SUBJECT: Report on Public Response to WiFi Service on Selected Transbay Buses, and Motion to Assume Responsibility for Monthly Access Charges

RECOMMENDED ACTION:

☐ Information Only  ☐ Briefing Item  ☒ Recommended Motion

Consider Approving Staff Recommendation to Assume Responsibility for Monthly WiFi Access Charges and Continue WiFi Service on Selected Transbay Buses

Fiscal Impact:
There are currently 94 WiFi equipped AC Transit Transbay buses; that number may increase to 103 in the first quarter of 2009. At a monthly cost of $44.99 per bus, access charges will range between $50,749 and $55,707 annually. Survey results indicate that WiFi service has increased ridership on Transbay buses; therefore, District costs could potentially be covered by the additional patronage.

Background/Discussion:
In the summer of 2007, funded with a grant from the Alameda County Congestion Management Agency (CMA), AC Transit created the largest WiFi-equipped bus fleet in the United States. Rider response to this service has been enthusiastic. Coverage has increased from 78 MCI buses to include 12 DB buses, with funding from the Dumbarton Bridge Consortium, and four NL buses, with funding from Chevron. Staff anticipates using the remaining CMA capital grant funding to equip four DB-style buses that AC Transit is obtaining from SamTrans, and the five remaining NL buses.

AC Transit has received national attention, as well as rider support, for the service. Attachment A is a paper presented by staff at the APTA Bus and Paratransit Convention in
Austin, Texas in May, 2008. This attachment provides additional details on the WiFi project at AC Transit.

In fall 2007, a few months after WiFi had been implemented on AC Transit Transbay service, staff conducted a survey of Transbay passengers regarding use of the system. A copy of the survey document and summary of results are included as Attachment B to this memo. There were 725 completed surveys, covering all Transbay lines. The critical results include:

- 46% (330 respondents) have used the WiFi service on board

Of the 330 respondents who have used the WiFi service on board:
- 39% (128 respondents) said that availability of WiFi was a major factor in starting to use Transbay Service
- 41% (134 respondents) answered “Yes” to the question, “Have you increased your Transbay ridership because of the availability of WiFi service?”
- 77% responded that they were Very Satisfied or Satisfied with the service
- 9% responded that they were Dissatisfied or Very Dissatisfied with the service

Extrapolating the percentages above to overall Transbay ridership is an inexact science. For instance, the majority of surveyed riders indicated they rode 3-5 days a week. If one makes the assumption that 200 additional riders have been attracted to Transbay service due to WiFi service, those 200 could generate up to $278,000 in additional annual revenue (200 riders x 12 months x $116 monthly pass = $278,400). This is considerably in excess of the $50,000 - $55,000 annual access charges, and represents a considerable return on investment.

Staff has been tracking the number of WiFi users, via an allied software called Field Commander, which allows desktop glimpses of how many users are on each equipped bus. Arriving at a daily user figure, however, is inexact. If one totals the maximum number of WiFi users per bus for both the morning and afternoon peaks, then adds those numbers together, daily usage increased from 200 to over 600 during 2007. However, this number is in all probability low since there are multiple peak (and off-peak) trips on a number of lines.

Recently, a count was made of all reported users on all buses, during a single day. This number was 2,400. Since usage is polled every 15 minutes and many trips are longer in duration, this number is in all likelihood high. If one assumes that the average Transbay trip is 30 minutes, then a more accurate daily number of WiFi users would be 1,200. AC Transit is working with Sierra Devices, the owner of the Junxion equipment currently used, to develop a more accurate system of determining daily WiFi usage.

Evidence does indicate a considerable number of WiFi users who are satisfied with the service, and have increased their usage of Transbay service accordingly. In addition, the equipment has proven itself very stable, with minimal failures. Since grant coverage of
monthly access charges is coming to conclusion, staff requests Board authorization for the
District to accept responsibility for access charges, on an ongoing basis.

**Prior Relevant Board Actions/Policies:**
GM Memo 06-109a: Inform Board of Impending WiFi Installation on all MCI Transbay Buses

**Attachments:**
Attachment A: APTA Presentation re AC Transit WiFi Service
Attachment B: WiFi On-Board Survey and Summary of Results

**Approved by:** Rick Fernandez, General Manager
Nancy Skowbo, DGM Service Development

**Prepared by:** Jon Twichell, Transportation Planning Manager

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WIFI SERVICE ON AC TRANSIT TRANSBAY BUSES A SOLID SUCCESS

Jon Twichell, Transportation Planning Manager, AC Transit
Linda Morris, Transportation Planner, AC Transit
Cesar Pujol, Traffic Engineer (formerly AC Transit), California Department of Transportation
Martin Lanner, Senior Planner, Alameda County Congestion Management Agency

Oakland, California
IF GOOGLE AND YAHOO CAN DO IT...

