



DOUBLE DECKER EVALUATION

December 2019

Linda Morris
Senior Transportation Planner
Service Development Department



ACKNOWLEDGMENTS

Implementing the double decker program took many hours of dedicated staff time and effort to ensure a successful launch and ongoing service. It takes internal champions to ensure success and staff were fortunate to have the Chief Operating Officer, **Sal Llamas**, to help guide the implementation over difficult hurdles. The following staff were also key in its success and provided invaluable feedback for the evaluation.

Legislative and Community Relations – **Ryan Lau, Claudia Burgos**

Planning – **Michael Eshelman, Robert del Rosario**

Scheduling – **Eric Harris**

Safety – **Tabby Davenport**

Maintenance – **Cecil Blandon, Chris Durant**

Operations – **Derik Calhoun, Dwain Crawley, Arlee Young, Will Wong**

Marketing and Communications – **Michele Joseph, Julia Kocs, Trevor Green**

Facilities – **Rick Wrzesinski, Charles Obriant**

Training – **Michael Flocchini**

Staff Report 20-012 provides a summary of the evaluation results and will be presented to the AC Transit Board on January 22, 2019.

EXECUTIVE SUMMARY

Since December 2018, 12 double decker buses have been operating on Transbay service every weekday. This report provides an evaluation of Alexander Dennis Enviro 500 buses in service and makes a recommendation as to whether to purchase more for the Transbay fleet. Currently, Alexander Dennis is the only Buy America compliant manufacturer of low-height double decker bus that are height appropriate for California roadways.



Transbay service has seen rapid growth since the rebound from the Great Recession in 2013. Due to recent housing developments in the East Bay and ongoing job growth in San Francisco, more and more people are living in the East Bay and commuting daily into San Francisco. With BART at capacity and the new Salesforce Transit Center open, AC Transit Transbay service has become a more attractive way to commute. The double deckers have only increased the attractiveness of the service. The passenger survey demonstrated how positively they are viewed by passengers, with over 50 percent of respondents stating the double decker influenced them to ride the service more. Passengers with accessibility needs also considered it more favorable than the existing Motor Coach Industries (MCI) bus.

Internally, the feedback is more mixed. The operators and mechanics voiced the most reservations with the bus; however, the majority of those staff surveyed or interviewed would like to see more of these buses in the Transbay fleet. The Planning analysis proved dwell time to be less of a concern than originally thought, and given the overcrowding seen on many lines the additional capacity benefit outweighs any constraints due to the height of the bus. However, Maintenance staff experienced most of the initial problems with the bus including some manufacturing defects and some design defects that were compounded by slower than anticipated parts deliveries from the manufacturer.

Most staff agreed the double decker bus would be an asset to the District, though it comes with unique operational differences and some manufacturing concerns. Some of these are challenges, which staff will work on to resolve. Others are only differences, which staff recognize and have adjusted standard procedures to accommodate. Ultimately, staff recommends purchasing more double deckers when funds are available, with two caveats:

1. Restructure Transbay service to allow for more double-decker viable lines with minimal overhead obstructions.
2. Work with Alexander Dennis to alleviate some of the structural/manufacturing concerns from Maintenance and Operations staff.

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1. INTRODUCTION

December 3, 2018 saw the deployment of the first of 15 double decker buses in service on AC Transit Transbay lines. This report is an evaluation of the double deckers in service and provides a recommendation on whether to pursue more for the Transbay fleet. Nearly all departments were solicited for feedback and an extensive passenger survey was undertaken. The District needs to determine the composition of the Transbay fleet of the future, especially given the passage of Regional Measure 3 includes funding for fleet expansion in the coming years.

This report provides the background to the purchasing decision based on the 2015 pilot, and a brief overview of the implementation process. The evaluation section reviews feedback and analysis from eight internal departments, plus passengers and the Accessibility Advisory Committee. The analysis summarizes the strengths and challenges of the bus and provides a recommendation for the District to consider purchasing more.

1.1 DOUBLE-DECKER PILOT

In 2015, Alexander Dennis loaned the District one bus and the District conducted a double-decker pilot on Transbay and local service for three weeks. The evaluation of the pilot determined the following:

- *Efficient* - Double deckers were a cost-effective way to carry more passengers. The alternative for more capacity is to increase the number of trips, which doubles the cost of the service.
- *Good accessibility* - The double deckers were far superior to the MCIs; however, the new low-floor MCI will provide similar accessibility.
- *Positive perceptions* – The passenger surveys provided overwhelming support for purchasing them and the operators driving them were enthusiastic about having them in the fleet.
- *Low maintenance costs* – The peer review determined the bus cost less to maintain than articulated buses and the fuel economy was better than the MCIs and articulated buses.
- *Restricted service* – The buses should not be assigned to local service due to delays from boarding and alighting at the same time with more stops along a line.

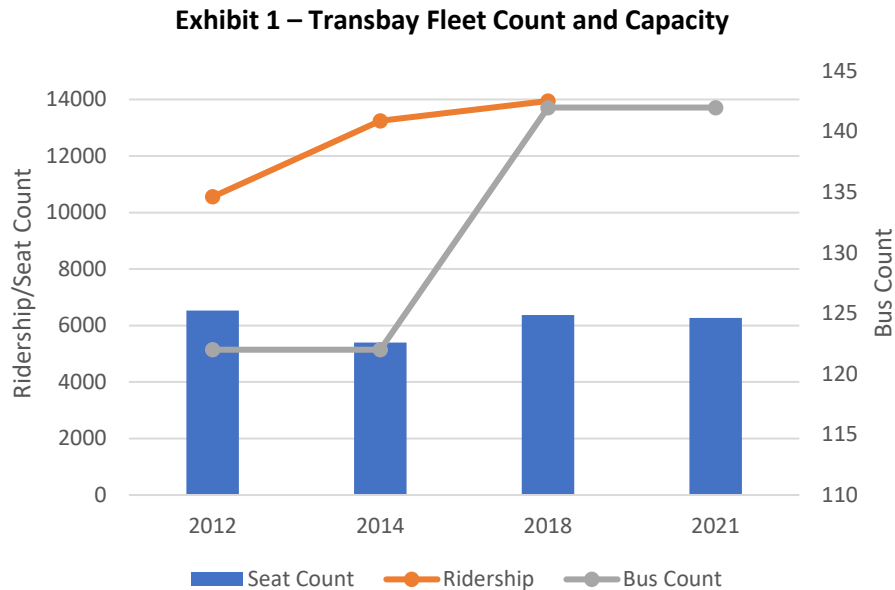
The success of the pilot led to the District purchasing 15 double deckers for Transbay service.

1.2 TRANSBAY RIDERSHIP AND FLEET CAPACITY

The impetus for the 2015 double-decker pilot came from unprecedented ridership growth and the need to replace existing high-capacity buses scheduled to retire in 2017. Transbay ridership grew over 10 percent between 2013 and 2014, and capacity issues continue to exist daily. The current Transbay fleet comprises older Motor Coach Industries (MCI) buses with 57 seats and the newer, commuter style, 40-foot Gilligs with 36 seats. These Gilligs replaced the older model MCI buses in 2014.

This fleet change reduced Transbay seat capacity by 17 percent. The service could not grow commensurate with ridership growth, which in turn grew over 30 percent between 2012 and 2018. These two factors created overcrowding on many Transbay lines. Exhibit 1 below shows this growth in ridership

and drop in seating capacity between 2012 and a projected 2021 with the new MCIs. The new MCIs also lose three seats for accessibility improvements. These will replace the old MCIs one for one in 2021, and so there is a slight dip of 108 in the seat count for that year.



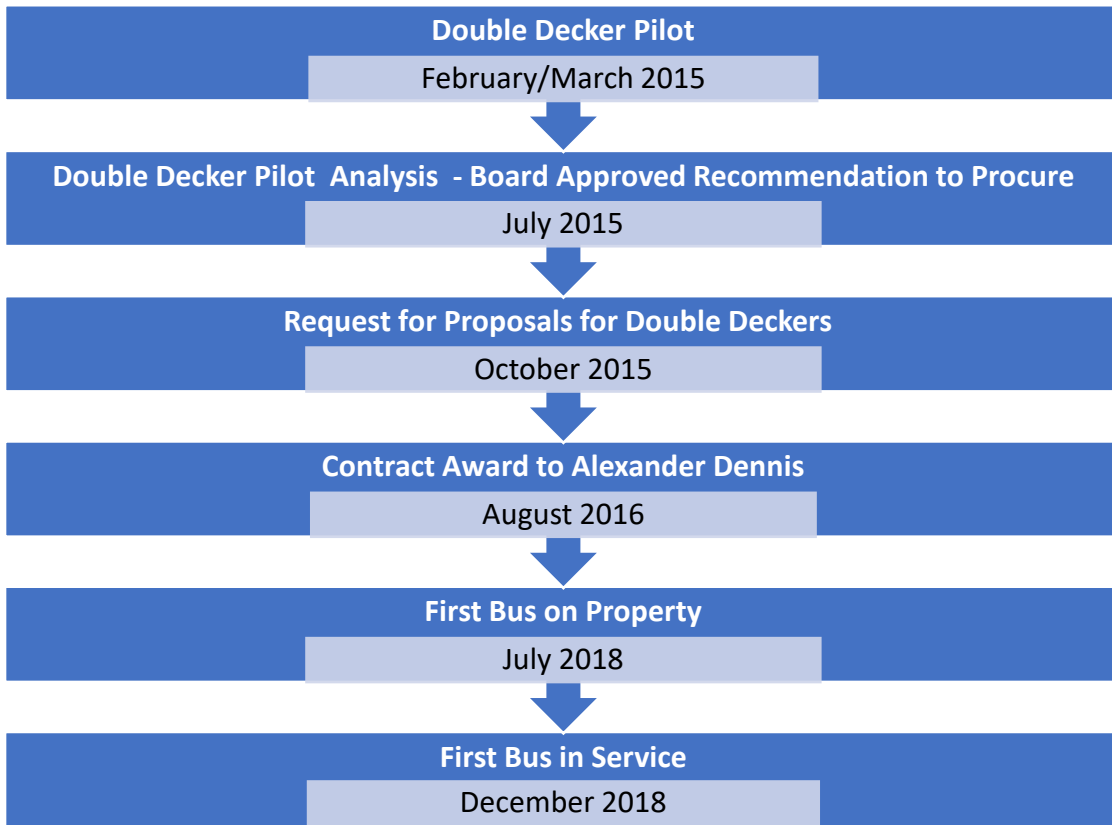
To help alleviate the overcrowding and plan for future growth, AC Transit procured 15 double decker buses from Alexander Dennis in 2016 following the successful pilot. Starting in December 2018, ten double decker buses were deployed on lines FS and J. By February 2019 all twelve buses (with an additional three spares) were in service on lines FS, J, LA, L, 701, and 702.

Even though the buses clearly help solve a capacity challenge, staff wanted to evaluate the buses in service before committing to purchasing any more buses for the fleet. This report provides the evaluation for the purchasing decision.

1.3. IMPLEMENTATION TIMING

From the initial pilot to the first bus in service took three and a half years. The original timeline for receiving the buses was May 2018, with an expectation the buses would start in service as part of the August sign up. Manufacturing delays led to the District receiving the first bus two months later in July, with the final bus received in October. It also took longer than expected to accept all the buses as there were minor manufacturing defects. This led to the District accepting all buses by December. Exhibit 2 provides the timeline of events from the pilot to the first bus in service.

Exhibit 2 – Timeline of Double Decker Procurement to Implementation





2. IMPLEMENTATION

Appendix I is the Standard Operating Procedure (SOP) for the double decker operations, route maintenance, planning and scheduling protocols. The SOP also outlines the activities leading up to the initial implementation in 2018. It became clear through the first implementation that tree trimming would be the largest challenge before deploying the bus on any new line. That is outlined below and described in detail in the SOP.

2.1 LINE CHOICE

The primary benefit and purpose for incorporating double decker buses into the AC Transit fleet is to increase passenger capacity on Transbay lines while minimizing additional operating expense. To this end, Planning staff developed the following criteria to identify lines suitable for double-decker deployment:

1. High ridership demand for service.
2. Limited-stop service to minimize dwell time and delay.
3. Lines that serve at least one major ridership generator.
4. No vertical clearance constraints.

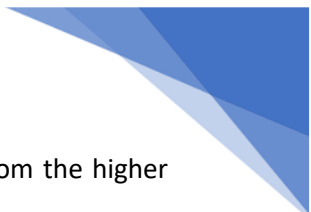
Facilities require a clearance of 14.5 feet to allow for hoisting the double decker bus for maintenance activities. The facilities include the bus wash, fuel island, steam bay, and one maintenance bay at each of the maintenance shops.

- Division 2 requires modifications at the bus wash, steam bay, and maintenance bay.
- Division 3 has the required clearances for all facilities due to the recent modernization project.
- Division 4 requires modifications at the fuel island, bus wash, and major structural modifications to the maintenance bay and steam bay. Funds from the Metropolitan Transportation Commission's (MTC's) Bay Bridge Forward Program are being used to upgrade the bus wash to accommodate the double deckers, which should be complete by the end of 2020.
- Division 6 requires modifications to the bus wash and maintenance bay.

As Division 3 is the only Division to accommodate double deckers without any structural modifications, Planning staff applied the above criteria to the routes at Division 3 and concluded the following:

- Lines FS and J have some of the most overcrowded Transbay trips in the District, with ridership on both lines growing over 20 percent since 2017. On average, ridership on eight trips per day exceeds the seated capacity of the MCI.
- Both lines have even more ridership growth potential with major ridership generators in dense Berkeley and Emeryville residential corridors.
- The Transbay Tomorrow project removed 11 stops on these routes to minimize dwell time.
- Only moderate tree trimming was required to ensure no overhead obstructions.

Out of the 12 buses in service, lines FS and J require nine to fill every trip in service. This leaves three double deckers remaining. Staff chose lines L and LA to assign the remainder of buses as they operate out of Division 3, required only moderate tree trimming and a minor route modification to ensure no overhead obstructions. In addition, the December 2018 service change reconfigured both lines, so that Line LA saw



large ridership increases on peak trips. BART early bird lines 701 and 702 also benefit from the higher capacity buses to meet the high ridership demands.

2.2 TREE TRIMMING PROGRAM

Prior to the launch of the double deckers, staff embarked on an interdepartmental effort to trim low hanging tree branches that posed a safety risk due to the extra height of the buses. Supervision, Safety, and Planning staff identified the specific trees requiring trimming along the identified routes. Tree trimming was the most complex part of the implementation process, mainly because it involved multiple jurisdictions with varying degrees of cooperation. Legislative Affairs and Community Relations (LACR) staff were most heavily involved liaising with the local agency arborists. Once the connections were established for each jurisdiction, LACR staff along with Planning and Operations staff established how much of the trimming the City would be able to accomplish within the bus launch timeline. Where cities were not able to accomplish the trimming in time, or in Cities that didn't have an in-house tree trimming program, staff developed an RFP to procure a certified arborist company to conduct the work. Staff worked with potential vendors and hosted a site visit on-board a double decker bus to evaluate the scope of work. In addition to the tree trimming, the company selected was responsible for obtaining the necessary permits from the local jurisdiction, preparing traffic control plans, posting no parking signs, and delivering notification letters to homes and businesses impacted by the work. MTC's Bay Bridge Forward Program funded this work so the double decker launch could proceed. The contract amount for the tree trimming was just under \$50,000. BART was also simultaneously launching its Early Bird Express (EBX) program to provide bus service replacement between 4:00 a.m. and 5:00 a.m. This effort required double-deckers to provide the necessary capacity on these new EBX lines. BART assisted AC Transit with trimming trees in and around key stations to ensure the double-decker buses on EBX lines can then interline with AC Transit Transbay Lines. Altogether, approximately 250 trees were trimmed as part of the tree-trimming program.

Future lines would undergo the same process of line evaluation, documentation and collaboration with the City. The SOP developed (in Appendix I) details the procedures for ongoing maintenance and new line evaluations.

3. EVALUATION

The evaluation comprises a mix of both qualitative and quantitative feedback. Staff across all departments involved with the operations – or initial launch of the double decker – were solicited for feedback. The following comments are provided from a combination of focus groups, anonymous surveys, and interviews. The District also conducted a thorough online passenger survey and staff analyzed quantitative metrics regarding bus performance. Feedback was focused on answering the overarching question, “Should the District buy more double deckers for the Transbay fleet?”

3.1 PASSENGERS

Staff conducted an online, 12-question passenger survey in April 2019 that was left open for four weeks. The survey questions and answer breakdowns are in Appendix II. Each response was eligible for entry into a draw for a \$100 gift card. This incentive ensured a high response, representing approximately 20 percent of the passenger population for lines assigned double deckers (FS, J, L, LA, 701 and 702).

However, there was a high representation of passengers on lines FS and J, as the majority of buses were deployed on these two lines. These passengers comprised two-thirds of the responses.

Should we buy more double deckers for the Transbay fleet?



A total of 358 passengers responded, of which 322 stated they had ridden a double decker bus. The following results do not include responses from those indicating they have not ridden an AC Transit double-decker bus.

Ride Frequency

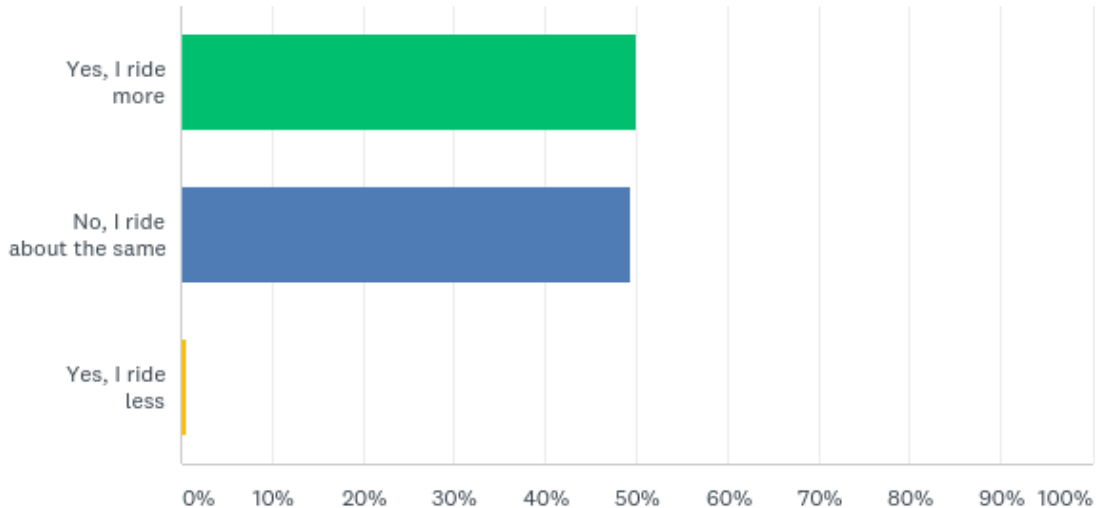
- Over 80 percent of respondents were regular AC Transit riders, riding at least 4 times per week.
- Nearly 70 percent of respondents rode the double-decker bus at least twice a week.
- A third of respondents rode the double decker once or more a weekday.
- Over 50 percent of respondents rode the double decker bus in both the morning and afternoon.
- Nearly 30 percent of respondents rode the double decker bus in the afternoon only with 15 percent riding the morning only.

All the results above show the majority of respondents were regular riders of the double deckers. This ensures the following answers about the bus experience is based on concrete experience.

Influence on Ridership

Half of respondents stated the double decker buses influenced them to ride the Transbay bus more. This is a remarkable percentage of respondents, and an endorsement of the double decker's use as marketing tool to spur ridership growth. The evidence of the growth can be seen in the ridership numbers in section 3.6.2.

Exhibit 3 – “Have the double decker buses influenced your decision to ride Transbay service?”



Accessibility

- Eight respondents stated they rode using a mobility device, which represents fewer than three percent of total respondents.
 - Out of those eight respondents only three had ridden the double decker once or more a day, while the other five respondents had ridden it occasionally or had only ridden it once.
 - Six of those respondents stated the ease of maneuvering around the lower deck was good to excellent, with one skipping the question and one responding N/A.
 - Two thirds of the respondents rode the bus in the morning commute only.
 - Only three respondents stated the double decker influenced them to ride more with one stating they rode less.
 - 71 percent of respondents stated they would like to see AC Transit purchase more double deckers for Transbay service.
 - All lower deck features were rated “good” to “excellent” by all but one respondent. The ventilation/temperature was rated “fair” by two respondents.
 - Despite their mobility device, six respondents commented on the features of the upper deck:
 - Half of those rated the ease of climbing and ascending the stairs as “fair” and all but one rated the stair width as “fair” or “poor”.
 - Half of respondents also rated the exterior view as “excellent”.

- When asked if they would ride the upper deck again, over half of the respondents said they would.
- When asked if they generally ride only the lower deck one respondent answered it was due to the low head clearance, with two stating they were unable or unwilling to climb the stairs.
- Only three respondents provided additional comments: one positive, one negative, and one suggestion about fares and service.

