* City Of Berkeley Staff Proposal For a Locally Preferred Alternative of the East Bay Bus Rapid Transit Project. City of Berkeley, Berkeley, CA, September 8, 2009. [https://www.cityofberkeley.info/uploadedFiles/Planning_\(new_site_map_walk-through\)/Level_3_-_General/LPA_REPORT_FINAL_090809_FULL_REPORT.pdf](https://www.cityofberkeley.info/uploadedFiles/Planning_(new_site_map_walk-through)/Level_3_-_General/LPA_REPORT_FINAL_090809_FULL_REPORT.pdf).

Final Minutes of Regular Planning Commission Meeting and Special Transportation Commission Meeting. City of Berkeley, Berkeley, CA. https://www.cityofberkeley.info/uploadedFiles/Clerk/Level_3_-_Commissions/040908MB32.pdf.

Contact], Frank Jimenez [LAO. *Impact of COVID-19 on State Transportation Revenues*. California Legislative Analyst's Office, September 17, 2020. <https://lao.ca.gov/Publications/Report/4268>.

Coon, Arthur F. "Is "Parking" Really A CEQA Impact? Same As It Ever Was!" *JDSupra Blog*, June 26, 2013. <https://www.jdsupra.com/legalnews/is-parking-really-a-ceqa-impact-same-53939/>.

Cortright, Joe. *Measuring Urban Transportation Performance: A Critique Of Mobility Measures and a Synthesis*. Technical report. Impresa and CEOs for Cities, September 2010. <https://web.archive.org/web/20150503142100/http://www.ceosforcities.org:80/research/driven-apart>.

Deng, Taotao, and John D. Nelson. "Recent Developments in Bus Rapid Transit: A Review of the Literature." *Transport Reviews* 31, no. 1 (2011): 69–96. <https://doi.org/10.1080/01441647.2010.492455>.

Final Environmental Impact Statement/Final Environmental Impact Report. AC Transit, January 2012. <http://www.actransit.org/final-environmental-impact-statementfinal-environmental-impact-report-feisfeir/>.

"Rapid Transit Trends Show Record Growth in 2016, with Huge Increases in China, Brazil." ITDP. February 17, 2017. <https://www.itdp.org/2017/02/17/rapid-transit-trends/>.

Levi, Ryan. "AC Transit Breaks Ground on East Bay's First Bus Rapid Transit Line." *KQED* (San Francisco, CA), August 26, 2016. <https://www.kqed.org/news/11062141/ac-transit-breaks-ground-on-east-bays-first-bus-rapid-transit-line>.

Li, Zheng, and David A. Hensher. "Performance Contributors of Bus Rapid Transit Systems within the ITDP BRT Standard: An Ordered Choice Approach." 2019. <http://hdl.handle.net/2123/19903>.

Manville, Michael, Brian D Taylor, and Evelyn Blumenberg. *Falling Transit Ridership: California and Southern California*. UCLA Institute of Transportation Studies and SCAG, January 2018. <https://trid.trb.org/view/1500403>.

Marks, Michael. *People Near Transit: Improving Accessibility and Rapid Transit Coverage in Large Cities*. ITDP, October 2016. <https://www.itdp.org/publication/people-near-transit/>.

"A Go-Ahead For Bus Rapid Transit." April 30, 2012. <https://www.masstransitmag.com/home/press-release/10707566/ac-transit-a-goahead-for-bus-rapid-transit>.

National Household Travel Survey. "Popular Vehicle Trips Statistics : Distance." Federal Highway Administration. [Data Visualization]. 2017. <https://nhts.ornl.gov/vehicle-trips>.

Nelson, Arthur C., and Joanna Ganning. *National Study of BRT Development Outcomes*. University of Utah and the National Institute for Transportation and Communities, December 2015. https://nitc.trec.pdx.edu/research/project/650/National_Study_of_BRT_Development_Outcomes.