It was brought to AC Transit’s attention that various Silicon Valley firms had developed private commuter bus systems. Since many technology campuses are located about 40 miles south of San Francisco, and many young technology employees preferred to live in San Francisco and Oakland, a number of companies developed commuter services, including free wifi services. Google, for instance, has a 32-bus chartered fleet. Once employees were on their bus, they can go to work immediately thanks to the wifi service. As they had been providing this service for about two years, it seemed logical for AC Transit to explore providing a similar service for its 26 Transbay routes, serving San Francisco at the Transbay Terminal via the Bay Bridge, campuses such as Visa and Oracle via the San Mateo Bridge, and Stanford University via the Dumbarton Bridge.

An on-line survey of Transbay riders who were part of the AC Transit List Serve generated a large response – 25% of those surveyed – with an extremely enthusiastic response. With the grant support and technical assistance of the Alameda County Congestion Management Agency, AC Transit initiated the first large-scale implementation of wifi service on public transit.

USING THE KISS METHOD

Following the “keep it simple” approach, AC Transit staff first conducted a Best Practices review of other public transit wifi implementation, particularly Riverside County (CA) and Sound Transit in suburban Seattle. Our goal was to not make this technology implementation more complicated than need be, and to keep a clear focus on customer service. Installing and using a wireless router in a home environment is relatively easy; we believed that a bus environment should be equally simple.

Further, we created and have kept a simple and direct connection to the router, resisting requests for an intervening home page with advertising opportunities. Service is free, and easy.

INDUSTRY STANDARD EQUIPMENT

Our Best Practices review indicated that many transit systems, both public and private, were utilizing “Junxion” routers, which were designed for a number of uses but are well suited to moving bus applications. This allowed AC Transit to install a field-tested product, where other systems had served as the research laboratory. We did install one competitive router, at the manufacturer’s request, which failed after several months and was replaced by another Junxion.

DRIVE AND CHECK THE NETWORK

The Bay Area has much bandwidth invested in cell phone and wifi systems, given its reputation as the US technology hub. However, CMA and AC Transit personnel drove and field checked the routes of all Transbay service, particularly over the three bridges affected. Once we were assured that the Cingular 3G network covered 100 percent of our service, we proceeded to field testing the equipment.

Other transit systems interested in implementing wifi service need to work closely with local providers to insure sufficient bandwidth and area coverage.

TEST IN REGULAR SERVICE (WE FOUND ONE GLITCH)

Our next step was to install a Junxion unit on one MCI bus (AC Transit has 78 MCI’s, exclusively in Transbay service) and rotate that bus through a series of sample routes from all four of our bus divisions, during actual peak period service. Through these tests we did discover that there was a lock-up interaction between the router and the PC card initially used – the router had difficulty reading that particular card. Once the card was switched to a Sierra 875, the problem was resolved. Other than that one issue, service was excellent and we proceeded quickly to full installation. Our ridership was very excited at the prospect of wifi service, and there was constant pressure to roll the service out.

STANDARDIZE INSTALLATION

All installations were done internally by AC Transit’s communication technology staff. The first installation was carefully designed, so that it could be replicated during the full rollout. The overall service is, again, relatively simple. It consists of an antenna centrally mounted in the middle of the bus roof, cable to the router mounted internally in the overhead luggage area (protected by a case), and a connection to the bus battery (with a surge protector). Getting the proper length of cabling proved more of a challenge than the router.

AUTOMATE AND MONITOR

One advantage of the Junxion system is that it comes equipped with a software called “Field Commander” which enables staff to remotely monitor all installed routers. This allows for regular checks of the equipment, to make sure it is operating properly, and regular checks of customer usage. This
allows us to track the number of wifi connections, which keeps rising at a steep rate.

As Figure 1 indicates, we have gone from 288 users about a month after installation, to over 400 users after four months, to over 600 users after eight months. So far, there are up to nine users on a particular bus, both a.m. and p.m. peak periods.

OUR RIDERS ARE VERY HAPPY…

Shortly after the original 78 MCI’s were equipped, an additional 12 Dumbarton Bridge buses were also equipped, plus another four Transbay buses thanks to a Chevron project with AC Transit. There are now 94 wifi-equipped AC Transit buses; all equipment and monthly access charges have been covered up to this point by grant funds. By the end of 2008, access charges will be the responsibility of AC Transit. Since the cost of a single monthly Transbay pass is twice the monthly cost of access, there is a clear return on investment argument. AC Transit is currently surveying its Transbay customers to see what impact wifi service has on ridership.

The service has been greeted with great enthusiasm by its users. It is an instance where there was public demand for the service, and continually increasing usage once wifi access was implemented. It’s not often that public transit agencies hear from their ridership about what it is doing right, this is one of those instances. We get regular email (of course) testimonials from riders effusively thanking us, for instance, for giving them another 10 hours of productive work time weekly.
This past summer, AC Transit installed wireless Internet service on its fleet of Dumbarton Express Transbay buses. Now that the service has been operational for approximately six months, we'd like to know what you think of it and how you use it. Please help us out by completing the following survey and returning it to your bus driver by Tuesday, March 4. Your responses will help us plan for possible expansion of on-board wifi service, and everyone who participates will be eligible to win a 31-day Transbay bus pass. Thank you!