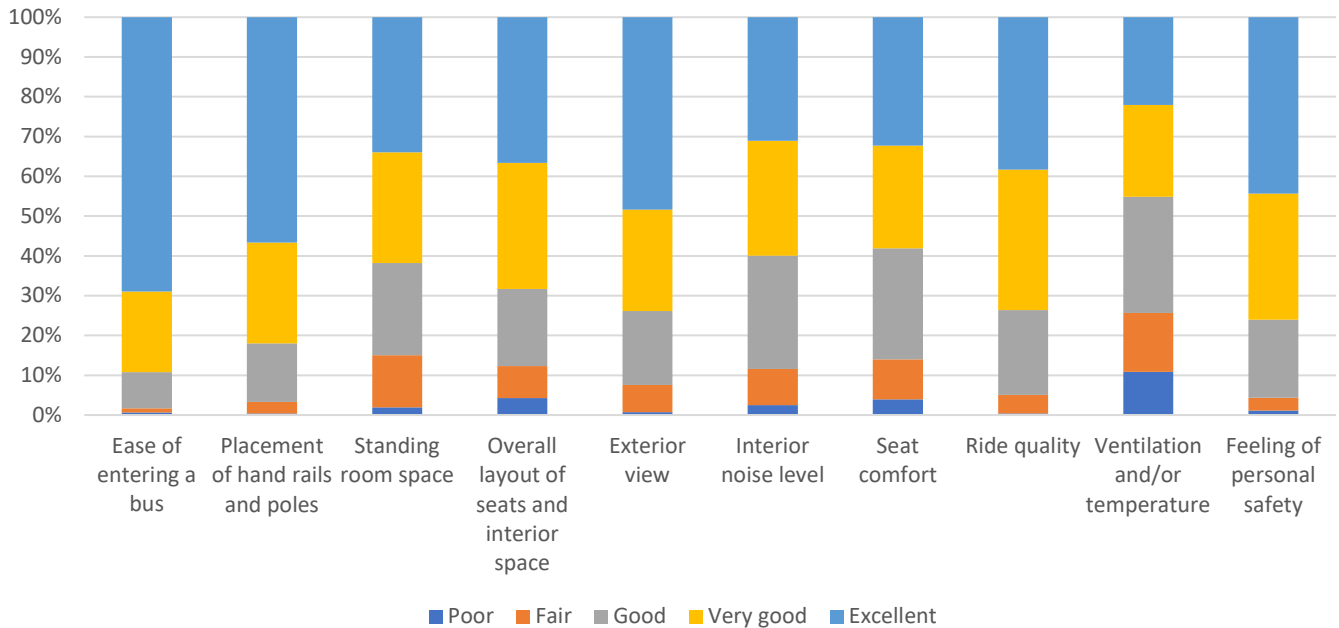
The low number of respondents using a mobility device with regular experience of the double deckers makes it difficult to derive representative conclusions from the survey data. With two thirds riding the bus in the morning only it does provide a different boarding experience to the afternoon when boarding is all at the same time.

Lower Deck Features

Exhibit 4 details the passengers’ response to the lower-deck features of the bus.

- The most highly rated features were the ease of entering a bus, the feeling of personal safety, the ride quality, and the placement of handrails.
- The only standout feature passengers rated poorly was the ventilation with 25 percent of respondents considered this “poor” or “fair.”

Exhibit 4 – Passenger Ratings of the Lower Deck Features

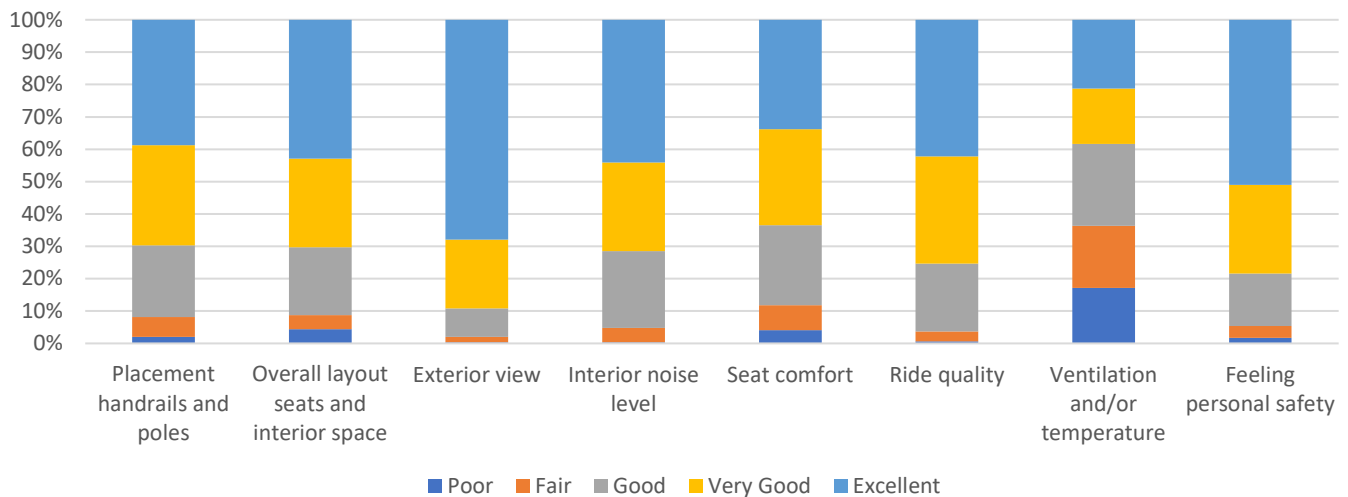


Upper Deck Features

Exhibit 5 below summarizes the responses to rating the upper deck features.

- The exterior view was rated the highest with nearly all responses stating it was “good,” “very good,” or “excellent;” with nearly 70 percent stating it was “excellent.”
- “Feeling of personal safety” was rated second best, with “Interior noise level” rated third highest with over 90 percent of respondents stating they were either, “good,” “very good,” or “excellent.”
- Again, the ventilation was rated the worst. Over 30 percent of respondents stated it was either “fair,” or “poor.”

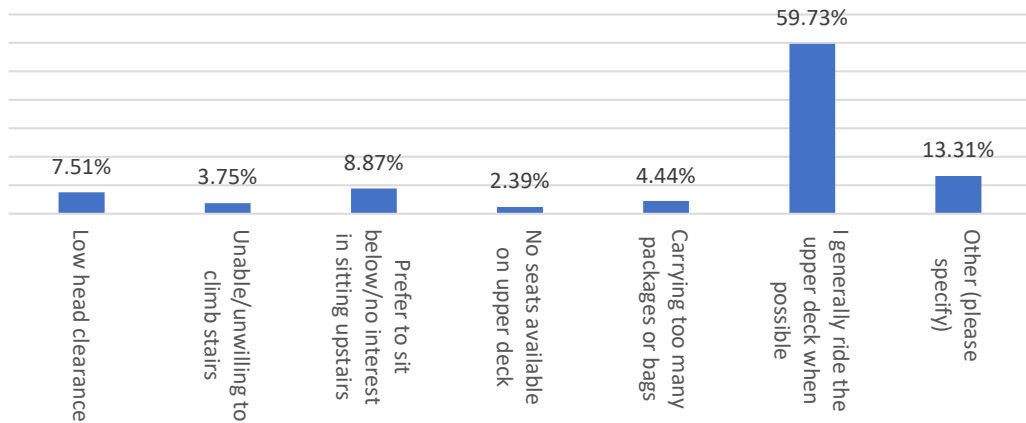
Exhibit 5 – Passenger Ratings of the Upper Deck Features



Why don't you ride upper deck?

Exhibit 6 below shows the responses to the question why passengers don't ride the upper deck. While most responded they do ride the upper deck, the 40 percent who prefer not to stated several reasons. Most responded in the open comments they wanted to be nearer the exit doors for a quick exit. Nearly a fifth of the comments stated it was due to the air conditioning problems and another fifth stated the seats were narrower on the upper deck.

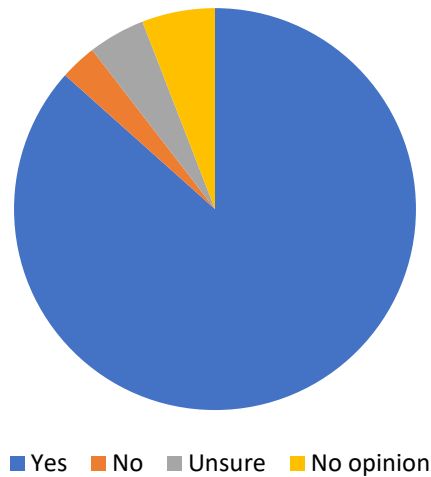
Exhibit 6 – If you generally ride only the lower deck, why don't you use the upper deck?



Should we buy more double deckers for the Transbay fleet?

Exhibit 7 shows the levels of passenger support for buying more double deckers. The 86 percent of respondents who said yes provides a clear endorsement from the Transbay passengers for more double deckers.

Exhibit 7 – “Would you like to see AC Transit purchase more double deckers for the Transbay fleet?”



Other comments/concerns

When respondents were asked if they wanted to provide any additional comments, nearly 80 percent did. All comments are listed in Appendix II. Some of these comments are highlighted in Exhibit 8. Overall the comments broke down into the following general categories:

- The largest percentage of comments (36%) were related to the air conditioning problems.
- Nearly a third of the comments (32%) expressed general positive comments about the buses.
- About 10 percent of the comments were requesting to use them on more lines or trips.
- There were seven comments stating they had switched their commute from BART to Transbay.

Exhibit 8 – Open Comments provided in the survey

“The double decker buses are amazing. I used to be a regular BART rider - these buses made me a complete AC Transit convert! The upper deck is amazing, the seats are great, and the upstairs is so quiet. A few areas for improvement: ...Please consider adding way more! I’d love to see these on the H line.”

Having more seats is fantastic. I will happily take a seat on the upper deck over standing on the lower. Plus more people can ride per bus. I also think the double deckers are nicer than the big coaches and the “regular” buses”

“These are by far the best buses. They’re spacious. Unlike the older big buses you feel claustrophobic. Everything is tight. Plus the newer double deckers can fit more people. They’re clean. I use to ride Bart. I find AC Transit much safer and cleaner.”

3.2 ACCESSIBILITY ADVISORY COMMITTEE (AAC)

The District had a double decker available on-site at the October 2018 AAC meeting for the members to review and provide comments. The Committee provided the following feedback:

- The 10” step height is too steep.
- It is helpful to have the majority of the seating floor-mounted.
- The individual flip seats available are a good feature.
- The wheelchair securement area only gives a 48” width with the securement bars in place.
- The headroom height of 5’7” on the second floor is a challenge.

To capture the comments of those passengers using the bus with accessibility needs, there was a specific question in the passenger survey. Please see Section 3.1 for that feedback.

3.3 SUPERVISORS

A focus group with the supervisors, assistant supervisors, and mechanic working at the Transbay Terminal provided useful insight into the everyday workings of the buses on the front line. The focus group took place prior to moving back in to the Salesforce Transit Center, and so some of their responses spoke to the operations only at the Temporary Terminal. Seven out of nine staff stated they would prefer more low-floor MCIs over the double deckers, mainly for flexibility of route deployment. They also discussed the following challenges and strengths of the buses:

Should we buy more double deckers for the Transbay fleet?



Challenges

- *Mechanical issues* – In the first few months the buses frequently experienced mechanical problems which took them out of service. Notably, the second door opening and the HVAC system were initial issues that have been resolved since the rollout. Supervisors and the mechanic at the terminal were frustrated at the unreliability of the buses.
- *Stability in windy conditions* – Some operators told the supervisors they were concerned about the stability of the bus in windy conditions on the bridge. Supervisors noted they hadn't heard complaints from passengers.
- *Dwell time* – It does take longer to load and off-load the bus as there are more passengers on the bus. However, on a per passenger basis the boarding is marginally quicker than a Gillig. See the dwell time analysis in Section 3.5.5 for more information.
- *Low Ceiling Height* – Some supervisors were concerned about the low height of the lower and upper decks, and the potential for people to bang their heads. This concern wasn't born out in the passenger survey, where fewer than one percent of passengers noted the low head clearance as an issue, and no official incidents have been reported to date.
- *Lack of flexibility* – All supervisors were concerned about the additional height of the bus limiting route flexibility and detours on local streets. This was the main reason the majority wanted to buy more low-floor MCIs over the double deckers. However, they agreed the bus would work well on point-to-point service which would have limited service on local streets.

Strengths

- *Capacity* – The buses take care of the passenger lines quickly. They board and go so it is very good for passenger flow. However, there was some disagreement on this as seen with the dwell time comment above.
- *Positive Passenger Feedback* – The passengers love the bus. The only time they complain to the supervisors is when the buses are not assigned, and they board Gilligs with a crush load instead.

3.4 OPERATORS

Five months after the first double-decker deployment, staff interviewed 15 operators who were assigned double decker runs.

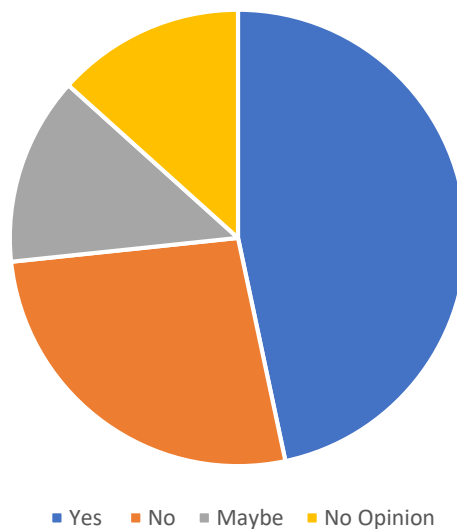
Should we buy more double deckers for the Transbay fleet?



All but two of the operators had driven the route prior to the assignment of double deckers, so the majority were speaking from a place of fleet comparison along the same route. Overall, a third of the operators stated they would not want more of them in the fleet, whereas nearly half of those interviewed would like to see more of them. The remainder were not sure or had no opinion. All operators

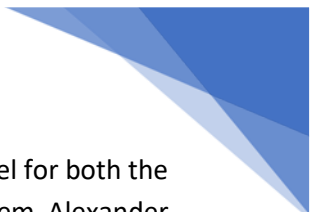
were interviewed individually and anonymously to ensure their candid responses. Their responses are summarized below.

Exhibit 9 – Operators’ Opinions on Buying More Double Deckers



Major Differences:

- *Comfortably carries more passengers.* There are no more standing loads on previously at-capacity trips.
- *Longer Dwell Times.* There are more passengers and so it takes longer to load and unload as you wait for the stairs to clear.
- *Rear door problems.* The doors needed to be cycled to function properly. This has been subsequently addressed by Alexander Dennis.
- *Build Quality.* Many operators considered the double-decker build inferior compared the MCI. From the initial leaks to the back-door problems, half the operators considered the bus less sturdy than the MCI.

- 
- *HVAC.* Operators were struggling to keep the air temperature at a comfortable level for both the upper and lower deck. This ended up being a build issue with the bus and HVAC system. Alexander Dennis is working on implementing the solution, as noted in the maintenance Section 3.5.2.

Safety Concerns:

- *Monitoring top deck and stairwell in motion.* The stairwell camera and upstairs cameras need to remain on for longer so they can see the passengers sit down. Most wanted a button to turn on the cameras when requested or to have an additional delay to see the cameras once the doors are closed.
- *Passengers don't listen.* When told to sit down, passengers often ignore the operator.
- *Perceived detour concerns.* None of the operators had been on detour yet, but a couple were concerned about such an event.

Drivability:

- *Turning Radius.* There was consensus that it drives great. Much better than the MCI.
- *Acceleration.* There was some disagreement here. Just over half thought it was slow with the remainder either did not comment or thought it was fine. Most of those operators concerned about the acceleration drove the EBX 702 line, which runs on a very steep grade up Highway 4.
- *Stability.* A third of the operators were concerned about high winds pushing the bus on the bridge.
- *Tail Swing.* Only a couple of operators mentioned the need to be cognizant of the tail swing.
- *Blind Control.* Operators found it difficult to raise and lower the blind while driving without getting out of their seat. They requested a handle or an electronic control they could easily reach. Maintenance staff is looking into retrofitting the buses with an electronic switch.

Passenger Behavior:

- *Self-Regulating.* Other than not listening to the operator about standing in the stairwell, there were no differences in their behavior on the bus.
- *Passengers in wheelchairs.* Only two operators experienced a trip with a passenger in a wheelchair. They had no problems with loading the passenger and said it was much quicker and better than an MCI.

When asked why, the operators not wanting more double deckers in the fleet cited lack of route flexibility, safety concerns and preference for the MCI. The operators wanting the double deckers noted the better passenger experience, ability to carry more passengers, their attractive look, and that passengers do love them.

3.5 MAINTENANCE

The maintenance feedback was provided by both management and the mechanics who worked on the buses. This provided a mix of qualitative viewpoints from staff who worked on the buses and some quantitative data on how the bus is performing compared to other buses in the District's fleet.

3.5.1 DIVISION 3 STAFF SURVEY

Maintenance staff at D3 answered an anonymous survey in October, giving them a few months of experience to draw from. All but two of the 35 staff who responded had operated or repaired a double decker. Opinion was mixed as to if they wanted to see more of them in the Transbay fleet, with 51 percent stating they would like to see more, and 43 percent stating they would not. When asked why, the responses fell into four clear categories:

Should we buy more double deckers for the Transbay fleet?



1. *Poor parts availability* – Further discussions with Maintenance managers clarified the responses. The parts availability was initially an issue as the staff were not sure which parts would be needed in stock on a regular basis. As of writing, the parts supply continues to be problematic with lengthy delays.
2. *Lack of training* – Due to some of the manufacturing delays and subsequent launch delays, Alexander Dennis could not provide a timely training schedule.
3. *Poor quality control* – There were some major defects the mechanics noted should have been caught in the manufacturing process. Some of the defects were addressed straight away, such as the waterproof sealing, but others such as the air conditioning will take longer to resolve. These and other more minor defects diminished the trust in the manufacturer.
4. *More staffing required* - The service employees that clean the bus were concerned they now have more surface area and seats to clean. Some also complained about the low height of the top deck making it more difficult for taller employees to clean the buses.

3.5.2 HEATING VENTILATION AIR CONDITIONING (HVAC)

There were numerous initial passenger complaints regarding the air conditioning being too forceful on the top deck. Upon investigation, the temperature sensor was found in the wrong location on all buses, which meant the system falsely registered a much higher the temperature on the top deck and blasted cold air to reduce the temperature. Alexander Dennis retrofitted all the sensors and will eventually add deflectors to prevent air directly hitting passengers. These fixes should alleviate the main HVAC problems but are taking considerably longer than anticipated to resolve with no known timeline at the time of writing. Maintenance staff is also working with Thermo King to improve the software for the temperature control.

3.5.3 LEAKS

The buses were deployed at the start of a particularly wet winter season. Early on all the buses leaked to the point where passengers submitted multiple complaints, and some electronics on the bus were affected. Once the scale of the problem was discovered, staff investigated and found all buses lacked proper sealing. Alexander Dennis was made aware of the problem and had a local vendor fix the sealing on all the buses and the problem was resolved. However, the incident called into question the quality control process of the manufacturer.

3.5.4 COST AND ROAD CALL METRICS

Exhibit 10 compares the double decker cost per mile and fuel efficiency against the rest of the Transbay fleet. The analysis looked at the 10-month period from the beginning of 2019 through October 2019 for all fleet types. The double decker is less fuel efficient than a Gillig, but more than both the New Flyers and old MCIs. When looking at a per seat basis the double decker comes out marginally on top, just behind the New Flyers and Old MCIs.

The double deckers were very similar to the New Flyers when comparing the cost per mile, with the Gilligs costing the least and the MCIs costing the most. However, as most components of the double decker are under warranty for the first year or two, the true cost may not be fully known until the warranties expire.

Looking at the road call data, the double decker travels farther between road calls than the MCIs, but significantly shorter than the Gilligs. This gap may shrink over time as many of the initial mechanical teething problems with the bus are ironed out. For example, some of the early road calls were due to the electrical problems that arose from the leaks.

Exhibit 10 – Fuel and Cost Efficiencies by Fleet Type

	ADL Double Decker	Gillig	New Flyer	MCI (old)	MCI (new)
Bus Specifications					
Seated Capacity	78	36	52	57	54
Fleet Size	15	54	28	36	36
Road Calls 1/19 – 10/19					
Chargeable	41	91	N/A	139	N/A
Non-Chargeable	22	70	N/A	57	N/A
Total Road Calls	63	162	N/A	196	N/A
Miles Run	319,294	1,920,499	N/A	767,958	N/A
Miles Run per Chargeable Road Call	7,788	21,104	N/A	5,525	N/A
Miles Run per Total Road Calls	5,068	11,929	N/A	3,918	N/A
Cost Metrics 1/19 – 10/19					
Fuel Efficiency	3.9 mpg	5.9 mpg	3.3mpg	3.8mpg	N/A
Cost per mile	\$0.31	\$0.22	\$0.30	\$0.89	N/A
Indexed Fuel Efficiency per Seat	0.05	0.16	0.06	0.06	N/A
Indexed Cost per Mile per seat	0.003	0.006	0.005	0.015	N/A

3.5.5 PARTS AVAILABILITY

The mechanics raised valid concerns regarding the parts supply and availability. At the time of writing, one bus has been unavailable for service for four months due to waiting for a non-standard entrance door part and the spare ratio is at 17 percent, below the standard of 20 percent. This is an example of how the parts supply issue seriously hampers service delivery. Managers expect this problem to persist for up to two years as Alexander Dennis improve the parts supply warehousing. Maintenance staff knows they need to consider the long lead time when back-ordering parts and ensuring the right types are in good supply on property.

3.5.6 RETROFITS FROM OPERATOR FEEDBACK

The operator surveys created useful feedback and suggestions for maintenance staff and Alexander Dennis. One good example is the request from operators to be able to move the blinds easily while driving. The original design forces the operator to rise out of their seat to pull the blind down. Maintenance staff are considering an electronic blind control switch retrofit for each bus.

3.6 PLANNING AND SCHEDULING

The following sections relate to feedback garnered from Planning and Scheduling staff.

3.6.1 CAPACITY

The primary purpose of the double decker is to accommodate more seated passengers than other fleet types. The bus can accommodate a third more passengers than the nearest high-capacity bus, the Motor Coach Industries (MCI) bus. As the new low-floor MCIs remove three seats to make way for a more accessible bus with a second door, the double decker features 40 percent more seats than the low-floor MCIs. Exhibit 11 provides the seated capacity for all Transbay fleet types.

Should we buy more double deckers for the Transbay fleet?




Exhibit 11 – Seated Capacity by Fleet Type

Fleet Type	Seated Capacity	# in Transbay Fleet
Double Decker	78	15
MCI	57	36
Low-Floor MCI*	54	0
Transbay Gillig	36	54
Local Gillig	36	40
Articulated New Flyer	52	14
* Will replace MCIs in 2021		

Ridership growth on Transbay service has been so rapid that the District has not been able to provide enough service to meet the demand. Board Policy 545 sets load standards by service type, with Transbay service set at a load factor of 1.0, or no standees. Despite adding limited service where possible and

assigning high-capacity buses by load, many Transbay lines have failed this standard on at least one daily trip for the last 6 years.

Exhibit 12 details the number of trips from spring 2019 with average passenger numbers over the seated capacity of the Gilligs, the existing MCIs and the new MCIs. All but four lines have at least one trip throughout the day requiring an MCI. There are 6 trips in the morning and 6 trips in the afternoon that also exceed the MCI seated capacity. Two of these lines cannot accommodate a double decker without major tree trimming and/or route realignment.