Nelson\Nygaard Consulting Associates. *International/telegraph Corridor Rapid Bus Study – Phase IV*. Technical report. Ridership numbers : pg 2-2. AC Transit, April 2009. http://www.actransit.org/wp-content/uploads/Line1r_3.pdf.

Rogers, S A. "Free of Parking: Cities Have a Lot to Gain from Recycling Car-Centric Space." *99 Percent Invisible*, March 1, 2019. <https://99percentinvisible.org/article/free-of-parking-cities-have-a-lot-to-gain-from-recycling-car-centric-space/>.

Rudick, Roger. "Oakland BRT Line Opens." StreetsBlogSF. August 7, 2020. <https://sf.streetsblog.org/2020/08/07/oakland-brt-line-opens-sunday/>.

San Francisco: Meeting The Smart City Challenge. San Francisco Municipal Transit Authority, 2016. https://www.sfmta.com/sites/default/files/projects/2016/SF%20Smart%20City%20Challenge_Final.pdf.

San Leandro, City of. "East 14th Street South Area Development Strategy : Appendices." [Development Strategy]. April 2004. <https://www.sanleandro.org/civicax/filebank/blobload.aspx?BlobID=27787>.

———. "RE: Comments on East Bay Bus Rapid Transit (BRT) Project, Draft Environmental Impact Statement/Draft Environmental Impact Report, May 2007." City Council Minute Orders. [Staff Report]. July 2, 2007. <http://weblink.sanleandro.org/publicweblink8/0/doc/191335/Page1.aspx>.

Schrank, David, Tim Lomax, and Bill Eisele. *2019 Urban Mobility Report*. Texas A&M Transportation Institute, August 2019. <https://mobility.tamu.edu/umr/report/>.

Siegel, Charles. "Public Comment : BRT, NIMBYs, and the New York Times." *The Berkeley Daily Planet* (Berkeley, CA), March 22, 2011. <https://www.berkeleydailyplanet.com/issue/2011-03-23/article/37556>.

Presentation and Discussion: Berkeley Rapid Transit Locally Preferred Alternative.

Supplemental Agenda Material, Office of the City Manager, Berkeley, CA, April 29, 2010. <https://www.cityofberkeley.info/uploadedFiles/BRT.pdf>.

The Online Bus Rapid Transit Planning Guide. 4th ed. Institute for Transportation & Development Policy, 2017. <https://brtguide.itdp.org/branch/master/guide/>.

"Santa Clara County Bus Rapid Transit." TransForm. <https://www.transformca.org/landing-page/santa-clara-county-bus-rapid-transit>.

TransitCenter Blog. "Pick Up the Tempo: Lessons From Oakland's 20-Year BRT Saga." September 17, 2020. <https://transitcenter.org/lessons-from-oaklands-tempo-bus-rapid-transit-project/>.

Weinstock, Annie, Walter Hook, Michael Replogle, and Ramon Cruz. *Recapturing Global Leadership in Bus Rapid Transit : A Survey of Select U.S. Cities*. ITDP, May 2011. https://itdpdotorg.wpeengine.com/wp-content/uploads/2014/07/20110526ITDP_USBRT_Report-LR.pdf.

Wikipedia. Bus rapid transit. [Accessed 2-Dec-2020]. Edit Date November 29, 2020. https://en.wikipedia.org/wiki/Bus_rapid_transit#History.

———. List of AC Transit routes. [Accessed 23-Nov-2020]. Edit Date January 6, 2017. https://en.wikipedia.org/w/index.php?title=List_of_AC_Transit_routes&oldid=758539956#Rapid_service.

———. List of sovereign states. [Accessed 28-Oct-2020]. Last Edited October 23, 2020. https://en.wikipedia.org/w/index.php?title=List_of_sovereign_states.

WSP and Parsons Brinckerhoff. *Major Corridors Study Final Report*. Technical report. Ridership numbers : Table 1 pg 21. AC Transit, August 24, 2016. http://www.actransit.org/wp-content/uploads/Final-MCS-Report_August2016_v1.pdf.