1. Which Transbay bus line(s) do you usually ride?
   Primary line _______________________
   Alternate line _______________________

2. How often do you use Transbay service?
   □ 3-5 days a week
   □ 1-2 days a week
   □ A few days a month or less

3. How did you hear about wi-fi service on Transbay buses?
   □ From this survey
   □ Advertising on the bus
   □ Internet ad
   □ Radio ad
   □ Newspaper article
   □ AC Transit e-News
   □ Word of mouth
   □ Other (describe) _______________________

4. Have you ever used wi-fi service on board a Transbay bus?
   □ Yes
   □ No – why not?
   □ No personal wireless device available
   □ No desire to use wifi on bus
   □ Concerns over online security
   □ Bus used does not provide wifi
   □ Other (describe) _______________________

5. When do you usually use a Transbay bus?
   □ Morning
   □ Afternoon/Evening
   □ Both

6. Did you start using Transbay bus service after August 2007?
   □ Yes
   □ No

7. If you answered YES to Question #6, was the availability of wi-fi a major factor in your decision to start using Transbay service?
   □ Yes
   □ No

8. How did you commute prior to August 2007?
   □ AC Transit
   □ BART
   □ Casual carpool
   □ Organized carpool/vanpool
   □ Motorcycle
   □ Drove alone
   □ Other (describe) _______________________

9. Have you increased your Transbay ridership because of the availability of wi-fi?
   □ Yes – How often did you ride before wi-fi was available?
   □ 3-5 days a week
   □ 1-2 days a week
   □ A few days a month or less
   □ No

If you answered NO to this question, please disregard the rest of the survey. If you would like a chance to win a 31-day pass, please provide us with your contact information at the end of the survey. Also, feel free to include written comments on Question #14.
10. For what purpose do you primarily use wi-fi on the bus?
☐ Work
☐ Personal
☐ Equally work and personal

11. For which activities do you use wi-fi on the bus? (check all that apply)
☐ Using e-mail
☐ Listening to music
☐ Watching video
☐ Surfing the Web
☐ Other (describe) ____________________________

12. How satisfied are you with wi-fi service on AC Transit buses?
☐ Very satisfied
☐ Satisfied
☐ No feeling either way
☐ Dissatisfied
☐ Very dissatisfied

13. If you are dissatisfied, why?
☐ Slow speed
☐ Problems connecting
☐ Awkward to use while riding the bus
☐ Other (describe) ____________________________

14. Is there anything else you would like to say about wi-fi service on the bus?

DRAFT

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Please provide us with your contact information for a chance to win an AC Transit 31-day pass!

Name: ________________________________

Work or home phone number: ________________________________

E-mail address: ________________________________

Please return your completed survey to your bus driver by Tuesday, March 4.

Thank you!

AC TRANSIT

AC Transit Marketing & Planning - January 2008
Wi-fi Survey Summary

Introduction:

In September 2007, AC Transit surveyed riders of wi-fi enabled buses at the Transbay Terminal in San Francisco to determine how the introduction of wireless Internet service on select buses has impacted ridership. Additional surveys were distributed to riders of lines M, U and the Dumbarton Express in February 2008.

Total number of completed surveys: 725

Summary of Results:

Of the 725 people who completed the survey:

Question #4 “Have you ever used wi-fi service on board a Transbay bus?”

- 46% (330) answered Yes
- 54 (395) answered No

Of the 330 people who have used wi-fi service on board the bus:

Question #7 “If you answered Yes to *Question #6, “Was the availability of wi-fi a major factor in your decision to start using Transbay service?”

- 39% (128) answered Yes
- 30% (98) answered No
- 32% (104) skipped the question

Question #9 “Have you increased your Transbay ridership because of the availability of wi-fi?”

- 41% (134) answered Yes
- 56% (186) answered No
- 3% (10) skipped the question

Question #10 “For what purpose do you primarily use wi-fi on the bus?”

- 30% (100) answered Work
- 22% (74) answered Personal
- 45% (150) answered Equally Work and Personal
- 2% skipped the question

Question #12 “How satisfied are you with wi-fi service on AC Transit buses?”

- 40% (132) answered Very Satisfied
- 37% (122) answered Satisfied
- 7% (24) answered No Feeling Either Way
- 7% (24) answered Dissatisfied
- 2% (6) answered Very Dissatisfied
- 7% (22) skipped the question

*Question #6 asked riders if they started riding the Transbay bus after wi-fi was installed.

Compiled by Karen Bakar & Jesse Iborra, AC Transit Marketing, 4/30/08