Exhibit 12 – Number of Trips by Line Where Average Passengers Exceed Fleet Capacity

Line	# Trips Require New MCI Capacity	# Trips Require Old MCI Capacity	# Trips Require Double Decker Capacity	# Trips Require New MCI Capacity	# Trips Require Old MCI Capacity	# Trips Require Double Decker Capacity
	AM			PM		
B	1					
C	2	1				
CB	2			1		
E	4			1	1	
F*	2			2		
FS	5		2	2		3
G	3		1	2		
H	4		1	3		
J	6	1	2	6	2	3
L						
LA	1			6		
NL*^				1		
NX	1			N/A	N/A	N/A
NX1	N/A	N/A	N/A			
NX2	N/A	N/A	N/A			
NX3	1					
NX4	2					
O*^	6			5		
OX	2					
P	4			6		
S						
SB						
V	1			2		
W	2					
Z						
TOTAL	49	2	6	37	3	6
* Transbay passengers only						
^ Lines operate 60' articulated buses to accommodate high loads						

3.6.2 RIDERSHIP GROWTH

Line FS and J are assigned double deckers on all blocks as they are the Transbay lines with the highest ridership per trip. In addition, Transbay Tomorrow recommendations implemented in December 2018 included adding trips to both lines to help accommodate the demand. As such, these lines have experienced the highest growth among all lines year over year, at 39 and 15 percent respectively. Exhibit 13 shows ridership and trip numbers for lines FS and J. Ridership increase surpassed even the percentage increase in number of trips. These numbers are confirmed by the passenger survey which comprises predominantly Line FS and J passengers. When asked if the double deckers affected their decision to ride Transbay service, 50 percent of respondents stated that they ride more because of the buses. It's clear from the numbers the buses encourage ridership.

Exhibit 13 – Spring Ridership Growth on Exclusively Double Decker Assigned Lines

Line	Ridership 2018	# of Trips 2018	Ridership 2019	# of Trips 2019	# Trips Increase	% Ridership Increase
FS	522	11	723	14	27%	39%
J	950	22	1091	23	5%	15%

3.6.3 PHYSICAL CONSTRAINTS

The additional height of the bus creates physical height constraints as to where the District can store the buses and where they can be deployed. The constraints are grouped in two categories:

1. Maintenance Facilities

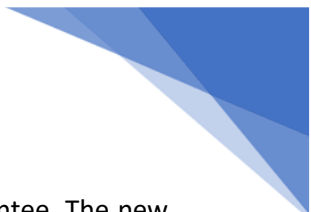
As discussed in Section 2.1, at launch of service only Division 3 had a high enough bus wash to accommodate the double deckers. The other three Divisions will require modifications, mainly to the bus washes. When considering the next round of deployment Planning staff considered geographic flexibility lends itself to upgrading Division 4. The District secured funds through the MTC Bay Bridge Forward program to retrofit Division 4. The work is anticipated for completion in 2020.

2. Overhead Obstructions Along Routes

The majority of the overhead obstructions are overhanging trees; however, there are instances of low hanging power cables that need to be considered. Staff need to assess any future route for suitability in terms of mature overhanging trees or power cables. For the initial deployment on four lines approximately 250 trees needed trimming.

3.6.4 SCHEDULE CONSTRAINTS

Scheduling staff will only deploy double deckers on approved routes. This limits staff's ability to interline the buses for efficiencies. Many Transbay lines are interlined with supplemental routes as the timing of the service is complementary, yet double deckers are only approved for Transbay lines. The more double deckers in the fleet, the fewer efficiencies scheduling can achieve with the supplemental service and so additional service costs may arise. However, with fleet expansion and potential changes in the supplemental service due to SB 328 it is too early to make assumptions.



The additional line approval constraint is unique to the fleet and can be difficult to guarantee. The new HASTUS upgrade will allow for easy assignment in scheduling and dependable deployment at the Division to ensure the buses cannot mistakenly go out on unapproved lines.

3.6.5 DWELL TIME

Three quarters of Transbay lines restrict local riders in the East Bay, serving the commute direction only. This means in the morning passengers are boarding only in the East Bay, while in the afternoon they are only alighting in the East Bay. This makes the service well-suited for double decker deployment as there is no friction between passengers using the one staircase to descend and ascend at the same time.

According to the Transbay Tomorrow survey in 2017, 94% of Transbay passengers use Clipper so dwell time due to cash fares is minimal.

Staff made observations in the field of both loading and unloading at the San Francisco terminal to capture full loads for all three Transbay fleet types (double deckers, Motor Coach Industries [MCIs], and Gilligs). Staff recorded ten random loading and unloading observations per fleet type across several days. Those times and loads were then indexed to provide a dwell per passenger number which allowed for equal comparisons given the different capacities of each bus type. For the observations, only those passengers boarding and alighting in a continuous flow were counted once the operator allowed passengers to board or alight.

Exhibit 14 provides the index of dwell time per passenger by fleet type. The higher the number, the longer the dwell time per passenger. The table shows overall the afternoon loading takes longer than the morning unloading on all fleet types. In the morning the Gilligs are the fastest to unload per passenger and the MCI's are the slowest, nearly double the time it takes for a Gillig. The double deckers are over a third slower than the Gilligs to unload but a third faster than the MCIs. In the afternoon the double deckers are marginally faster than the Gilligs to load with the MCIs taking nearly a third longer than both Gilligs and double deckers. One theory as to why the double deckers are faster than the Gilligs is that on a fully loaded Gillig there is congestion getting on the bus as passengers slowly make way to stand in the aisle. Whereas on the double decker passengers can continue to walk upstairs with no standee friction.

Exhibit 14 – Index of Dwell Time by Fleet Type

Fleet Type	Unloading (AM)	Loading (PM)
Double Decker	1.60	2.43
MCI	2.20	3.43
Gillig	1.13	2.53

3.7 TRAINING

Alexander Dennis provided training for the District's Training Instructors, who in turn trained line instructors at Division 3. The training procedures for the double decker were no different than for any other new fleet type.

Should we buy more double deckers for the Transbay fleet?



Feedback from the line trainers was very positive. The two trainers interviewed considered the bus very easy to handle and received excited, positive reactions from those operators they trained. One of the trainers would like to see more of these buses for Transbay service but with a caveat of ensuring the route alignments are carefully considered due to the height constraints. The other trainer deferred the question to the operators for their opinion.

The trainers provided feedback on the following aspects of the bus:

- *Training time* – This was comparable to any other bus and really is dependent on the length of the line.
- *Extra height* – They saw the height as just something to get used to. Often the operators were concerned about hitting trees, but after driving for a few minutes they felt more comfortable after the initial shock of something new.
- *Wheelchair securements* – Both agreed the new layout was easier than those on the rest of the fleet as there is only one bar to deploy.
- *Stairwell Monitoring* – One trainer stated they train to not move the coach when passengers are in the stairwell, and to make the announcement while driving. Subsequent to this interview an automated announcement was added to this effect. One trainer wanted the monitor to be on while the bus in motion so the operator could see if needed.
- *Drivability* – The trainers considered the bus handles well and has a great turning radius while being smooth and comfortable for all operators.

3.8 LEGAL

During the double decker pilot evaluation, Legal staff and some Board members expressed concerns about a potential for increased numbers of falls associated with the bus. As of October 2019, 10 months into service and a collective 287,000 miles driven, there have been only two incidents resulting in claims with a double decker bus. However, neither of these incidents were passenger falls related to, or unique to, the design or operation of a double decker bus. Both incidents involved collisions with other vehicles and were not due to the specific fleet type.

Should we buy more double deckers for the Transbay fleet?



As a comparison, for the same period there were also two incidents involving MCIs and four incidents involving Transbay Gilligs that resulted in claims. All incidents also involved other vehicles and were not

related to the fleet type. While the MCIs drove over 730,000 miles and the Gilligs over 1.8 million miles in the same period, the limited number of claims for all fleet types cannot lead to any meaningful conclusions. Despite this, no passenger fall claims on the double deckers is encouraging for the first 10 months of service.

3.9 SAFETY

Feedback from the Safety Administrator was overall positive with no safety barriers to purchasing more of them. However, there were some issues brought to the Safety Committee:

Should we buy more double deckers for the Transbay fleet?



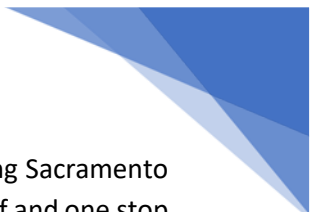
- *High winds on the bridge* - Operators complained they do not have good control over the bus in windy conditions when deadheading with an empty load. The Safety Administrator, training staff, and supervisors instruct operators to reduce their speed and continue cautiously when this occurs.
- *Sightline obstruction* – The original bus had a mirror mounted on the right side to allow the operator to see the bike rack. However, this mirror obstructed sightlines and so was removed from all double decker coaches.
- *Tree damage* – Operators are trained to use their due diligence before coming into the stop. If there are trees that need trimming, they identify them, alert the Division, and staff report them to the jurisdiction to resolve.
- *Fuel consumption vs. incline performance* – Operators noticed when driving on very steep grades the bus slowed below prevailing speeds. The regulator on the engine controls the fuel consumption so that it meets state fuel efficiency standards. Maintenance continues to investigate if a software adjustment can improve the performance while maintain efficiency standards.

As explained in the Claims section, there have been no issues with passenger falls. Initially operations added an announcement to “stay in your seat while the bus is in motion” to help prevent movement on the staircase and there is additional signage to that effect.

3.9.1 INCIDENTS

Incidents logged by the District include accidents on and off the bus along with collisions. The incidents recorded categorize the point of impact on the bus and if there was a fall on or off the bus. Section 3.8 discusses the number of these incidents that then turn into legal claims.

For the period of operations from the start of service to October 2019, there was only one recorded passenger fall **on** the bus as reported by the operator. There were no injuries and the passenger left the scene.



Within the first four months of service there were two tree branch collision incidents along Sacramento Street in Berkeley. These were reported to Legislative Affairs and Community Relations staff and one stop was removed and more trees were trimmed further back. No further tree collision incidents were reported to date.

Other notable incidents relate to damage on the top rear window of the bus relating to the tail swing of the bus.

3.10 MARKETING AND COMMUNICATIONS

AC Transit identified the following objectives for launching the District's inaugural double decker service: garner public and media interest; elevate the agency's image in the community; and increase ridership on Transbay Lines F, J, L and LA.

To achieve these objectives, staff identified low- or no-cost strategies to maximize message reach and frequency touting the new commute alternative between the East Bay and downtown San Francisco.

Feedback obtained from customers during the 2015 double decker pilot indicated the highest-rated feature of the bus was the view from the upper deck. This survey data, paired with a competitive analysis, drove development of the unique introductory positioning with the headline, "Best Seat on the Bridge", coupled with beauty shots of the double decker buses. Compared to use of personal automobiles, transportation network companies and BART, AC Transit's double deckers offer superior views while commuting across the San Francisco Bay.

AC Transit launched its campaign to introduce the first of two phases of fleet rollout in December 2018. The first morning of service was marked with a special Rider Appreciation event at the Temporary Transbay Terminal. During the three-hour event, AC Transit staff greeted Transbay riders, offered promotional items, and answered passenger questions. The event and the double decker rollout generated numerous positive customer mentions and became one of the highest engagement social media campaign of the year.

To further support the campaign, the District developed a splash page for the website, a designated web page with safety messaging and tri-lingual FAQs, tri-lingual brochures and car cards, which are shown in Appendix IV.

For the first two weeks of service, the District deployed a Brand Ambassador Program with the goal of educating riders how to enjoy and ride the new buses safely. Ambassadors distributed brochures highlighting the bus features and safety tips for riding, and reminded customers to stay off the stairs while the bus was in motion.

Social media engagement is high for the double deckers. Since the launch in December 2018 there have been 44 tweets expressing excitement or asking when double deckers will be on their line. Twitter has also proved useful feedback for issues with the bus. By far the largest issue is the forceful air conditioning, with 12 specific tweets about the air. This is echoed in the passenger survey as the most concerning issue perceived by passengers.



4. CONCLUSION

The double deckers bring both great strengths and considerable challenges to the District. All staff agreed the double-decker bus would be an asset to the District, though it comes with unique operational differences. Some of these are challenges, which staff will work on to resolve. Others are only differences, which staff recognize and will adjust standard procedures to accommodate. The following is a summary of the strengths and challenges of the bus and a final recommendation.

4.1 STRENGTHS

- **Capacity Increase** – The bus can nearly double the ridership of one trip without the need for an extra operator. To this end, it also could safeguard loads in times of service cuts when trips are combined.
- **Marketing** – With the ridership growth and the passenger survey response, the bus is clearly very popular and a marketing tool for AC Transit Transbay service.
- **Compact Footprint** – Compared to an articulated bus, it achieves a higher capacity increase with a much smaller footprint. This helps with the maneuverability of the bus and provides more curb-side flexibility at bus stops.

4.2 CHALLENGES

- **Parts Supply** – The supply chain of the manufacturer is not as robust compared to the local supplier, Gillig. Delays in parts availability limits the bus availability for service.
- **Manufacturer Quality Control** – The various manufacturing and design problems cast doubt on manufacturer's ability for quality control.
- **Scheduling Constraints** – Limiting the interlining to only double-decker approved lines may increase service costs with less efficient blocking. This should be considered when devising the Transbay fleet expansion plan.
- **Overhead Obstruction Maintenance** – It will take vigilance to ensure the routes are maintained to accommodate for the additional height. The SOP outlines the procedures but staff need to adhere to it closely

4.3 RECOMMENDATIONS

Exhibit 15 summaries all the feedback from internal departments and passengers. Ultimately most staff believe the District should buy more buses to meet the ridership needs. In order to minimize the labor costs required to meet the Transbay ridership demand, the double deckers provide a cost-efficient way to not only meet the demand but demonstrably grow ridership. Staff recommends purchasing more double deckers as and when funds are available, with two caveats:

- Restructure Transbay service to allow for more double decker viable lines with minimal overhead obstructions.
- Work with Alexander Dennis to alleviate some of the structural/manufacturing concerns from Maintenance and Operations staff.

Exhibit 15 – Summary of Feedback

Stakeholder	Buy more double deckers for Transbay service?
Planning	✓
Scheduling	✓
Operations	✗ ✓
Maintenance	✗ ✓
Legal & Safety	✓
Training	✓
Marketing & Communications	✓
Legislative Affairs and Community Relations	✓
Passengers	✓ ✓
Passengers using Mobility Devices	✓

Just over half of all existing Transbay lines can accommodate double deckers. With the Transbay Tomorrow Expansion Plan scheduled for 2020, more lines could be restructured, and new lines created to better accommodate double deckers.

Staff have also worked closely with Alexander Dennis to resolve some of the initial mechanical issues on the bus. Staff anticipates a closer relationship and improvements as the company's US business matures.



5. APPENDICES


Appendix I – Standard Operating Procedure (SOP)

Appendix II – Passenger Survey Results

Appendix III – Bus Specifications Comparison Table

Appendix IV – Collateral Samples

APPENDIX I – STANDARD OPERATING PROCEDURE

 (DRAFT) STANDARD OPERATING PROCEDURE No. 1	TITLE		
	Double-Decker Operations, Route Maintenance, Planning and Scheduling Protocols		
	AREA	REVISION	CONTROL ID
	Operations and Maintenance	001	20190122
	DEPARTMENT	AUTHORS	
Operations, Maintenance, Planning, Scheduling Legislative Affairs and Community Relations	Linda Morris Cecil Blandon Derik Calhoun Will Wong Claudia Burgos		
REVIEWED	APPROVED		
Linda Morris Cecil Blandon Derik Calhoun Claudia Burgos Eric Harris Tabby Davenport Michael Eshleman	Salvador Llamas		
REPLACEMENT			
First Draft			

1. PURPOSE

This document codifies the operations, maintenance, planning and scheduling protocol for the double-decker buses. This standard operating procedure (SOP) provides direction for all departments listed above and is a living document, to be updated as events and policy changes occur. These procedures establish responsibilities within each department to ensure effective and safe deployment of the double-decker buses.

2. STAKEHOLDERS

<i>Department</i>	<i>Staff</i>
<i>Maintenance</i>	<ul style="list-style-type: none"> • <i>Director of Maintenance</i>
<i>Planning and Scheduling</i>	<ul style="list-style-type: none"> • <i>Senior Transportation Planner</i> • <i>Scheduling Manager</i> • <i>Service Planning Manager</i>
<i>Operations</i>	<ul style="list-style-type: none"> • <i>Director of Transportation</i>
<i>Legislative Affairs and Community Relations</i>	<ul style="list-style-type: none"> • <i>Director of Legislative Affairs and Community Relations</i>
<i>Safety</i>	<ul style="list-style-type: none"> • <i>Safety Administrator</i>



3. GENERAL PROTOCOL

3.1. ROUTE PLANNING AND DEPLOYMENT

The main purpose of the double-decker fleet is to help ease the capacity constraints on Transbay service. Staff used the findings of the 2015 pilot to create implementation criteria, and staff should consider the following when proposing double-deckers on a new route:

- Existing ridership demand capacity constraints on existing fleet.
- Potential ridership growth with proposed development along the route.
- Challenges with overhead obstructions, including trees and power lines.
- Bus stop numbers – Limiting bus stops reduces activity on the stairwell between stops, and prevents increased dwell times.

3.2. SCHEDULING


The buses will only operate on routes that are tested, approved, and maintained according to the procedures in this document. Due to the unique height and operational factors, staff should adhere to the following scheduling constraints:

- No interlines with local or school service.
- Only interline double-decker blocks with double-decker-approved routes.

3.3. NEW ROUTES

When Planning staff proposes double decker deployment on a new route; Planning, Safety, Legislative Affairs & Community Relations, Maintenance, and Transportation staff will conduct the following procedure:

1. Conduct a Field Test – Drive the proposed route(s), to document any overhead obstructions. Collectively, staff will determine if the route is viable, with or without tree trimming or other obstruction clearances.
 - a. Document Obstructions – Where required, staff should document the locations of each specific overhead obstruction and work with Legislative Affairs & Community Relations staff to submit requests to the local jurisdictions to perform the required work.
2. Work with the Jurisdiction to Clear Obstruction – Legislative Affairs & Community Relations staff will communicate AC Transit's request for overhead obstruction clearances to the appropriate City Department. Because procedures vary from jurisdiction to jurisdiction, staff from Planning, Maintenance, and Transportation will be available to provide the necessary details and/or attend meetings as required by the local jurisdiction.
 - a. Alternative Obstruction Clearance Approaches - In cases where the local jurisdiction cannot clear the overhead obstructions for the District, or cannot clear the obstructions within the timeline requested by the District, Legislative Affairs & Community Relations will work with the local jurisdictions to identify an alternative approach to clear the



obstructions. Alternative approaches can include but are not limited to a) District performs the work using District resources, or b) District contracts out the work.

3. Create a Jurisdiction Specific Standard Operating Procedure (SOP) – After meeting with the impacted jurisdiction, a SOP specific to that jurisdiction will be established detailing the process required by each City to request overhead obstruction clearances. The SOP will identify the City department(s) and name, title, and phone number of City staff managing the department. Sample of forms, applications, and/or online request URL will be included in the SOP for reference. Alternative methods to complete tree trimming work will also be included for each respective City. All Approved Double Deck Bus Route detours will be located in MyACT under supervision/detour library.

3.4. ONGOING MAINTENANCE

A Maintenance Standard Task (MST) will be created in Ellipse to establish a routine preventative maintenance activity for clearance of overhead obstructions. The interval for the MST will initially be every six months. Facilities Maintenance staff will coordinate with Transportation so that both departments can assess routes for conditions creating overhead obstructions for double-decker buses. A detailed list of obstructions and exact locations identified will be provided to Service Planning and Legislative Affairs & Community Relations. Facilities Maintenance will enter the list by city into the Bus Stop Maintenance request for tracking and follow up purposes. *Hazardous obstacles that are observed during any time frame* shall be reported using the Work Log request process currently in place. Service Planning and Legislative Affairs & Community Relations staff will communicate the District's requests to the local jurisdictions and follow through with the procedure listed in Section 3.3.

3.5. DETOURS

In the event there is construction, collision, or obstruction that closes the regular service route and a detour is required, the Operator should pull over to a safe location and call the Operations Control Center (OCC). Stopping at a location that allows an operator to make a turn without blocking traffic is ideal, even if it means stopping a block in advance of the obstruction.

OCC will send a supervisor who will map a path to avoid any overhead obstructions that may come in contact with the top of the coach. A measuring stick that extends to 14 feet will be assigned to Supervisor vehicles serving the D3 service area. This will be reviewed semi-annually for any updates. Clever Devices CAD/AVL has a feature for detours that will allow OCC to overlay on the operators TCH. This will allow for detours to be sent directly to the bus to minimize potential accidents.

See Attachments 1 through 4 for specific Line detours.



4. INITIAL 2018 DEPLOYMENT

All 15 double deckers launched out of the Richmond Division (D3) as it is the only Division with a bus wash and facilities high enough to accommodate the double decker. All double deckers will remain at Division 3 until the other yards retrofit their facilities to accommodate double deckers.

For the initial launch, staff determined Lines J and FS have the highest existing demand and potential for growth, with many high-density developments along their routes. However, there are more buses than there are blocks on these lines, so the remainder of buses will deploy on lines L and LA. All four lines were tested and approved for double-decker service at D3.

In order to address the initial tree trimming required to prepare and clear the routes for double-decker service, staff from Transportation, Maintenance, Legislative Affairs & Community Relations, Planning, and Safety worked together to identify all trees with low-hanging branches requiring trimming.

Staff from maintenance and Legislative Affairs & Community Relations held extensive discussions with the Cities of Richmond, El Cerrito, Albany, Emeryville, and Berkeley to coordinate the tree trimming activities.

On September 28, 2018, the District issued a Request for Quotations (RFQ) for tree trimming services to be provided by a certified arborist. Staff hosted a site visit onboard a double-decker bus with prospective bidders on October 5th. After a competitive process, the District contracted with West Coast Arborists, Inc. who performed tree trimming services along the FS and J routes on behalf of the District.

The trees on Lines L and LA were trimmed through a contract with BART for the Early Bird Express service. District staff provided the details on which trees needed trimming and BART staff handles the tree-trimming contracts.

Ongoing tree trimming will be critical for the continued use of double-decker buses the process for which is addressed in Section 3.4 above.

5. BREAKDOWNS AND TOWING

In the event of a breakdown, the operator will contact OCC. OCC should notify CHP and Caltrans TMC. CHP will assist with the transfer of passengers and Caltrans TMC will dispatch their tow truck crew to assist with moving the coach off the Bay Bridge to a safe location. In the past, the safe locations have been the Treasure Island, the Temporary Terminal, and the Toll Plaza Parking lot. OCC will also notify Emeryville maintenance to repair the coach to be driven to the yard or call a tow from the District's contracted service provider, and a Transportation Supervisor will be notified to take a report. For regular street breakdowns, OCC will notify the closest division maintenance department for assistance.



5.1. BAY BRIDGE

Maintenance and Service Supervision are working with Caltrans towing crews to schedule a meeting at Emeryville to ensure Caltrans crews are familiar with the double-decker buses in the event the coach breaks down on the Bay Bridge.

5.2. SPILLS

In the event there is a spill of liquids such as fuel, oil, hydraulic fluid or coolant, it is the District's understanding Caltrans is equipped to clean up a spill.

5.3. MAINTENANCE COACH MOVEMENT

Maintenance will need to follow specific routes as adjacent streets which may accommodate a 40-foot bus may not accommodate the height of the double-decker bus. Maintenance will communicate with OCC about the correct detours for the double deckers.

6. FUTURE ROUTES

6.1. ROUTE VIABILITY

As part of the 2015 pilot, staff assessed all Transbay routes for possible deployment in terms of physical height restrictions, and the following routes were viable to staff at that time:

- FS, J, L, NX, NX1, NX2, NX3, OX, P, SB, U, V, W, Z.

However, given the criteria listed in Section 3.1, staff will have to reassess if the latest ridership and stop criteria are valid for any future consideration.

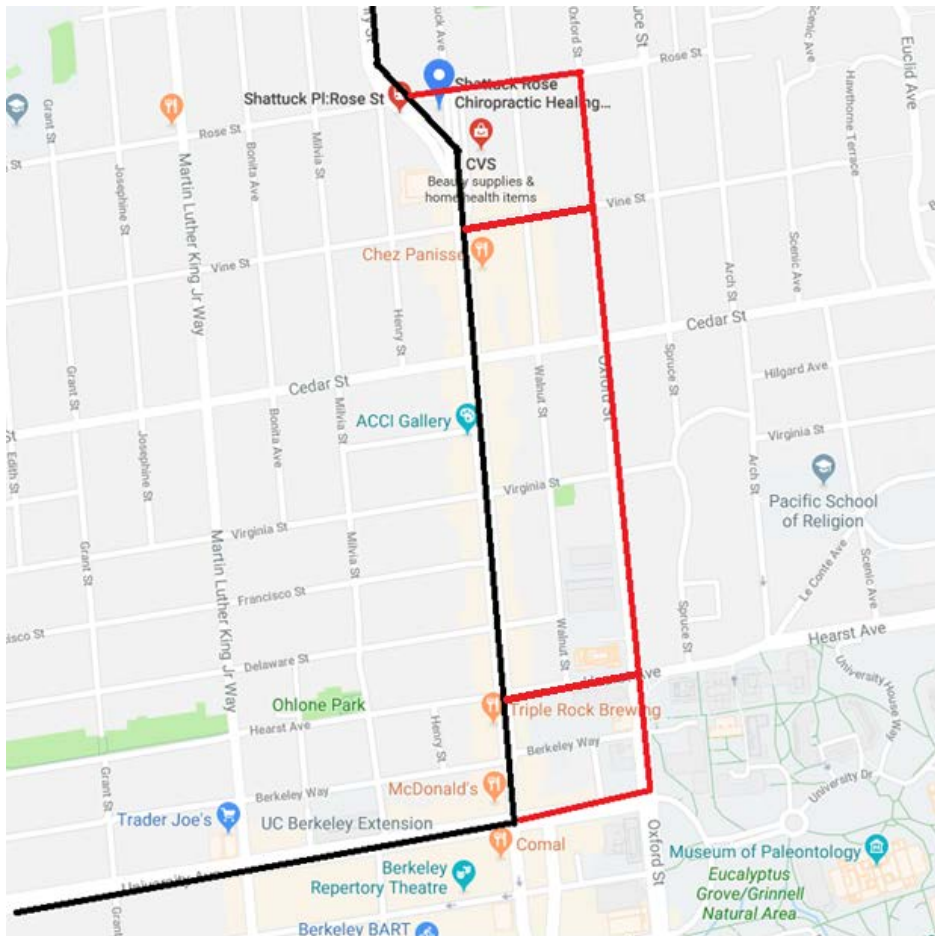
6.2. TRANSBAY TOMORROW PHASE 2 TIMING

The second phase of Transbay Tomorrow allows for an expansion of Transbay service using Regional Measure 3 (RM3) funds. This expansion allows staff to restructure Transbay service to carry as many passengers as possible over the Bay Bridge in the peak commute. This could include a new type of service using East Bay transit hubs to offer point-to-point service between dense areas of the inner East Bay direct to San Francisco. In this type of service structure, double deckers are the ideal fleet type, as it involves minimal stops where the majority of passengers board and alight. Staff are considering hubs in Emeryville and Oakland.

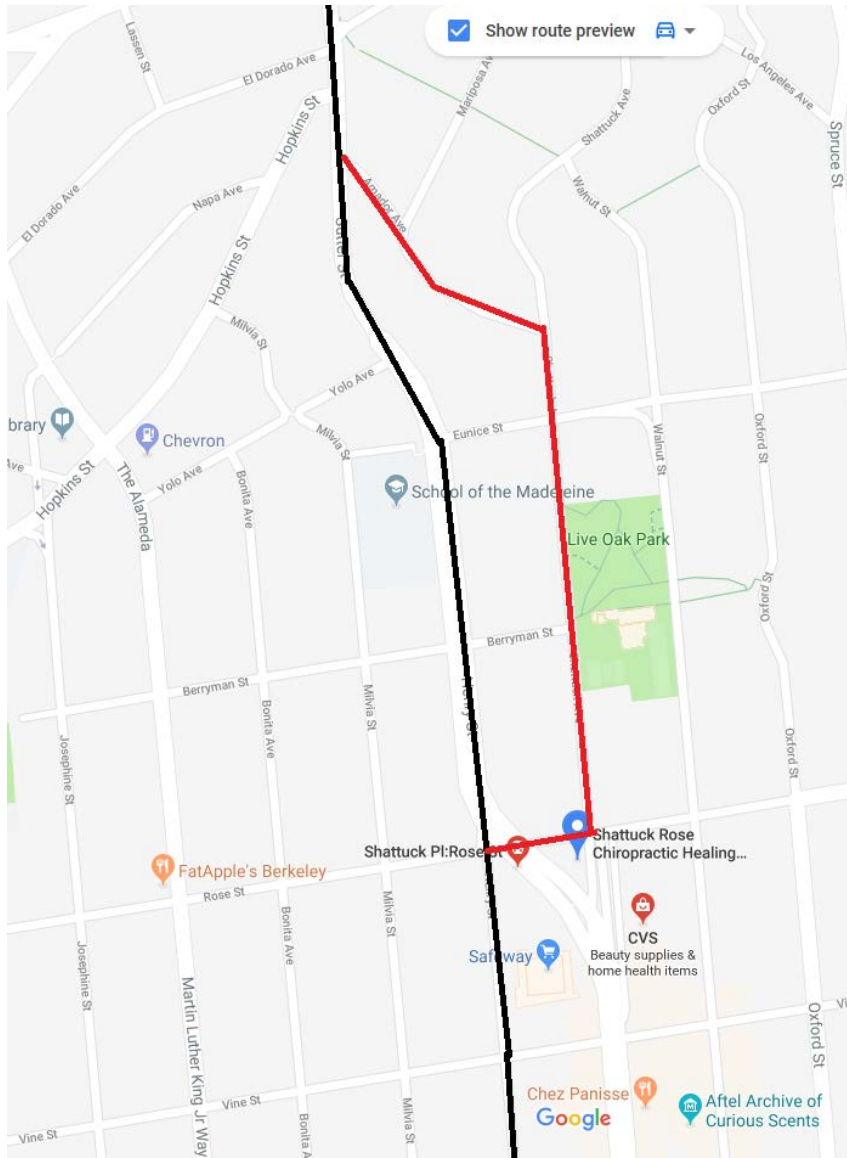
The expansion plan would require a large increase in both fleet and operators, with approximately 40 buses and 80 operators. Hiring a large pool of new operators and ordering new buses will take approximately 18 months of lead time prior to the implementation of any expanded service. Consequently, staff are delaying planning the service to ensure any plan developed remains relevant prior to implementation. Staff will time the planning effort to coincide with the release of RM3 funds.

ATTACHMENT 1 - LINE FS DETOURS

- Traveling down University does not allow options along any parallel streets. Many streets running parallel to University have traffic circles that may not be possible to travel down.
- When traveling on Henry Street, Shattuck Street to Solano Avenue do not have streets that run parallel. Oxford Street from University Avenue to Rose Street is a possibility with Rose Street, Hearst Avenue and Vine Street as possible cross streets between Shattuck and Henry.
- Shattuck Avenue between Rose Street and Amador Avenue will work with a couple of trees to dodge. Some trees hang low and other trees may grow to make contact with the coach.
- Part of Solano Avenue runs in the same direction as Marin Avenue which could create a loop along Solano Avenue to Marin Avenue. Marin Avenue is a possibility and trees would need to be dodged.
- If Solano Tunnel is closed, Hopkins Street to The Alameda is an option; trees will need to be dodged.

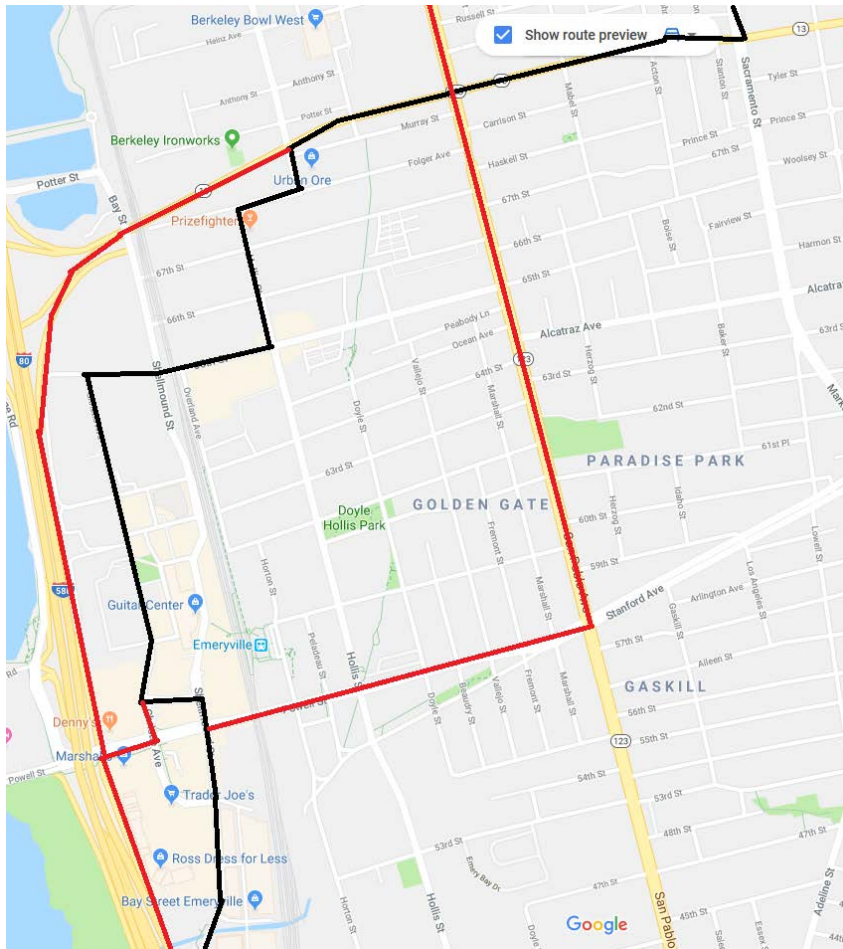


FS detour University to Oxford to Rose. Black line = service Red line = detour



ATTACHMENT 2 - LINE J DETOURS

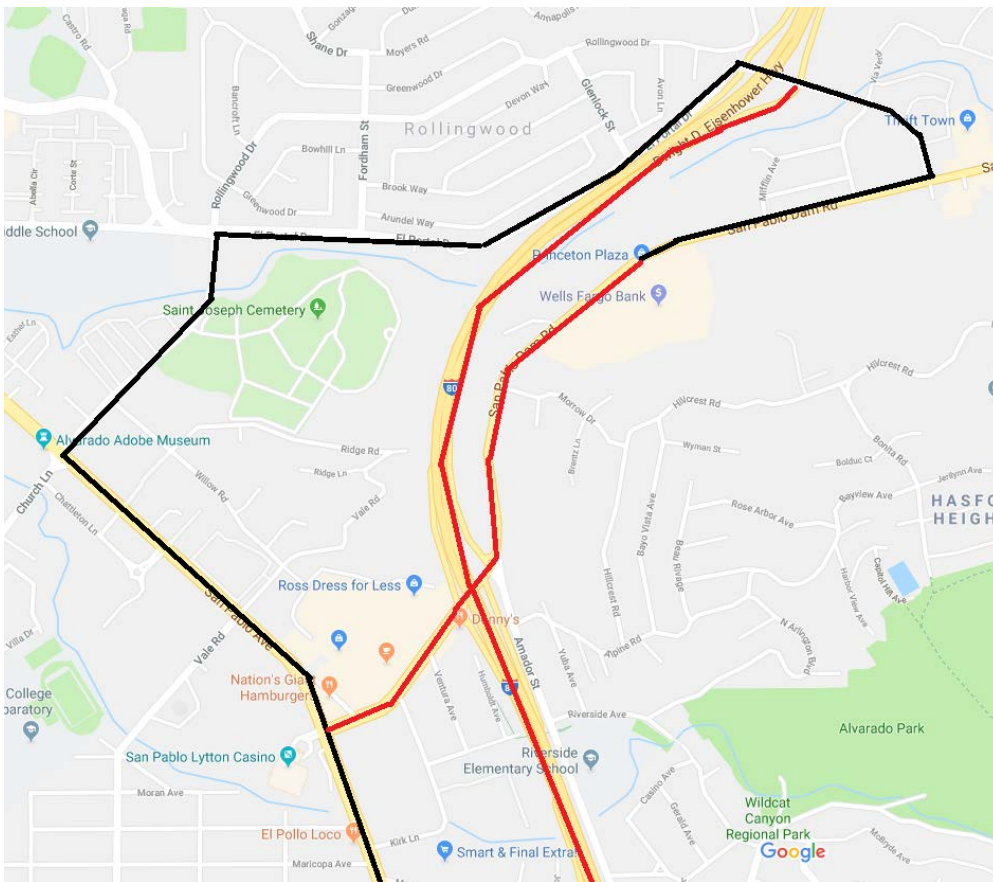
- Traveling in Emeryville has some options. If Christie is blocked, we can use Hollis with some trees that may cause a problem. We can also use Ashby exit and travel up Ashby. If Ashby is blocked between 7th and Sacramento, we may be able to use Stanford and dodge trees.
- When traveling down Sacramento, the parallel streets are San Pablo and Dodge trees, or Shattuck which has many low hanging streets. University has the same challenges on the J as the FS.
- When traveling down Sacramento Street, the parallel street is San Pablo Avenue with minimal tree dodging.
- Operating the route in reverse is an option, afternoon route for morning route or morning route for afternoon route.



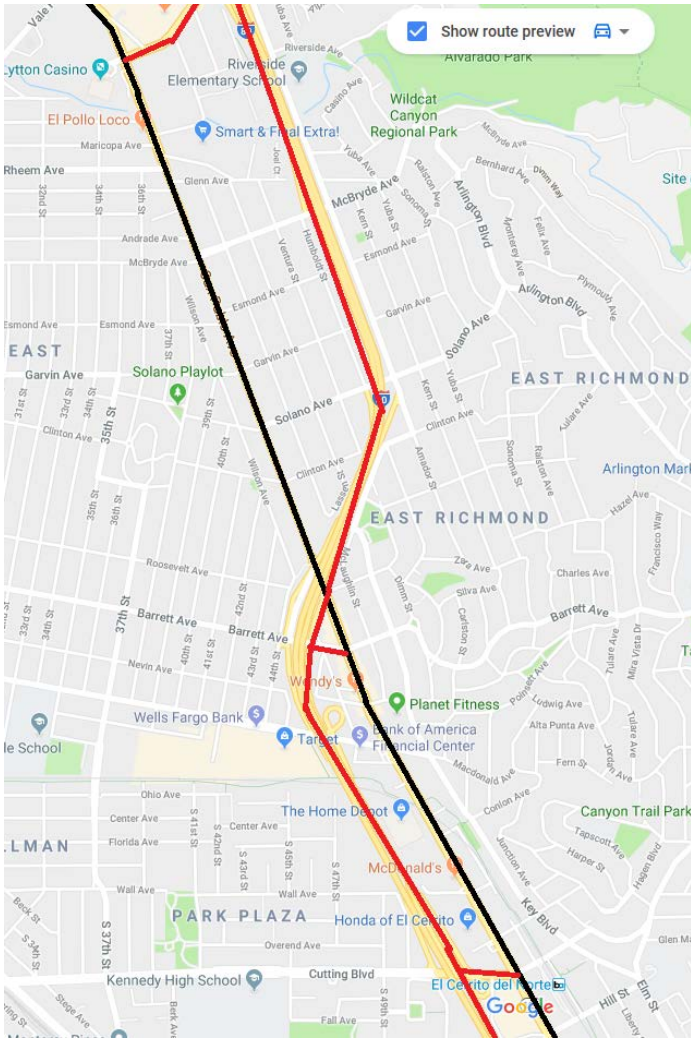
Black line = service Red line = detour

ATTACHMENT 3 - LINE L DETOURS

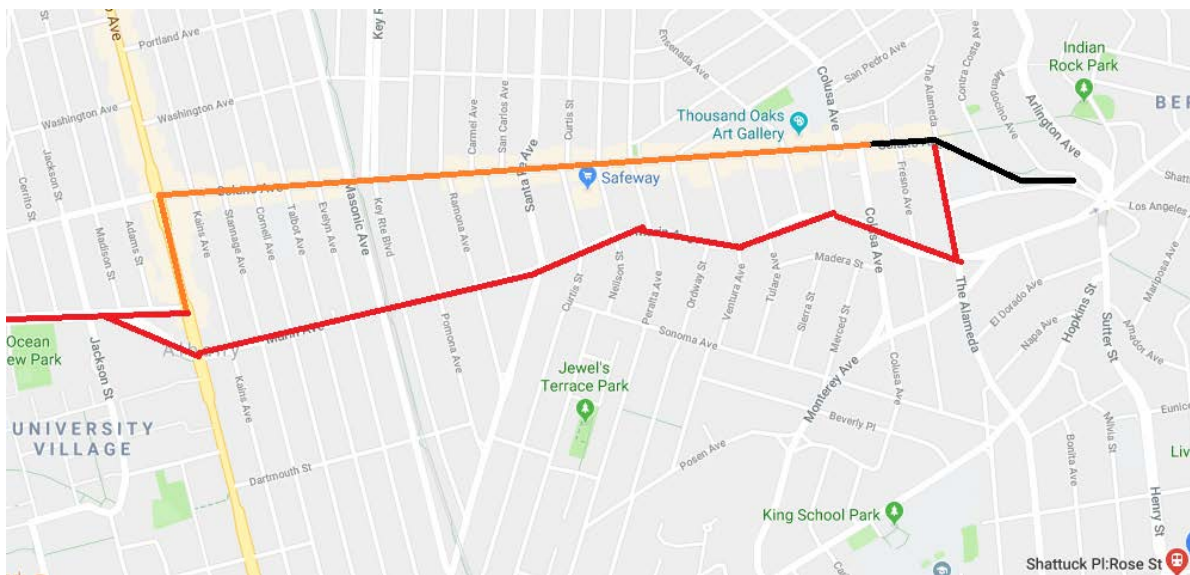
- In the event San Pablo is closed, Central to Hwy 80 exit Potrero to San Pablo will work with no tree dodging. Crossing over using Cutting or San Pablo and San Pablo Dam Road are also options if San Pablo is blocked.
- Gilman Street to San Pablo Avenue to Buchanan Street to regular route is possible. Need to dodge a few trees.
- Gilman Street to San Pablo Avenue to regular route is possible
- San Pablo Avenue to Carlson Boulevard to HWY 80, exit Potrero Avenue to San Pablo Avenue is a viable option.
- Exiting Potrero Avenue into Eastshore Boulevard is a viable option
- Cutting Boulevard to HWY 80 Exit San Pablo Avenue is a viable option
- San Pablo Dam Road to San Pablo Avenue is a viable option
- San Pablo Dam Road to El Portal Drive is an option



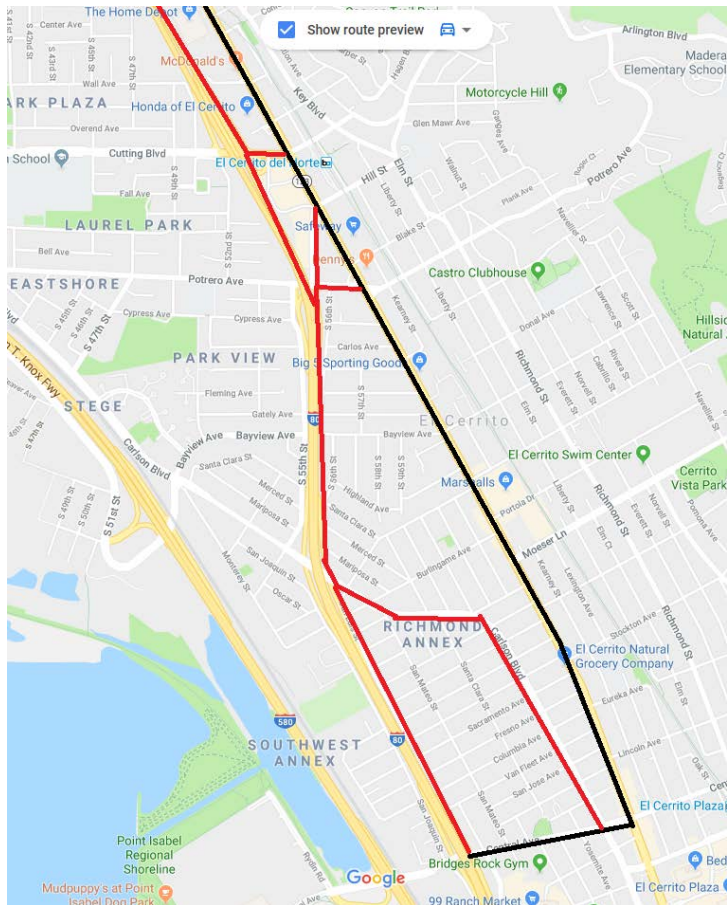
Black line = service Red line = detour



Black line = service Red line = detour



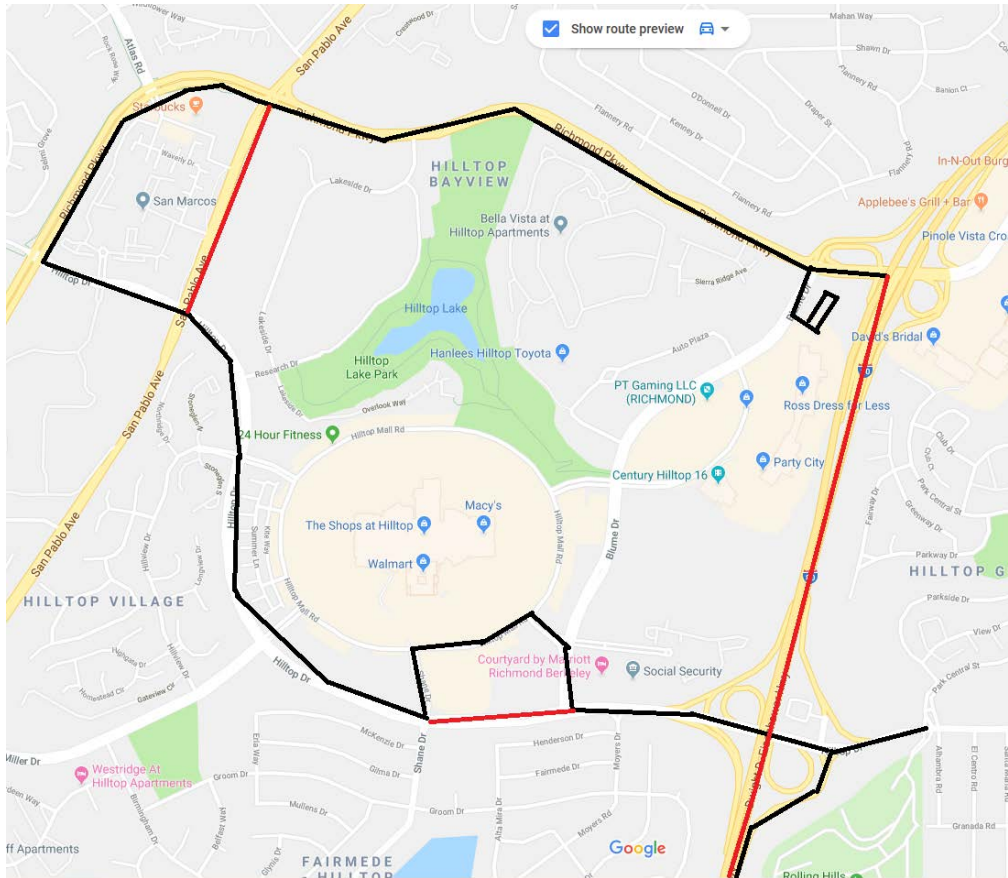
Black line = service Red line = detour



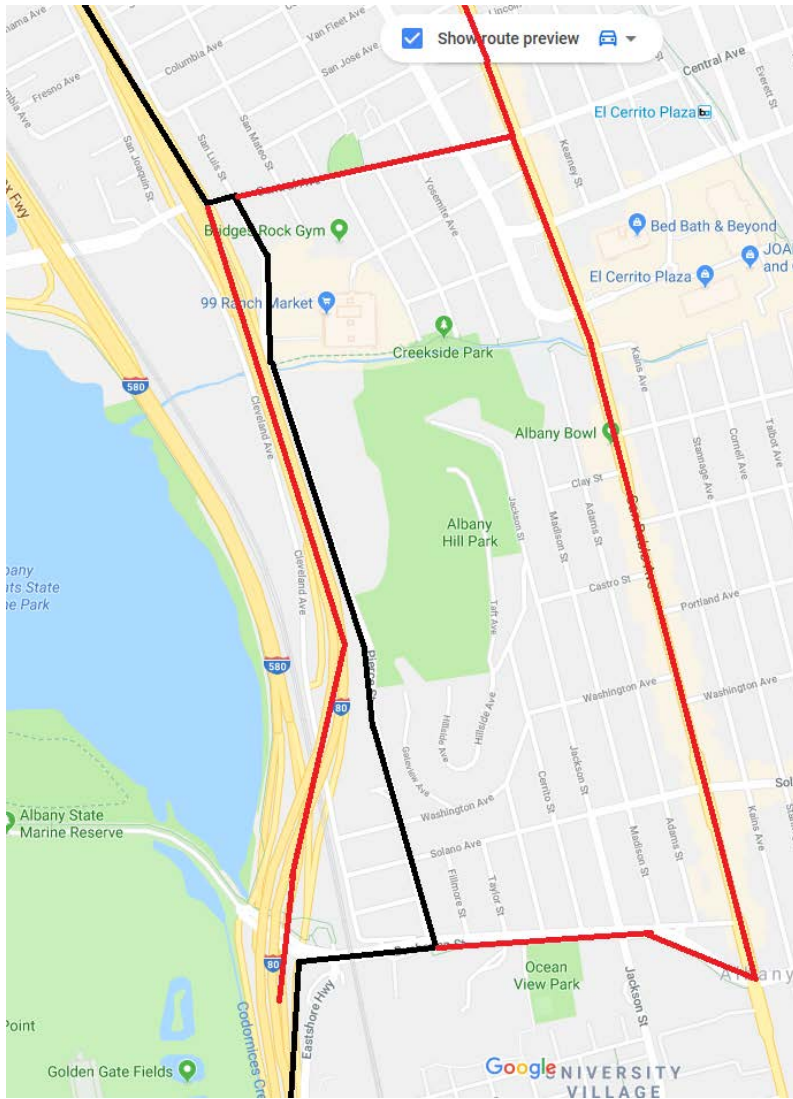
Black line = service Red line = detour

ATTACHMENT 4 - LINE LA DETOURS

- If necessary, run the service in reverse. The morning route if the afternoon route is blocked, or the afternoon route if the morning is blocked. San Pablo Avenue is an alternative.
- San Pablo Avenue between Hilltop Drive and Richmond Parkway is an option.
- Hilltop Mall Drive is an option. Trees will need to be dodged.
- Blume Drive is an option. Trees will need to be dodged.



Black line = service Red line = detour



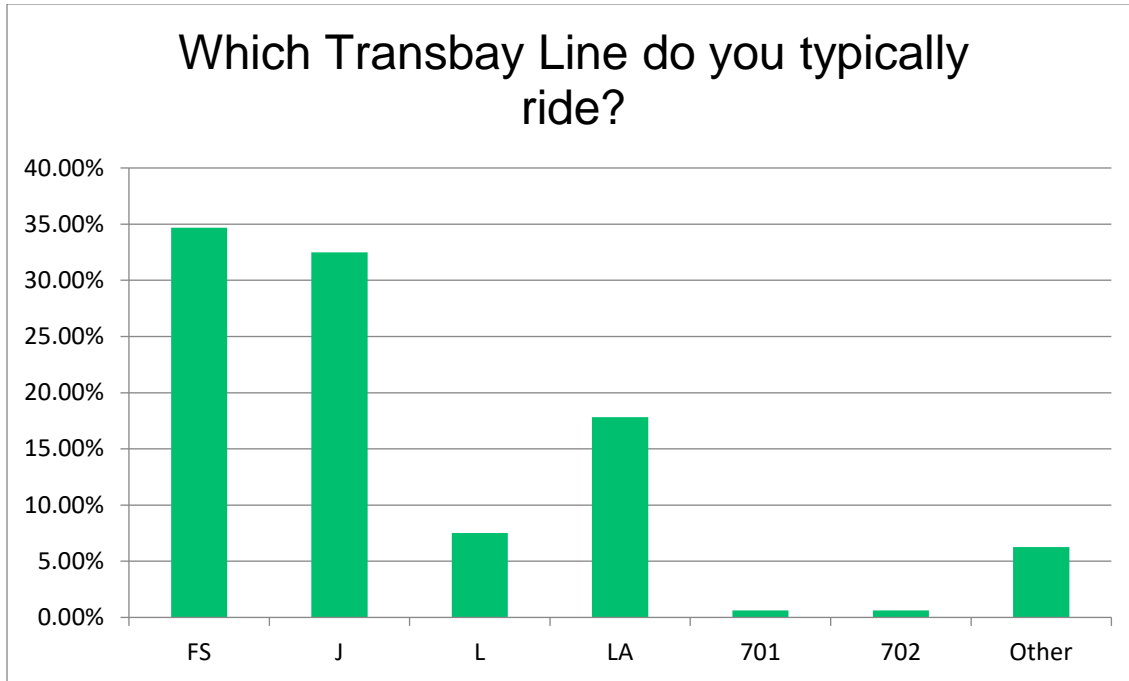
Black line = service Red line = detour

APPENDIX II – PASSENGER SURVEY RESULTS

Total responses based filtered by the respondents who have at least tried a double decker once. N = 322

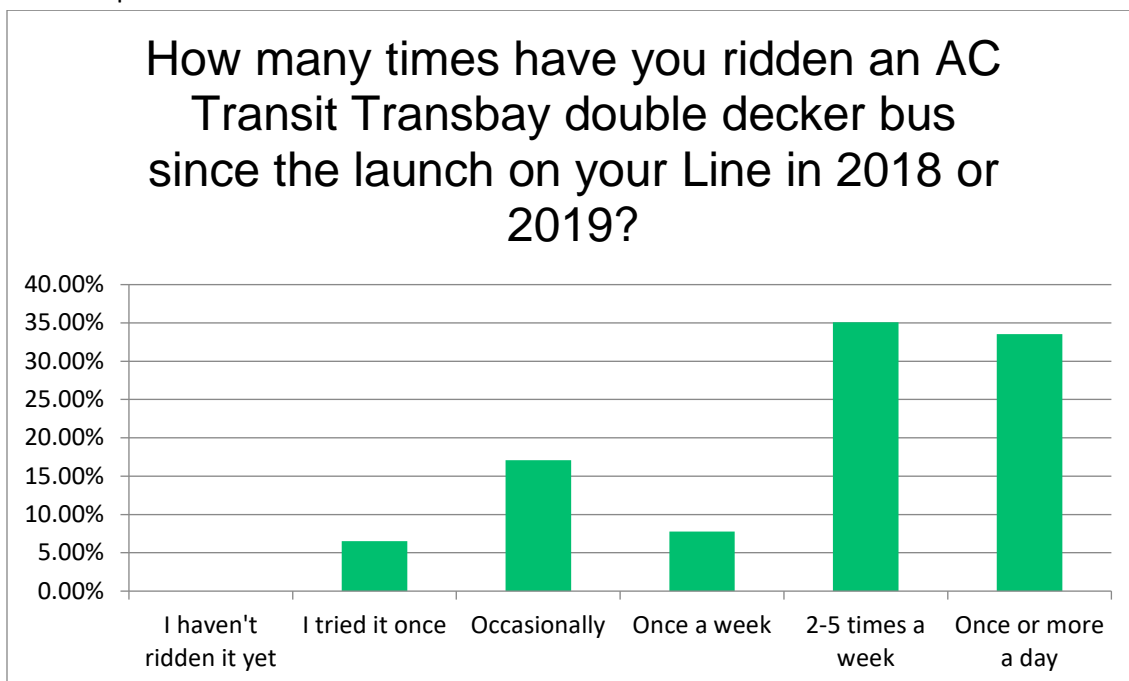
Question 1

Total Responses = 320



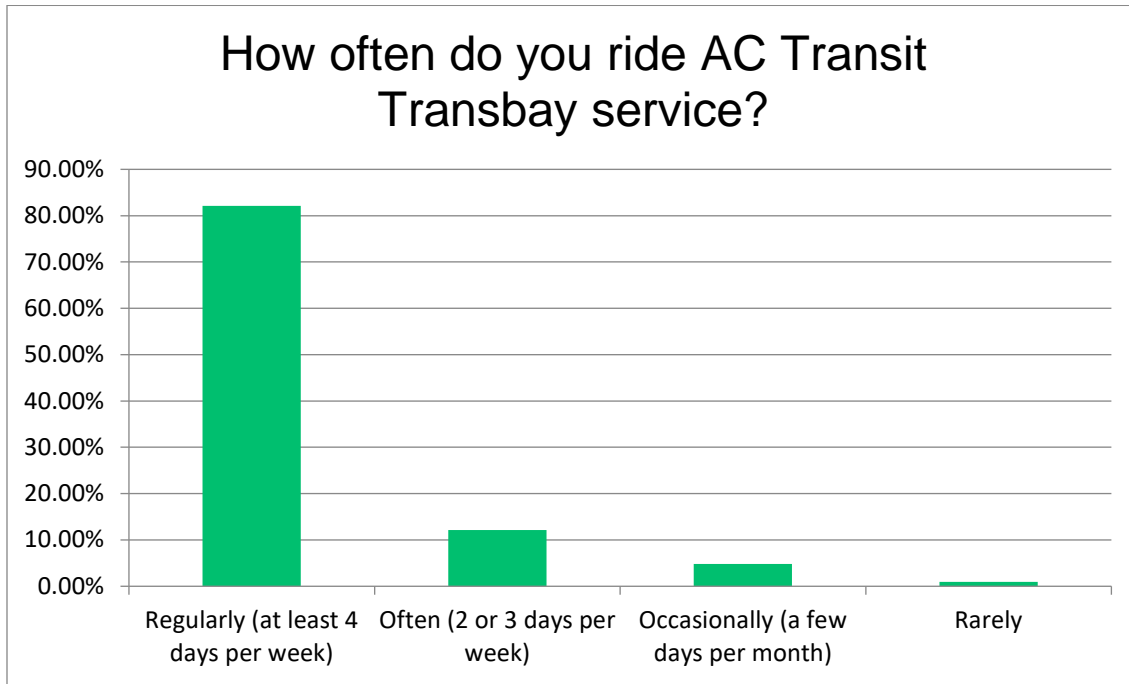
Question 2

Total Responses = 322



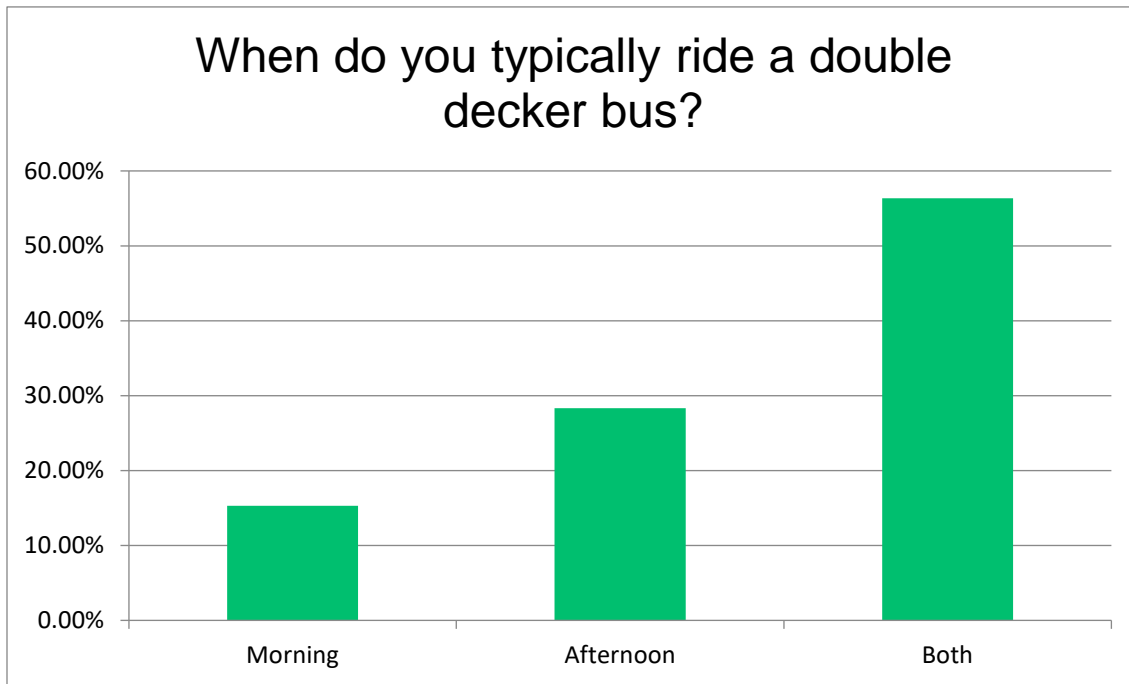
Question 3

Total Responses = 313



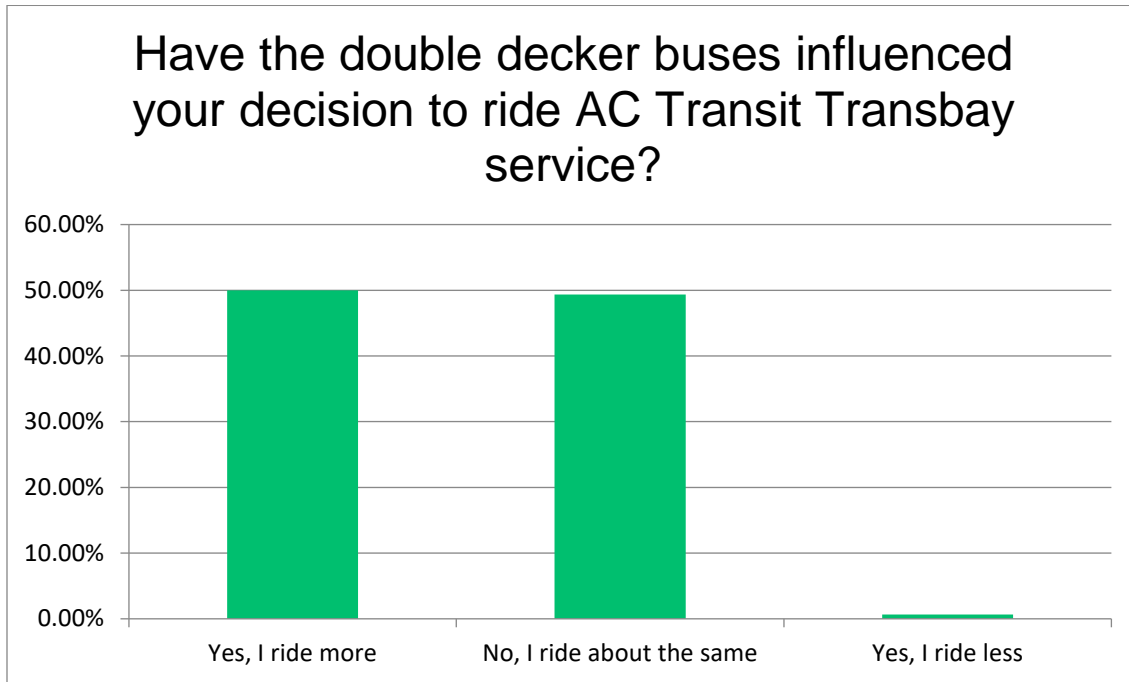
Question 4

Total Responses = 314



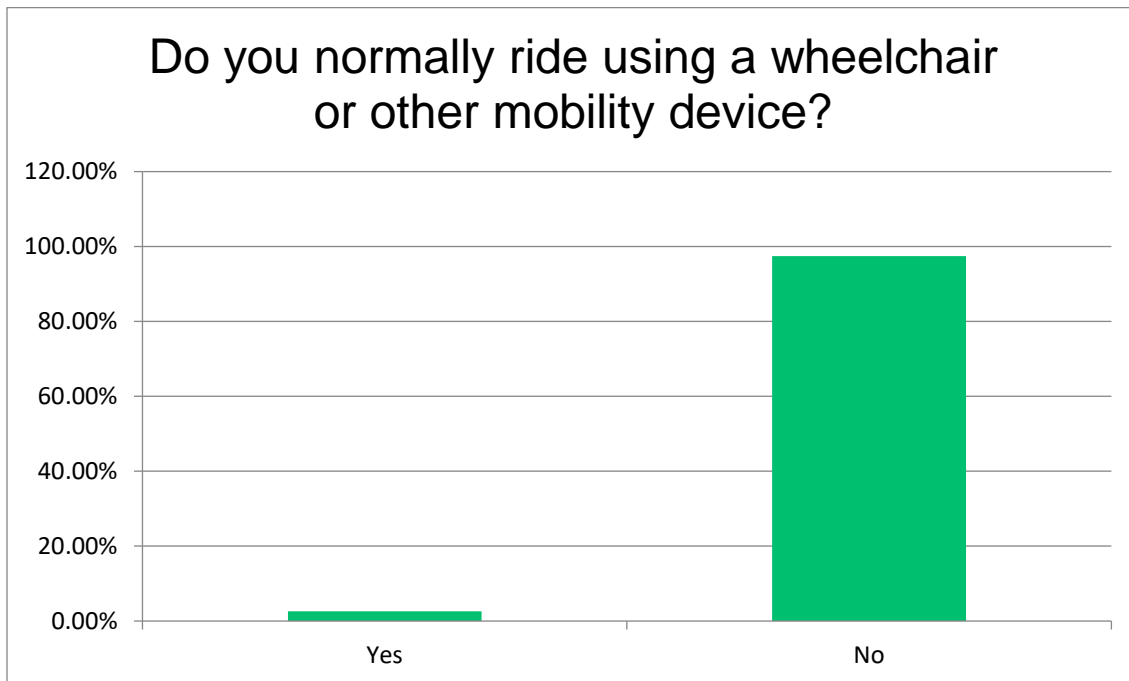
Question 5

Total Responses = 314



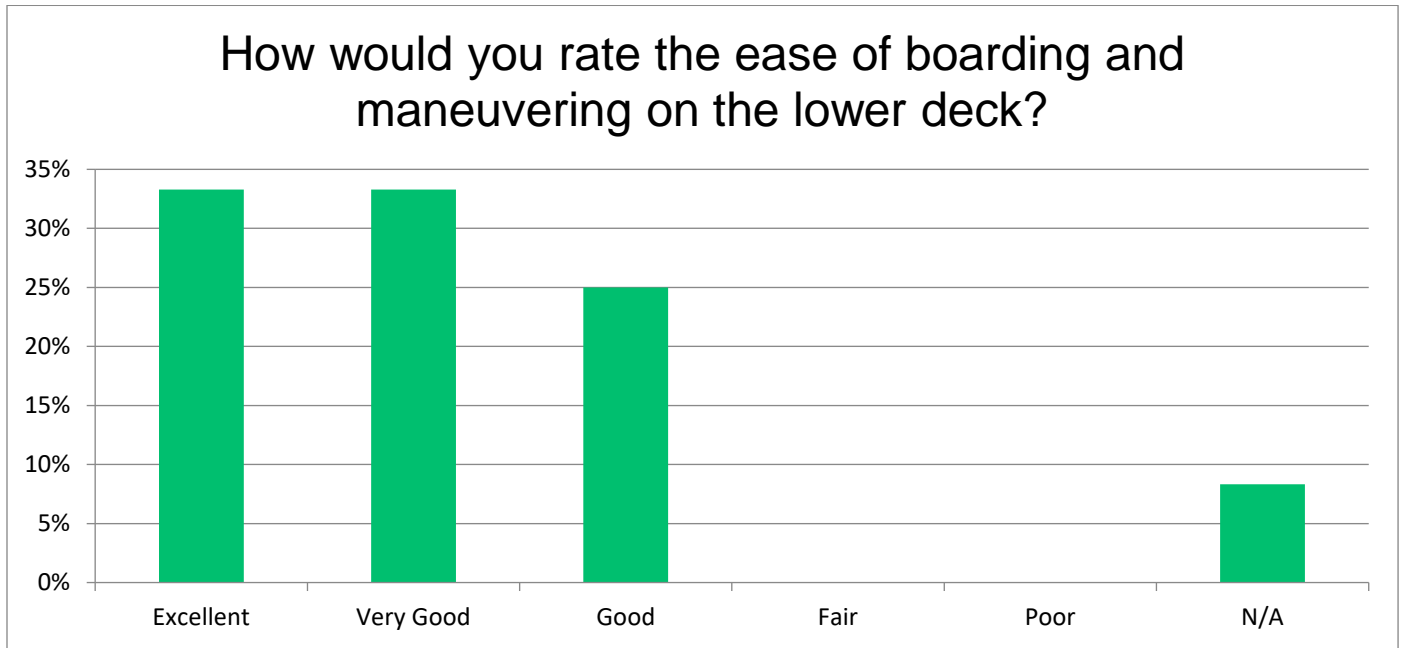
Question 6

Total Responses = 308



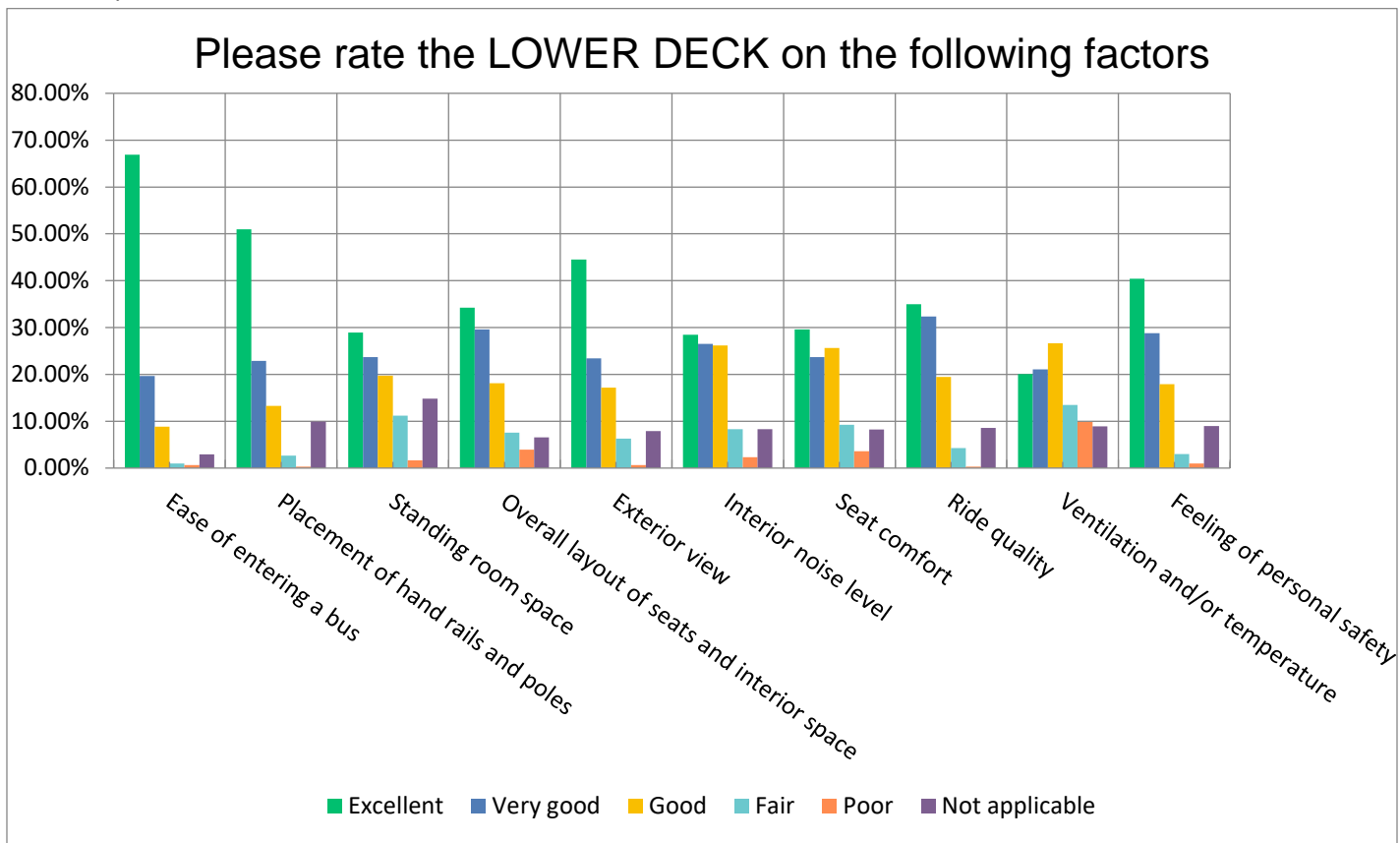
Question 7 - Only available to those who answered yes to Question 6

Total Responses = 12



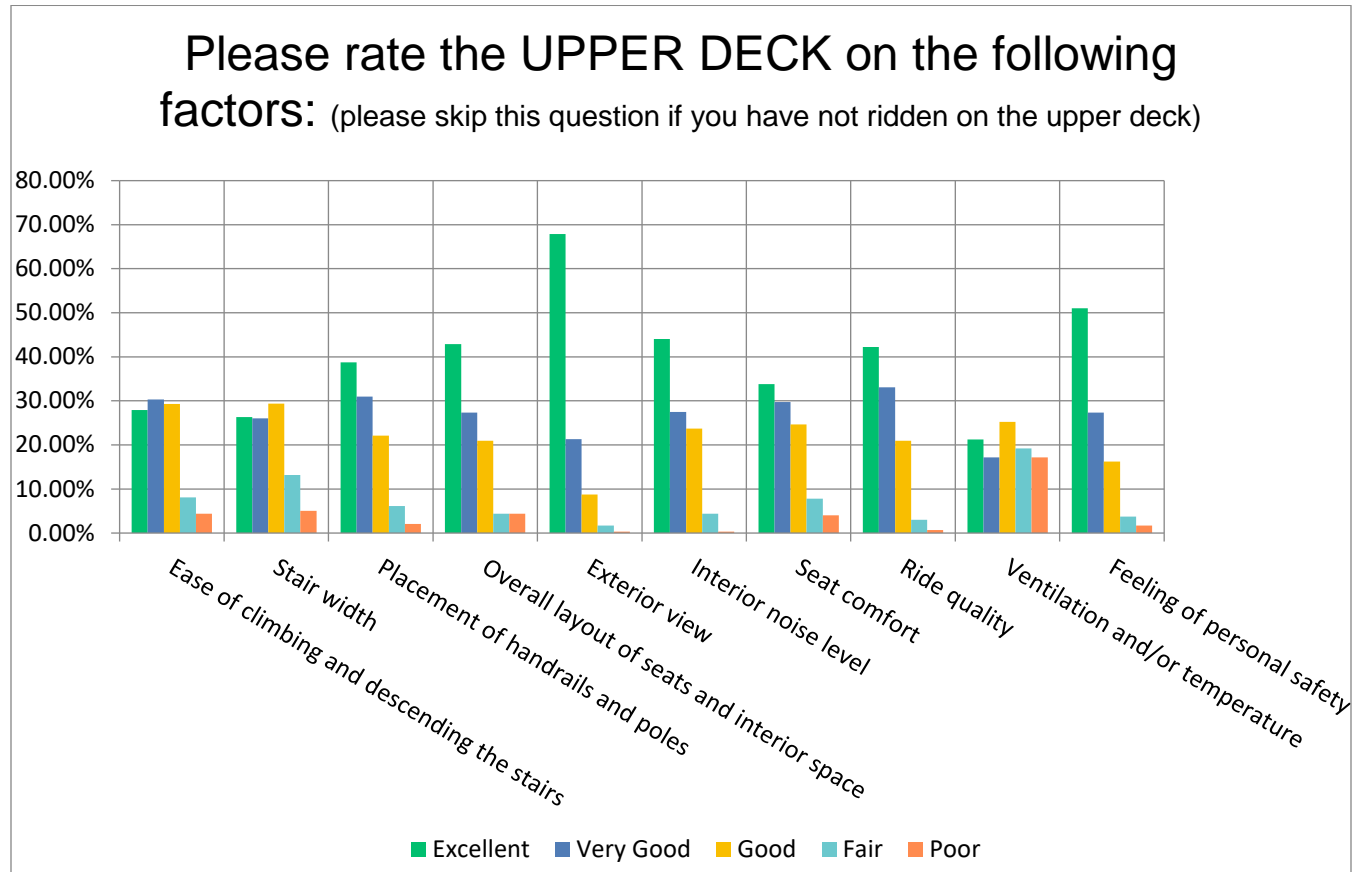
Question 8

Total Responses = 306



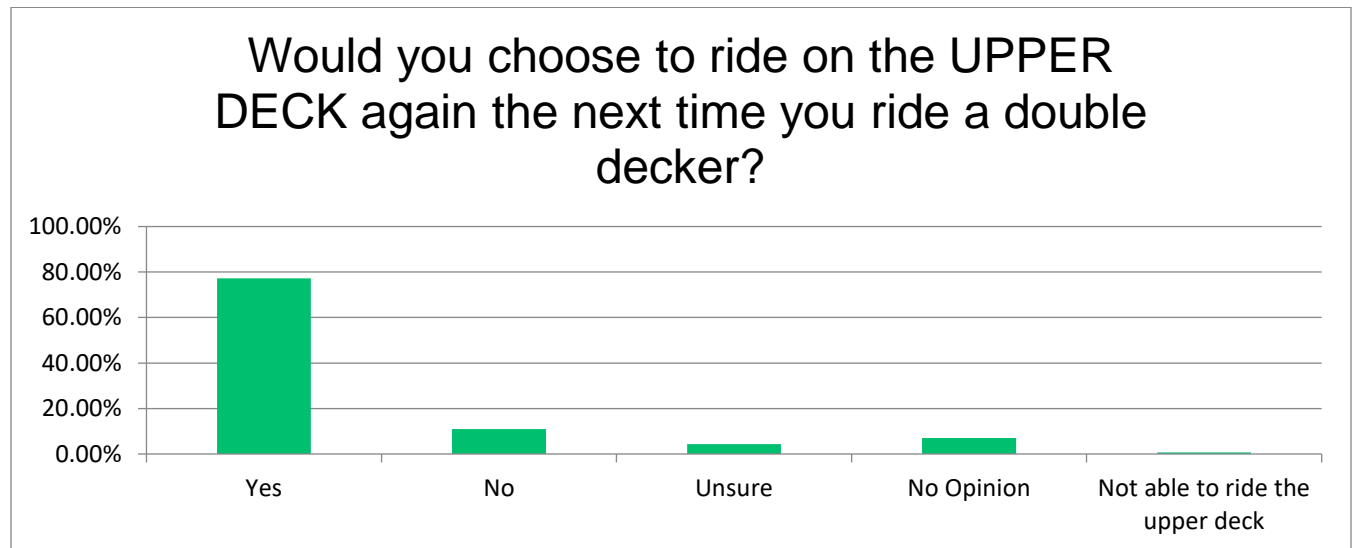
Question 9

Total Responses = 298



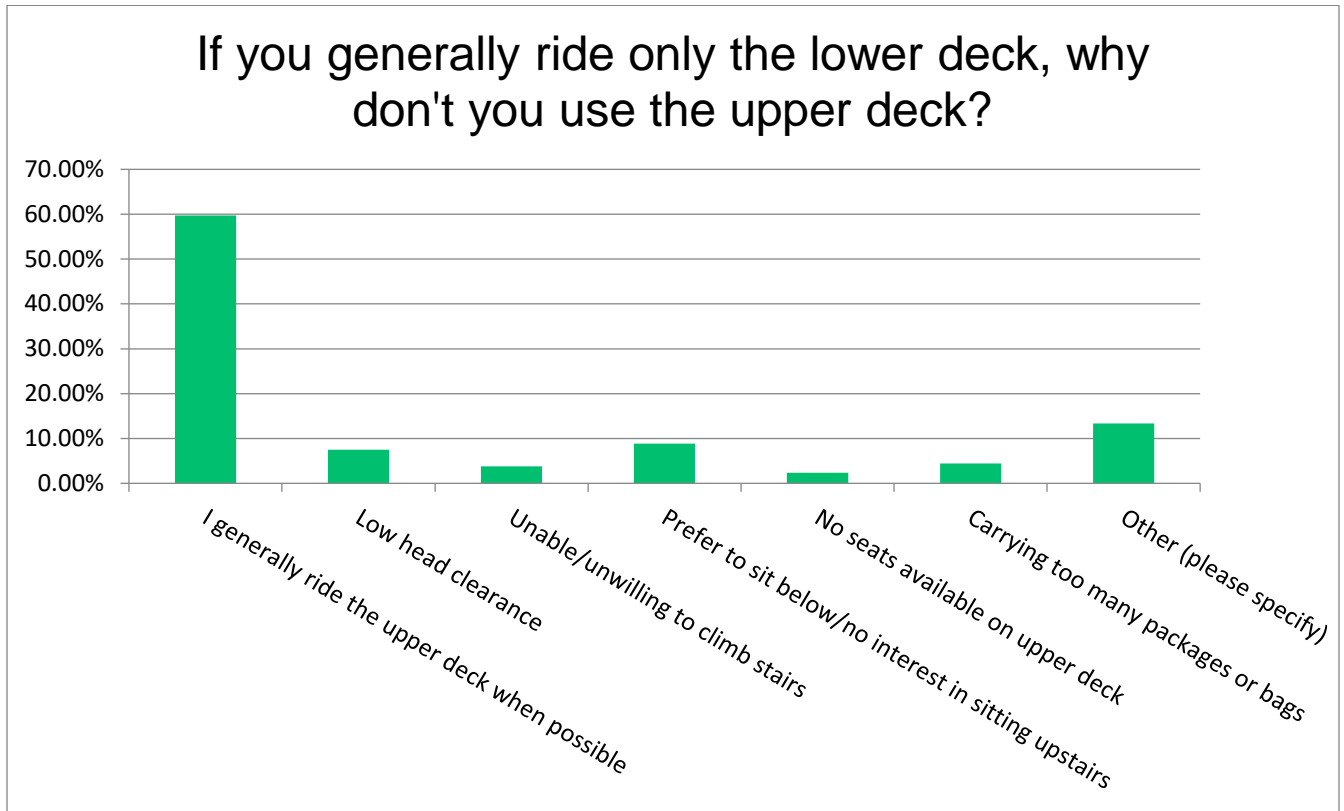
Question 10

Total Responses = 302



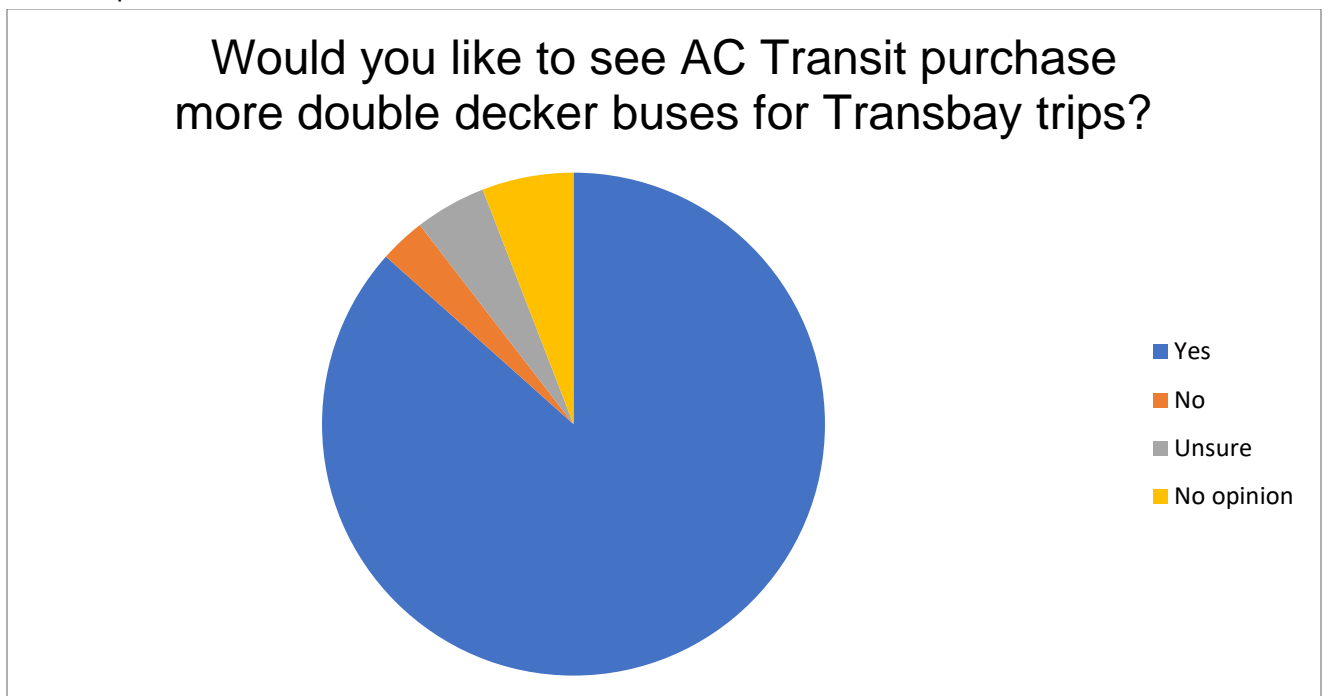
Question 11

Total Responses = 293



Question 12

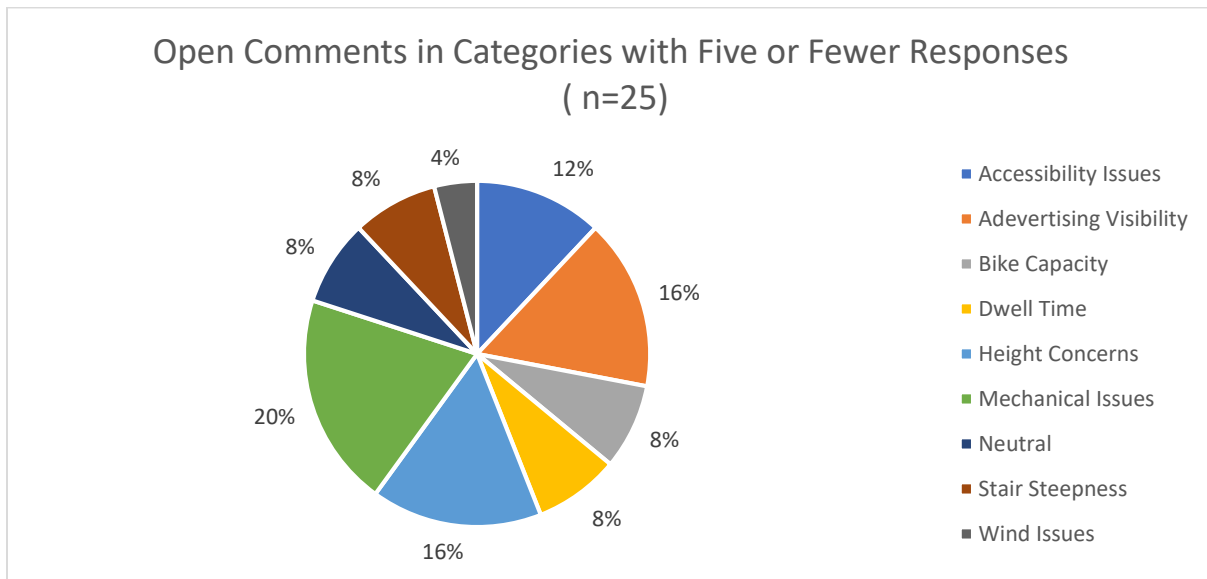
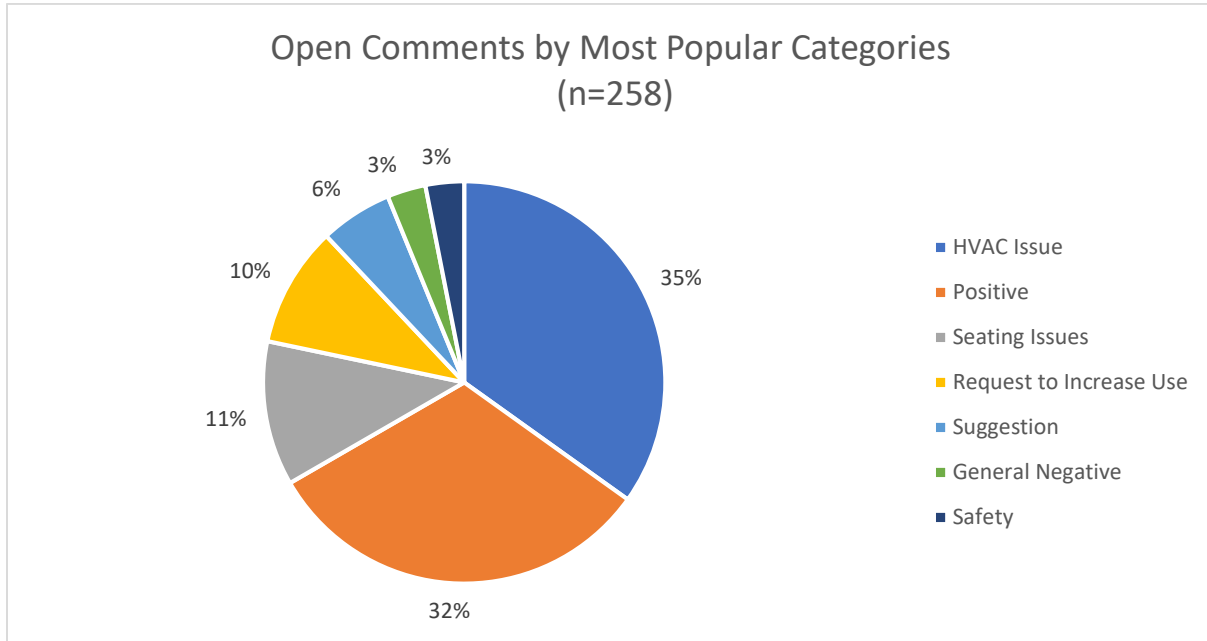
Total Responses = 306



Question 13

Total Responses = 229

Comments were categorized into topics with some comments spanning multiple topics and so counted more than once.



OPEN COMMENTS

Purchase double decker buses powered with alternative energy sources such as hybrid electric, fuel cell electric, or battery electric.
Additional ventilation to wear out the lingering somewhat chemical "new" smell that some of the buses still have would make me ride more often. The smell of the bus itself will sometimes give me a headache
The double decker buses are nice and very comfortable and it is great that they can accomodate so many people
Having more seats is fantastic. I will happily take a seat on the upper deck over standing on the lower. Plus more people can ride per bus. I also think the double deckers are nicer than the big coaches and the "regular" buses
The ride quality upstairs is choppy bc of higher center of gravity. Not sure if that can be fixed. Also, it's always stuffy upstairs, does driver have an interior temperature gauge for upstairs? Driver should check temperature upstairs before beginning each run, especially at the transbay terminal. At minimum keep the air circulation going. Additionally, we need to be able to open more windows. Many are locked. Small gripe, can you put the bus number on the front interior of the upper deck? When I try to log into wifi with a lot of buses nearby, I'm not sure which bus number I'm on.
At some of the time buses are almost empty so, I would prefer to run these buses only during office hours. This would help AC transit to cut cost. And I would also recommend to have a mobile application on which users can but ticket on mobile as in VTA that would be more convenient as sometimes i dont carry cash and I have to goto ATM to withdraw money
Lots of riders on the J line, would make sense to have more double decker buses (especially in the mornings)
Window seating on upper deck is very tight. Also better airflow control along the window seats. The air slots along the window sills aren't controllable by the passenger.
Air conditioning is too strong wind; uncomfortable - people tape over the slits making it worse... Wish could be more bike racks!
These are by far the best buses. They're spacious. Unlike the older big buses you feel claustrophobic. Everything is tight. Plus the newer double deckers can fit more people. They're clean. I use to ride Bart. I find AC Transit much safer and cleaner.
the ventilator in the bus is either full blast or it is a sweat box.
it would be nice if the upper windows opened
Would rather like to see MCI's .
They are great! Thank you for taking feedback
I love the front seats in the upper deck. It's a nice start to my mornings. There are a lot less double decker buses on my way back from SF, which is unfortunate for those that have to stand in the aisle! Every double decker I've been on, everyone has been able to find a seat.
these buses are a nice addition to my commute. seats available, not too stuffy. a nice ride.
Love the views from the upper deck. They're also big enough so that no one has had to stand. Wish they were used more frequently on the LA line.
I am in favor of them in terms of alleviating traffic congestion and increasing rider capacity. That said, the upper deck in particular is very uncomfortable. The seats are incredibly narrow, the ceiling is

<p>perilously low and the air vents next the window blast unstopably. I've actually seen plastic bags and such stuffed into them to stop them. I would ride preferentially on the lower deck, but it usually fills up first due to rider preference and low seat capacity.</p>
<p>The double decker buses are amazing. I used to be a regular BART rider - these buses made me a complete AC Transit convert! The upper deck is amazing, the seats are great, and the upstairs is so quiet.</p> <p>A few areas for improvement:</p> <ul style="list-style-type: none"> - When they first came out, drivers would typically wait until everyone had finished going up the stairs before moving. That's no longer the case. Waiting an extra few seconds for the stairs to be empty before driving would make things a lot safer - I've seen people fall. - On a similar note, people should not be allowed to stand upstairs. The ceilings are too short and there are not enough handles to do it safely. - Downstairs always tends to be really hot and loud. It's a night and day difference to the experience upstairs. <p>Please consider adding way more! I'd love to see these on the H line.</p>
<p>Rattling noise inside bus. Would like to see some double deckers on route G.</p>
<p>Really enjoy the view and it is much safer and easier to disembark compared to the green, single isle buses.</p>
<p>They are quite comfortable, spacious and nice view specially from the upper deck. However, Seems the vent surrounding the ceiling is a bit more colder on the sides and the passengers do not have any control. Not sure if there is anything that can be done to minimize that? Otherwise, it is a nicer option for the passengers like myself who travel almost 1.5 hrs on the bus to and from the city! It's always dreadful when we have to ride those older buses with hard uncomfortable seats! Thanks for listening!</p>
<p>Reclining seats on top deck infringe on limited space and getting into and out of seats, esp if you are trying to get stuff out of a backpack during commute. No more reclining seats, please!</p>
<p>Seats are narrow.</p>
<p>I would recommend taking out a couple of rows of seats from the upper deck. The seats upstairs are more cramped than the lower deck seats so people are reluctant to start to sit next to each other.</p>
<p>There have been several times that the double decker buses malfunctioned or broke down. I like the idea of the double decker buses to carry more passengers, but not if it will always cause delays for breaking down.</p>
<p>It's an investment in comfort and capacity that's appreciated</p>
<p>AC or Heater blows way too strong in the upper deck. People often bring place post-its to block the wind coming from the vents.</p>
<p>It's great to have more space! Definitely less people standing during the commute.</p>
<p>As someone who is 6 feet tall and I have to remember when entering the upper deck is lower not to bump my head. On all trips riding on the upper deck the drivers have turned on air conditioning and it has been very cold in the back of the upper deck.</p>
<p>The double deckers are great. I no longer have to feel crowded and unsafe on my morning commute.</p>
<p>There is a reoccurring issue of the rear/side door not closing— subsequently necessitating a shut down of the bus to reset systems. This issue delays the trip and often times leads to the driver taking this rear/side door out of service leading to longer de-boarding time and longer trips.</p>

If concerns and issues above are addressed I'd be in favor of additional double deckers as they do seem to help address over crowding and have potential to speed trips on the busy J line.
On the upper deck, the little ventilation slits blast straight onto my head, and there is no vent to adjust or shut off. I've seen post-it notes placed over the vents, so I'm not the only one who feels discomfort from the air flow.
The upper deck seats nearest the windows are uncomfortable because (1) when it's raining, the side vents leak onto the seats, and (2) when it's not raining, the side vents blow constantly and there's no way to turn them off.
The vents over the windows blow very cold air directly on passengers head and neck and cannot be redirected or turned down. If the driver turns them off, the upper deck quickly become too hot and stuffy. Better ventilation that does not blow directly on passengers is needed
Great to have more capacity on the buses
Fantastic views and fun to ride. Makes my trips to San Francisco enjoyable. Much better than taking BART.
Please bring them to the NL line, or other lines that go through the grand lake area.
Love how comfy they are, but the vents blow air aggressively and make the bus very cold. A lot of people put tape or sticky notes over the vents so it isn't so cold and windy!
The double decker buses are a welcome addition to the AC Transit transbay bus fleet. I appreciate the upgrade in comfort and space.
Overall, I love it! Helps tremendously with overcrowding
The stairs are a bit narrow and difficult to negotiate if you are carrying bags. Due to back issues, I always have a rolling bag with me and it's a bit tricky to negotiate the stairs.
The windows often get steamed up on the upper deck and you can't see out. Would also be nice to have wipers on the front windows on the upper deck for when it rains so passengers can see out.
Please provide earlier buses leaving San Francisco to Berkeley! The earliest Transbay bus from Berkeley to SF is at 6 am, but the earliest Transbay return bus is after 5 pm.
The AC system is extremely poor....It's freezing on in upper deck (icebox) and was told the lower deck is very warm. I can't imagine what it would be like riding during winter time.
The air condition system makes the bus too cold. I have to wear a jacket every time I ride.
They are more like rolling billboards. Overall the experience riding these buses is rather disappointing.
And while I have your attention, re: LA route..thanks for making a miserable commute nearly intolerable by turning it into a local halfway into the trip. Getting out of the I-80 diamond lane to cross 3 lanes of heavy traffic just to lurch down Pierce Street in those huge buses is uncomfortable, dangerous and a big time waster (esp in the morning. The bus waits up to 10 minutes at one of the stops. Why is that? It takes 15 minutes to travel about 1 mile. If you want to carry more passengers on the line, at least find a commuter parking lot in the area so we make only 1 stop instead of 5.
the upper deck does have a have more seat than the lower deck , which is fine but maybe a little more leg more in between seats.
I bike to the bus so in general I have some flexibility whether I take L, LA, H or G. While crowding has become much better since the double deckers and splitting L and LA, it would still be amazing to have real time approximate information on how crowded the bus is through act real time maybe, so that people with bikes or flexible schedules could choose to go to a different line or aim for a later bus

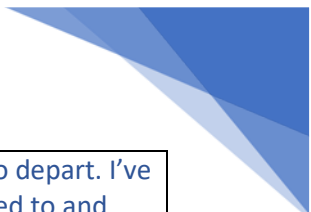
fantastic upgrade!
Add more double decker buses onto the LA line our 430 bus is packed, you ran a double decker for a week or 2 then you stuck us with those rolling dumpster white buses or the nice small green buses.
They are great buses, but the doors are already malfunctioning :/
I like that they are nice and new with stop request buttons and ventilation ducts. The driver seems more separated from riders, but I don't know if they feel that's a positive or negative.
I really appreciate AC Transit purchasing these double decker buses. I also appreciate the drivers of both the regular and the double decker buses; they're terrific.
I'm doing this survey from Scotland where double decker buses are the norm. My heart lifts when I see that I'm riding home on one. What a view!!
So cold. but overall love it
Lower deck could be more accommodating
I like riding in double decker buses. They have a lot more room, and the ride is comfortable. Sometimes the AC is a bit too cold, but generally it is a nice commuting experience.
The double decker buses are a huge improvement over the old transbay buses.
Often times when I sit by the window there's freezing cold blowing on me from the vents along the window.
The air conditioning on the upper deck is extremely uncomfortable. The air blows out too strongly and is too cold. You have probably noticed people jamming things into the vents, because there is no other way to control the air flow. In the window seat on the upper deck, the air blows right into the passenger's eyes, which dries out one's eyes. I would consider not using the upper deck if only the window seats were open, solely due to the air flow.
Love the views and the environmental soundness of the double deckers....
Need for Line G!!
More frequently scheduled FS buses
1. AC in upper deck at window sit always on and often unpleasant 2. Ads stickers on windows (Pandora) has significantly degraded the ride experience - distorts the view and increases feeling of being locked in a box. Please reconsider...
Yes, please ask the drivers to turn the AC down on the double decker bus. It is FREEZING in here. The air is blowing in our faces and the driver on the 5:10pm bus won't turn it down. ??
You must get tons of them. They are fabulous.
Overall a fun experience, reminding me of public transit in Europe. I'm overall concerned about the fact that all of us are riding without seatbelts (and some people standing) while being on the highway.
It would be nice to know which route time will be assigned a double decker bus. If like to be able to take it when possible and right now it feels somewhat random.
AC Transit buses are excellent. Your drivers need some more courtesy skills. Your passengers cd also use some courtesy skills.
Many riders spread out in the front seats on the upper deck, as in a single rider takes up both seats, generally with bags but also working on a laptop. Very inconsiderate and totally missing the point of the front seat! I end up having to feel bad about asking them to allow me to sit in one of their seats! Of course they only paid for one seat and usually oblige but the very close proximity afterward makes for an awkward ride. Maybe a sign up there about only taking one seat would be nice.
I prefer the big green buses that look like your buses. They are more comfortable
No. These buses are so much more accessible to those with mobility issues. Thank you.
None - just extremely grateful that AC Transit brought them in to accommodate the increase in ridership

I think they are fun to ride. Very good visibility. The air coming out at the top of the windows is often too cold.
I love them, I just wish the seats were more comfortable like the old coaches. But, generally speaking, I really love them.
The vents closest to the windows are sometimes too cold and too forceful for comfort
The fan/AC is on very high (side slits) on the upper deck - it blows directly into your face if sitting window seat. Please turn this off or down.
I like them a lot. the temperature is a problem on both upper and lower. the air blasts through the vents and there's no way to turn them off so it's often freezing
I'm concerned about safety when driver's use the Oakland/Emeryville flyover heading I-80 East in the afternoons. Many drivers need to slow their roll and I feel it's even more dangerous in a double decker bus.
The air through the above seat vents (the slits that can't be blocked) goes right into my eyeballs and dries them out. You will see with each trip people have added square post-it notes in an attempt yo block the air. We want the air, just not shooting right into our eyes. I generally pick the seat on the aisle to avoid them. If you could have little plastic covers to shoot the air somewhere else?
Aside from the blasting freezing air (even when it's cold outside! I've started bringing warm clothes just to wear on the bus!) I really love the double decker buses because they almost always have enough seating, and they are more accessible for anyone with mobility issues. The ride is way more comfortable than the "spine shatterer" buses with only 20 seats that are rock hard and apparent lack.of shock absorbers. It's nice to arrive home and not feel sore and tired!
The placement of the vents on the upper deck means that you have air blowing in your face when you're in the window seat.
Adding the double decker buses altered my route from using Bart to only FS
<ul style="list-style-type: none"> - I wish there was someway to know how many seats are available on the upper deck before ascending the stairs. - One reason I've not ridden the upper deck as frequently is that I have wondered whether I'll miss my stop because I couldn't gather my things quickly enough. It's unclear right now whether the driver knows someone on the upper deck is trying to exit. - I'm on a line that experiences increased ridership from mid May - early September due to interns. In addition to providing double deckers, please consider adding more buses (even the single-level options) to the line during this time of year as was done in 2018.
The added capacity has made for a much more comfortable commute and reduces the anxiety of very long lines waiting for the buses to arrive.
The upper level ventilation is often left off and when it is on, it's hot air. I am never cold on the upper deck, but mostly too hot. 7:07am bus from San Pablo x MacDonald. Other than that, it is way better than the other buses, which are too loud and hurt my back. The L that I take home at 4pm is now uncomfortable/hard metal seats and I am considering changing schedules. Keep in mind that many of us are taking the transbay bus to that we can work on a laptop for an hour both ways, so any amount of ergonomics are key.
Would prefer more artics over Double Deckers. More doors for unloading
Nice that the busses have been refreshed. Occasionally I do worry about riding in a double decker while on the highways because... "the taller they are the harder they fall." (Knock on wood)
The air condition vents on the ceiling sides are too strong- bothers the eyes and the temperaure is never regulated by the drivers.

The ventilation on the upper deck blows directly on you at high volume which makes it uncomfortable. People stick things in the vents because of this. Seats are too narrow in upper deck and aisle is unnecessarily wide.
I will like to have better wifi signal
I said that the ventilation is poor. What I actually mean is that the air-conditioning is uncomfortably aggressive. Even with the overhead vents closed it creates a breeze strong enough to blow strands of hair across my face and flip pages on an open magazine. And it's cold! And noisy. I wish that the drivers would pay closer attention to the temperature outside and not automatically switch on the air-conditioning unless it's actually hot outside. (Which as . you know is rarely in SF.)
The buses get so cold!!
I love the double decker bus! My one complaint is that the ventilation/air conditioning vents on the upper deck are always blasting icy air directly onto riders in the window seats. There's no way to turn it off or adjust, and I have to always wear a heavier coat and often even put the hood up, which still leaves me shivering, especially if I've been standing in the rain waiting to board. Other passengers regularly block the vents with post-its or wads of tissue, so it's clear I'm not the only one. It's so frustrating that an otherwise excellent ride is ruined by being uncomfortably cold the entire time - there must be a way to fix this!
yes, the vents especially on the upper deck are very cold and can't be adjusted. people now bring tape with them to cover them up
The increased seating capacity makes these buses superior to other buses in the fleet. If they ever reach over capacity, which is common on the other buses, I fear they'll be worse.
It seems like the AC or Heat is either too hot or too cold. Not sure if there is someway to reduce the blasting effects of AC or Heat.
Ventilation ducts on upper deck are quite strong. Would be nice if they were adjustable. I sometimes see people stuffing paper in them to avoid the strong draft.
How can we get this for the G and H lines?
Much better exp overall, thank you
I really appreciate the use of double decker buses. I used to have to stand in cramped busses which felt unsafe and now I am able to get a seat and enjoy my commute, the views, and feel safe. The double deckers have me encouraging others to take the bus. I love them!
Please take care of the air temperature issues. Ceiling vents are always blowing air. It can be freezing and is never comfortable.
On the upper deck, the seats next to the window are usually very cold because of how much AC is pumped in. Id be more comfortable sitting on the upper deck if the vents blew less hard.
I really think you need to add more double decker buses to the morning commute for the J line. The J gets more crowded every single week and there's never enough space for all the people waiting at the bus stops. I really like the double Decker's, despite the ice cold air and extreme noise inside, so I think you should add more. Or bring back the single layer bug coaches. Please stop using the tiny city-street buses on the morning line, they are woefully inadequate!
The upper deck is consistently too cold. The AC vents at the windows blow very strong cold air. Many riders covers these vents with tape, post it notes, or stuff them with napkins.
Standing while riding on the upper deck is difficult due to lack of handles
Often, the a/c feels too cold on the upper deck in the window seats. Would also prefer if the recline was locked as it can be very uncomfortable when person in front reclines
I don't like them. The width between seats is not comfortable. The ceiling height is to low and wind up hitting my head. Not a fan. If I have to take them I will, but rather reluctantly.

Often too cold
Anything to get more capacity - the J is always full.
No. Wish they were used for both AM AND PM commutes
The air conditioning or air vents are always on too cold. You can see passengers trying to cover up the vents with sticky notes. Please stop blasting air in bus.
(1) Please do not do full-wrap bus ads on these double deckers. It creates an encased feeling and makes me feel nauseous. It also gets rid of the fantastic views from the bus, which is rightly a selling point for the buses. If I have the option, I choose not to take AC Transit if I see a bus with a full-wrap advertisement on it, and I go to BART instead. (2) The side slot vents on the upper deck, above the window seats, are strong and cold. It bothers me sometimes more than others; I think it bothers a lot of people overall, and I see people posting sticky notes over the vents to shield themselves. (3) When I have to sit next to somebody on the upper deck, it feels a little too cramped. Seats that are a little wider would be appreciated, even at the expense of a narrower aisle.
We really need them on the LA route 5:10, 5:25, and 5:40 afternoon schedules
Would like more bikes to be able to ride. 3 is very few and often full. Also some indicator when they are full so you know that bus is not an option. Waited an hour and 4 buses and couldn't get my bike on one. Took Bart
They're starting to fill up
Nope they're great.
Good idea for the regularly used ones!
I wish they were cheaper or at least more comparable in price to bart.
I always ride in the upper deck when possible. The seats are much more comfy on these buses compared to the regular buses I've ridden. The extra capacity means almost everyone gets a seat every ride which is becoming rare for public transit in the Bay area. I used to ride Bart and I almost exclusively bus now that I've discovered the double decker buses.
AC can be on for too long at times
Werkends... ;)
They are amazing for the views!
Really love the transbay J!
Definitely purchase more. They're so much more pleasant to ride and offer so much more room to onboard more riders.
The upper deck air conditioning vents are great but even with them off, there's always very cold air that comes out right over the windows that's not controllable. For this reason I almost always have to sit on the aisle because otherwise I'm too cold, even with a jacket.
I've been waiting for these double deckers for a long time! I used to complain about getting passed multiple times and being late to work but since then I have nothing to complain about my commute.
Recline on seats is pretty drastic if you don't recline - some seats it feels like the person in front of you has their headrest right in your nose. Recline should be reduced or eliminated.
The extra capacity of the double decker busses has made it so much easier to get on the bus and get a seat, especially in the morning traveling inbound. Before the double deckers, busses would often blow by my stop (because they were already full) or would have standing room only. I don't mind riding on the upper deck but generally chose the lower deck if a seat is available because it's faster getting on/off the bus, there's more headroom, and the seats are wider. The seats on the upper deck are cupped/narrower and make it uncomfortable to sit up there if the person next to you is wider than their seat.

<p>They're necessary during commute hours because everyone wants a seat to sit. If there were single deckers, I would have to stand all the way. The only concern is getting people to exit out of the bus takes a lot of time.</p>
<p>When you're on top Sometimes can feel top heavy/unstable if bus is in side lane on an on-ramp with a low guardrail, even if it's actually stable.</p>
<p>Ventilation is good but just too strong and blows on riders' faces. Only difficulty with upper deck is that stairs are a little narrow and steep. Can make it difficult to rush down and get off at the right stop. Overall I like the upgrades but sad about the pay spike.</p>
<p>Still better than BART. Will take BART if I need to save \$\$ for that week or month.</p>
<p>My main comment is placement of the air vents that blow on the upper deck. Otherwise, I love the double decker buses! Very comfortable and nice. Way more seats so nobody is standing like the old buses. Please do buy more!</p>
<p>I think having these double decker buses has helped with over crowded buses. Purchasing more would be a great idea!</p>
<p>I like the double decker but the only issue is it makes the buses take longer, as I noticed and incline in late buses to my stops.</p>
<p>More standing room on second floor. When the interns start commuting to SF in the summer these buses are going to be packed to the walls.</p>
<p>They're a part of my daily commute and I thoroughly enjoy riding in them. Would only add please do something about the fans/AC, it can get really chilly, esp on the upper deck. I know I'm not the only one to face this as I've seen many Post-It notes stuck onto them. The fans can be pretty noisy too.</p>
<p>The ventilation from the holes on the edge of the roof on the upper deck is super annoying, makes seating on the window seats highly unpleasant. Aisle seats don't have this problem</p>
<p>The upper deck vents make sitting by the window like being in a wind tunnel.</p>
<p>Buy all the double decker buses they are life changing</p>
<p>I'm sitting in the upper for now, and I can see many vents covered by tape. Please figure out how to make the vents not freeze the rider by the window!</p>
<p>These buses are essential to providing efficient transportation across the bridge. Prior to the double decker the buses would fill up too quickly causing people to miss the bus and have to wait for the next one. I have not seen that issue when the double decker bus is used.</p>
<p>The side ventilation on the upper deck is awful. Sitting in a window seat means having a high airflow vent pointed at your head that you can't turn off or move.</p>
<p>I regularly see tissues or post-it notes shoved into the vents to block them.</p>
<p>Tell the bus maker to move the damn side vents. Did they even test the buses with riders?</p>
<p>The good thing is that I'd always rather sit than stand and my bus is always crowded enough where if there weren't double decker buses, I'd have to stand.</p>
<p>The window vents on the upper deck blow unwanted air on your head. Numerous people bring their own tape to cover the vent to block the air. This is the only issue that I can see needs a solution. I bring a hoodie for this reason.</p>
<p>It gets super cold on the upper deck. If there was a way to control that from the seats, that would be nice. I LOVE the double decker buses. I wish the F line had them cause I take that in the mornings and I'm standing on the F bus every morning.</p>



Please make sure the drivers do not take off before the designated time their supposed to depart. I've been left 4x before (in ONE WEEK) because the drivers left earlier than they were supposed to and they even saw me running towards the bus stop area. Also, most drivers don't make full stops at the STOP signs.

The new buses AC is way too cold at times. Fans are blowing really strong. I like it cooler in the bus rather than warm but these fans are extreme!

Seats are small, hard and uncomfortable. Sitting below is very cold, drivers dont know how to adjust temperature, it's always freezing cold and uncomfortable.

I am so excited because there is always a seat now.

Seating design on top deck doesn't account for several reasons why people take transbay buses: to get guaranteed seat, and to be able to work while commuting. Need more elbow room and more space at waist level to operate a laptop. Seats on top deck are too closely spaced, and your stopgap of adjusting angle of seats doesn't work. You likely need to reduce the aisle on the top level by 6 in and add 1 in space between wall and seat, and 2 in between seats (on each side). You are not obliged by ADA or otherwise to have such a wide aisle on top. There are no standees and there is no need to pass a person in the aisle. Designers also neglected elbow room for window seats where arm can't rest on windowsill because of vertical columns.

Also, ventilation fans on upper deck are too loud and blow air through slots above windows with no flow control. These are uncomfortable if driver sets air conditioning incorrectly.

Also, electronic signs display stop request confirmation instead of stop location. The former could be accomplished with a light; the latter is more relevant to users. The software also inexplicably writes the words "stop requested" in 3 different ways (large capitals, small capitals and mixed case). You need to discuss this with your programmers; this is sloppy user interface design.

You should also place bus number label on top deck, so riders can report issues directly, and so they can identify the correct Wi-Fi network.

Not enough bike capacity with exterior rack only. You should designate one of two wheelchair securement areas as priority for wheelchairs, bikes and seniors/disabled, such that all users share to maximize utilization, but that bike users can be asked to disembark if 3 or more wheelchairs or 4 or more disabled/seniors need that space. (I know you are loath to kick people off the bus, but bike users would accept that risk in return for being able to store several more onboard.) As you know, bike utilization is high, and senior/disabled and wheelchair utilization is low on transbay routes. What I described maximizes utility for the public without preventing users entitled to special treatment from riding.

The suspension on these buses induces a gentle forward-backward rocking motion in highways. Not really uncomfortable, but a little bit strange and definitely noticeable on top deck.

At front of lower deck, bar at front of cargo shelf over wheel makes it uncomfortable to half-sit/lean there as a standee. (I realize this is a compromise with shelf capacity, plus desire to discourage sitting.)

The cameras everywhere inside bus are a little disconcerting. (Applies to whole fleet.)

Finally, about the preceding survey: your evaluation scale has 5 choices but 3 are positive, 2 are negative. This will introduce bias. See "Likert scale" design for better practices.

Thank you so much for extending this service! The double decker buses are a JOY and have single-handey caused me to switch from riding bart to using AC transit for my commute! They are generally much cleaner, so thank you, and please keep up the good work at keeping them clean and running smoothly. Your bus operators/drivers are very friendly and nice. The double deckers have made my morning commutes excellent! Please continue!

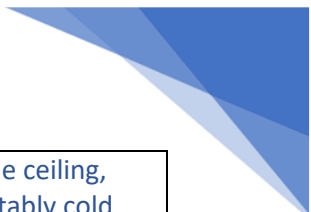
Small note- I have not been riding AC transit on my return afternoon commute bc it takes too long in

<p>the traffic. I understand there is not much that can be done about that, but it tends to take a very long time to ride back in comparison to the morning trip. FYI! Thank you again.</p>
<p>The a/c blows WAY too hard, even with the overhead vent closed, so that it's either freezing or boiling. The bus is blown all over the lanes by even the mildest winds. The inability to navigate the stairs safely when in motion means that we have to sit for extended periods of time while people board, leading to delays. Floors are slippery. Just buy more Gilligs & have them designed like the MCIs, with cargo bays for more bikes, comfortable seats that were safer for passengers during sudden stops & freeway speeds, and had more seats!!</p>
<p>Around February or March 2019, I have experienced some malfunctions of the double decker when riding the LA in the morning. The back doors will get stuck and not close. Once we even had to get off the bus and wait for next one. The other times it will take around 5 minutes for driver to have it work again. Hopefully it was only an issue of one bus and not the whole float. I see also less people riding the transbay bus now but it could be because the route was changed I used to ride the L and now LA.</p> <p>Thanks!</p>
<p>I love these buses, my only suggestion would be to have the chairs in the lower deck be taller. They're a bit of an awkward height now and it's hard to lean back to rest.</p>
<p>Seats too narrow at the top and ceiling too low. The Air is also really cold that blasts directly on riders</p>
<p>The non-double decker buses on the LA are very crowded, so having the double deckers relieves some of this stress</p>
<p>Please get more double decker busses. The V line really needs one.</p>
<p>It is frequently TOO COLD on the top deck, especially next to windows. Drivers blast AC after we get on the freeway and there's no way to communicate with them. People have resorted to sticky notes to block air vents and I don't blame them. Also as a short female, the seats are too high, really like the small handful of raised floor seats. Lastly, wish seats didn't recline.</p>
<p>It would be great if the turn signal made noise like the turn signals on the NABIs did...</p>
<p>I like that they provide more capacity and less standing is required.</p>
<p>Seats are generally too narrow. My shoulders are 30% wider than the seat width (on the upper deck). I only sit in the wheelchair-area folding seats.</p>
<p>Yes please use more of the double decker in the L bus line. The hard seats in the old buses are too uncomfortable to sit on for the bumpy ride. My spinal cord and tail bone hurt from sitting in the hard seats. Thank you</p>
<p>The L line does not have double decker buses going back to the east Bay in the afternoon on the busiest buses (i.e., 4:30, 5:00, 5:15). The buses that most frequently show up are the local buses with the hard plastic seats that make for an uncomfortable ride in heavy traffic. AC transit should consider adding the double decker buses to the L afternoon lines for its loyal riders.</p>
<p>The air upstairs is colder than lower deck. All the holes along the windows can't be control. I had to ask driver to lower the air condition. It would be good to have intercom to the driver since we are ask not to walk around on upper deck when the bus is in motion.</p>
<p>Is there an intercom system on the upper deck to communicate with the driver through?</p>
<p>My biggest complaint with the double decker buses are the airflow vents directly above the window seats, which are not adjustable at all and are really uncomfortable to sit under when the air is blowing. Normally I would choose to sit in a window seat but not having the option to control the air flow from these vents (other than manually covering them) means I opt not to sit by the window. Being able to close these vents would be a HUGE improvement over the current design.</p>
<p>Great addition to the fleet.</p>

Really great. I feel less stressed about waiting for the bus even if there's a long line because the buses hold more people anyway. I've only seen people have to stand a small handful of times, which is way different from the older buses
Ventilation at ceiling can be too strong, blowing hard. In general I really like the extra capacity of the double decker buses.
The air condition flow come out by the window side can sometimes be too strong for my head to bear. Sometimes it also get really cold sitting by the window seat.
The ventilation on the side of the bus is often too strong (very windy) and that directly affects me to choose the aisle seat. Also the seats on the upper deck is a bit too tall so my feet can't touch the ground when I sit on it. That sometimes make me choose the lower deck.
The vents on the window seats of the upper deck BLASTS out air, and you can't control it. Beyond just getting cold, you have a constant heavy blowing in your face and it can get extremely annoying. I purposefully try to sit in the aisle just to avoid it. Don't get me wrong, it can get too hot if they aren't on at all (if not on, usually means vents that can be opened or closed aren't on either), but if you bought more it'd be ideal if they can be placed in a better location or if there was a way to block it when you get too cold or just annoyed with the constant blowing.
I can't be the only one who feels this way, as I've gotten on the bus to find post it notes covering the holes. As I type this, the row in front of me has blue painters tape covering it.
If drivers would help to assure handicap seating is made available to handicapped/disabled passengers first. I can't use steps but young, able-bodied are allowed to take the handicap seats and I'm forced to off-board (even though I paid) or try to go up steps on lower level, hit head, and sit in weirdly designed bucket seat without a pole to hold on during ride, which I require. It would be appreciated if drivers would lower the bus for off-boarding - only one driver will do it automatically for me. I don't bother asking those that don't because I know they won't.
It seems to be that the double decker on the L morning lines comes before rush hour. It's be nice to see more between 7-8am when there are more people riding the bus.
The air comes out of slits along the ceilings and can be very cold. I wish the riders could close or open them.
I enjoy the view from the upper deck very much. It feels much nicer and roomier inside a double-decker bus.
The seats are very close together - if the person in front of you reclines they're basically in your lap. Also I wish it were possible to close the vents that blow air on me. Overall though I like the double decker buses a lot. I could ride either the FS or G and I take the FS whenever possible for this reason.
Considering that there is an AC module above each seat that allows the passenger to manually adjust the temperature, I don't understand why the AC needs to fully blast from other ventilation holes along the sides of the buses. Because of the location of these holes, I always feel so cold inside a double-decker unless I sit on a seat right next to the aisle. I never had this problem with regular transbay buses.
Not sure what would happen in a serious accident
Riding on the top deck really adds to the ride with great views. It reminds me of riding the double decker buses in London!
Many drivers feel you are capable of loading onto the bus without lowering the step on function.
Good bus that accommodates more riders especially during busy times. Please keep it clean. Thanks.
The air system upstairs is terrible if you sit next t a window the air from the slots adjacent the window blows on top of your head with no way to control it. It's either too hot or too cold- and very windy! I've ridden double deckers my whole life - overseas- and haven't seen anything this bad. People put

tape or post it's to deflect the wind. Very poor design that can be doled with a deflector that points the air at the window instead of your head
The upper deck is often FREEZING because the vents above the windows blow directly onto the passengers and there is no way to stop them. I've witnessed a lot of people try to figure out where the cold air was coming from and getting frustrated when they realize the vents can't be stopped.
Also, I hit my head VERY HARD when trying to get into the front seat on the top deck. The message board sticks out a bit and I was looking down to get into the seat. Don't know if there is anything to be done about this since I just wasn't paying attention, but I've seen others hit it as well. (Still the best seats on the bus, though.)
Please bring more double decker buses! They are very comfortable especially for long trips from the East Bay to SF. It makes the trip more enjoyable and worth the money spent.
They are great! Very comfortable and fit a lot of people.
It can get very chilly sitting under the AC next to windows.
The temperature has been far too cold. Having to ask the driver to turn off the fan every time I take the bus is frustrating and maybe because the height of the bus the temp is offset but I figure with the technology no adays that would not be a problem. Having a choice of the blower blowing cool or hot air would be better. The vents along edge of ceiling just make for a cold trip.
Love the new buses! The fans/ventilation on the upper deck can be a little chilly at times and I'm not a big fan of ads that cover the bus and obstruct the view - the views are one of my favorite parts of taking ACT. Overall tho, the new busses are fantastic, please get more!
Tone down the AC! I know I'm not the only one who feels this way! I have been terribly uncomfortable on several rides.
The ventilation on the upper deck against the windows is always way too strong. I'm often cold when riding the bus on the window seat.
Other than that, the double decker is great!!
Having more seating, especially on the busier routes/times, is great!
Very cool and fun
The air ventilation on the sides of the bus blow at an uncomfortable angle and I've heard many people complain of this.
No reclining seats on left upper deck in front of bus stairs
Purchase more of them. I ride the L line and i would like to be able to ride the double Decker buses in the evening too.
Am encountering the seats recline and are difficult to put back to regular or are broken. Really wish the seats wouldn't recline. It becomes very difficult to sit behind someone reclining and I'm not a tall person and still find it difficult to sit behind a reclaimed seat.
Cheaper rates.
Too much cold air coming from vents. Asked driver to slow down but no response. I have wear a cap or hoodie just to ride the double decker
I started waiting the bus that comes 15 minutes later in order to ride the upper deck. Only one problem is the driver sometimes turns the air conditioner up to high.
In the afternoon the air in the double decker buses are extremely cold.
The double decker options alleviates crowded buses. More seats are definitely a reason to buy them
If any route is generally packed then,i think it makes a lot of sense to replace with double decker.

The seats and aisles seem more narrow than my regular bus (F line), which is fine for average-small sizes people - but feels a bit squishy for more plump people
Lower deck seems to have fewer seats than it should. Stairwell is cumbersome. Vents on upper deck Are too cold and powerful.
The ventilation system is awful. If you sit by the window you are blasted with freezing air. On the old buses you could turn the air in your seat off. It makes the ride very unpleasant in the window seat.
The side ventilation that blows out cold air and is unable to be closed is HORRIBLE.. it is very strong and unavoidable on both upper and lower decks. I always sit in the aisle because of this
Upper level vents are too aggressive
Need more bike space
I am extremely happy AC Transit has added the double-deckers! The extra room for more riders is a great benefit and the view is awesome from the upper deck. Getting a double-decker makes my commute much more enjoyable.
Shaky when windy
No but I ride transbay less due to the fare increase. I am not sure if that is due to the double decker busses or due to another factor. The seats upstairs are a bit small also
Ads placed outside the buses really affect visibility from inside
The air conditioning is often on full blast, making it cold on the upper deck. The head space on the lower deck is limited, so i often go up top. There are few problems with getting a seat, in my experience, and the bus is pretty comfortable overall. The only concern is the steepness of the stairs and not all drivers waiting until riders are all the way up before accelerating... You're in trouble if you're not holding on!
The air that blows out of the narrow slots near the windows is far too cold.
Sell ad space on the buses. I loved the pandora ad, made the bus look really cool!
I absolutely love the double decker buses. They are comfortable, clean, quiet, and modern. The only problem I see is that occasionally on rainy days, the upper deck can get humid.
I think the double decker buses are what we need! They are so much more efficient when it comes to transporting people during rush hour, they're comfortable, and eco-friendly! I would 100% vote for more double deckers in the AC Transit fleet
Could use more in the morning. Sometimes I have to stand in the morning.
The lower deck is uncomfortable and I will not sit there unless there are zero seats upstairs. The only negative of the upper deck is the weird vents blowing directly down onto your head and body. Easily fixed with a few postits, but still annoying. The double decker bus is now required on the LA line with the added stops and ridership. The fact that the LA line still gets the small buses at times is inexcusable.
I love the double decker buses, as does the rest of my family! They are a great addition to AC Transit's fleet, and I believe they will assist the Bay Area in reducing carbon emissions by attracting more riders. They are sleek looking, provide a novel and comfortable experience, and have the potential to become the recognizable "face" of AC Transit for transportation-excited children as well as commuters. An enthusiastic two thumbs up. Hope to see more on the road soon.
Put them in service for the o ox and w lines in alameda
They look cute, but I hate riding them. I'd rather have those other ones we tested recently (maybe a year or so ago)? Non double-deck ones. Those were nice.
Ask riders to be seated with a plan. For instance allow riders planning to get off at an early still be allowed to have priority lower level seating. Sitting upstairs is disorienting at night and easy to miss stops



Sitting upstairs on the window side seats, the ceiling vents (the long ones embedded in the ceiling, not the user adjustable ones next to the reading lights) sometime spew a jet of uncomfortably cold air. I wish it were diffused somehow, and not blowing cold air on the passenger.
They should be used on H. Busses are frequently filled to capacity and have to skip stops. Just happened this morning.
Procedures for exiting on upper deck not super clear. The culture is not yet established. Unclear the driver can see me attempting to exit.
Nope. I welcome them with open arms
I love double deckers and all the people I know prefer double deckers.
The vents. Can't stress this enough. Just sit on a window seat for a ride and try it.

APPENDIX III – BUS SPECIFICATIONS, COST, AND FUEL EFFICIENCY COMPARISON BY FLEET TYPE

	ADL Double Decker	Gillig	New Flyer	MCI (old)	MCI (new)
Style	Commuter	Commuter	Local	Commuter	Commuter
Length	42.5'	40'	60.8'	45'	45'
Chassis	Low Floor	Low Floor	Low Floor	High Floor	High Floor w/Low Floor ADA Vestibule
Engine	Cummins ISL9 8.9L six cylinder turbocharged	2013 Cummins ISL electronic controlled engine rated at 280 HP	Cummins ISL electronic controlled engine rated at 330 HP	Series 60 Detroit Diesel DDEC IV engine rated at 430 HP	Cummins X12 electronic controlled engine rated at 425 HP
Transmission	Allison B500R with retarder	Allison B400 6-speed transmission with retarder	Allison B400 6-speed transmission with retarder	Allison B500	Allison B500
Front Axle	ZF RL75A deep drop beam	Arvin-Meritor FH946 with 16.5" x 6" drum brakes	M.A.N VOK-07 with disc brakes	Arvin-Merito FH946 with 16.5" x 6" drum brakes	ZF RL 80E
Rear Axle	ZF AV-132 drop center axle	Arvin-Merito 71163 with 14.5" x 10" drum brakes	M.A.N. 4.56:1 HY-1350-F with disc brakes	Arvin-Merito FH946 with 16.5" x 6" drum brakes	ZF A132
GVWR	56,656 lbs	39,600 lbs	69,883 lbs	45,000 lbs	54,000 lbs
Width	99"	102"	102"	102"	102"
Height	162"	112"	126"	137" including hatches	138"
Brakes	Disc brakes with separate wheel system	All wheel drum brakes	All wheel disc brakes	All wheel drum brakes	Bendix All wheel disc brakes
Wheel Base	Front to rear 21' 1"	Front to rear 23' 2.5"	Front to rear 43.5', front to center 19.1', center to rear 24.4'	Front to rear 17.7'	26.25'
Turning Radius	43' 5"	44' 7"	44'	45'	40' 11"
Seating	78	36	52	57	54
Seat Amenities	reading lights, air vents	Luggage lofts, reading lights, air vents	N/A	Luggage lofts, reading lights, air vents	Luggage lofts, reading lights, air vents
Wheelchair Ramp/Lift	Ricon 621SA 6:1	Lift-U 4:1 ramp	New Flyer 7:1 ramp	Ricon lift	MCI 6:1 Ramp
Wheelchair Securement	2 positions, Q-strait	2 positions, Q-strait L-pocket	2 positions, Q-strait L-pocket	2 positions	2 positions
Wheel Type	polished aluminum	polished aluminum	polished aluminum	polished aluminum	polished aluminum

Brochure Side A

DOUBLE DECKER KEY FACTS

DATOS IMPORTANTES SOBRE LOS AUTOBUSES DE DOS PISOS
双层巴士主要特点

Length Longitud • 长度
• 42'5" (12.93m)

Height Altura • 高度
• 13'6" (4.12m)

Width Anchura • 宽度
• 102" (2.59m)

Upper Deck Capacity (Seated)
Capacidad del piso superior (sentado) • 上层甲板载客量 (座位)
• 53

Upper Deck Headroom Clearance
Espacio de altura libre en el piso superior • 上层甲板净空高度
• 5'7"

Lower Deck Capacity (Seated)
Capacidad del piso inferior (sentado) • 下层甲板载客量 (座位)
• 25 (19 with two wheelchairs)
(19 con dos sillas de ruedas • 19个, 配备两个轮椅)

Bike Rack Capacity
Capacidad del portabicicletas • 自行车架
• 3

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当您使用楼梯进出上层甲板时, 请注意您的脚步并握紧扶手。



ENJOY YOUR DOUBLE DECKER BUS
Safe Riding Tips

DISFRUTE DE SU AUTOBÚS DE DOS PISOS
Consejos para un viaje seguro

乐享您的双层巴士服务
安全乘车体验



Brochure Side B



Welcome aboard our new double decker bus!

This bus is brought to you by *Transbay Tomorrow*, a visionary AC Transit project dedicated to improve your commute and reduce overcrowding.

¡Bienvenidos a bordo de nuestro nuevo autobús de dos pisos!

Este autobús es ofrecido por *Transbay Tomorrow*, un proyecto visionario de AC Transit dedicado a mejorar su tránsito y reducir las aglomeraciones.

欢迎您乘坐全新双层巴士!

巴士由 *Transbay Tomorrow* 项目为您呈现, 该 AC Transit 项目旨在优化您的通勤, 减缓拥挤。

For a safe and comfortable ride, please remember to follow these simple tips:

SAFETY ALERT

 Follow all instructions given by your operator.

 Do not use the stairs when the bus is in motion.

 Remain seated on the upper deck when the bus is in motion, even after you have requested your stop.

 Watch your step and hold the hand rails as you use the stairs to and from the upper deck.

Para un viaje seguro y confortable, por favor acuérdesese de seguir estos sencillos consejos:

ALERTA DE SEGURIDAD

 Siga todas las instrucciones proporcionadas por su conductor.

 No use las escaleras cuando el autobús esté en movimiento.

 Manténgase sentado en el piso superior cuando el autobús esté en movimiento, incluso después de pedir su parada.

 Tenga cuidado con los escalones y agarre los pasamanos cuando use las escaleras para subirse y bajarse del piso superior.