Rapid Bus + as an Alternative

By Vincent Casalaina

We have the opportunity to get most of the positive features of Bus Rapid Transit at a fraction of the cost and with a fraction of the social and environmental damage that removing traffic lanes and parking will entail if we put in BRT.

What am I talking about? Rapid Bus +.

AC Transit has implemented a bare bones version of this today. They call it Rapid Bus. It is a low impact change of service and did not require an Environmental Impact Statement. The reason its environmental impacts are so low is that it travels in the same traffic lanes as autos and it uses the existing bus stops along the route.

Rapid Bus has two features that separate it from the 40L busses it replaced. The first feature gives buses traffic signal priority which means buses will be slowed as little as possible by the lights along the route. The second feature is real time bus arrival information at the stops. Unfortunately AC Transit has put this second feature into only a very few stops, not even all the stops that they themselves identified as major transit pick up and drop off locations.

Rapid Bus + is a much more fully featured version of Rapid Bus. It would start with the two features already in place for Rapid Bus and would add the two features of BRT that AC Transit acknowledges will most cut transit time and add ridership: proof of fare and greatly reduced time between buses.

Rapid Bus + has the advantage over BRT of maintaining the mixed use roadway where both autos and buses can share the lanes rather than implementing a transit only lane. Rapid Bus + also maintains the current level of parking for businesses and residents by using the existing bus stops. AC Transit almost evaluated this alternative in their Draft Environmental Impact Statement/Report, but chose not to do so.

Let's start by looking at how much time AC Transit believes BRT would save when compared to Rapid Bus as its currently implemented. AC Transit projects the savings in trip times between downtown Oakland and downtown Berkeley at only 7 minutes.

Jim Cunradi, AC Transit project manager for BRT, stated at a recent meeting in Berkeley that the BRT system was not designed as a long haul carrier to compete with the parallel running BART system. His vision of ridership is for the average trip to be a fraction of the full 17 mile BRT route, in the range of 3 miles

or less. When you consider those short travel distances, the effective time savings on an average BRT trip is about 4 minutes when compared to the same trip on the current Rapid Bus.

However AC Transit's projected reduction in time looks only at the time spent on the bus. It does not take into account the additional walk time to reach the more widely spaced BRT stops and likewise the additional walk time to reach the destination from the more widely spaced BRT stops.

The extra walk time from an average riders house can be calculated if we assume an extra 2 blocks to reach the BRT stop at a reasonable walk speed to add approximately 2 minutes to the trip. Similarly the extra walk time from a BRT stop to the desired destination (allowing that AC Transit located the stops at the most used destinations) can be assumed to be half the extra walk time calculated to arrive at the BRT stop, adding approximately 1 minute to the trip.

When you look at total trip time, the average person using BRT is going to save approximately 1 minute per trip. Its no wonder the Draft Environmental Impact Statement/Report shows such a minimal shift of riders to BRT from the current Rapid Bus. The average person is not going to look at a 1 minute differential as a compelling reason to shift to BRT if they have not already shifted to Rapid Bus from the previous 40L line based on an even greater time savings.

Lets look at how Rapid Bus + with its enhanced features can gain ridership at a fraction of the cost of BRT.

At the same Berkeley meeting where Mr. Cunradi stated that since BRT is meant primarily for shorter trips along the corridor he also stated that **the key to further improvement in bus speed is proof of payment.** (emphasis added)

The reason the proof of payment system speeds up the travel time is that it greatly decrease the time needed to board and discharge passengers at the stops by eliminating the bottleneck at the fare box. This system allows all bus doors to be used for loading and unloading simultaneously. This decrease in wait time at each stop would cut the actual trip time difference between Rapid Bus + and BRT to less than 1 minute.

Throughout much of Europe, transit systems use a low tech system for proof of payment. They rely on local vendors along the route to pre-sell tickets and a unique punch system on-board the bus to validate proof of payment. This low tech, low cost system has been shown in practice to gain that next big jump in speed described by Mr. Cunradi.

To implement this feature, AC Transit would only need to implement the widespread sale of tickets in local merchants along the entire corridor and especially around the transit stops. This could well be a plus for local merchants, as it would bring additional patrons into their stores who might not otherwise have bought anything there.

The on-board portion of the low tech solution is when riders board their bus, they punch their ticket with a simple hole punch located near each of the doors. The punch validates their ticket for that trip. That's their proof of payment. Each bus and date has a different physical punch pattern, to prevent fare beating. It's that simple.

Another significant factor in actual trip time is the time spent waiting at the stop for the bus to arrive. A big step in increasing the ridership of Rapid Bus + would be the decreasing of time between buses from the 12 minute headway implemented for Rapid Bus to something approaching the projected BRT headway of less than 5 minutes. If you shorten the wait time, essentially making it equal between BRT and Rapid Bus +, then the actual overall trip times calculating for walk time to and from the bus stop, wait time at the bus stop and travel time on the bus would look very similar.

Another factor involved in waiting at the bus stop is knowing when the next bus will arrive. Real time bus arrival information is important because if people waiting at the bus stop know how soon the next bus will come, it lowers their level of frustration and perhaps even allows them to run an errand knowing they will not miss their bus by doing so. It let's the rider be in control of what they do, an important factor in decision making about what mode of travel to use. This feature, partially implemented currently on Rapid Bus, is based on installing GPS transponders on the each of the buses and using real time computing of bus arrival at the individual stops to post the information in each bus kiosk. It would be fully implemented in Rapid Bus +.

One of the major complaints about sending buses out in mixed use lanes is their tendency to clump together. We've all waited for the bus to come and when it finally does arrive there are two buses running in tandem. Since in Rapid Bus + each of the buses carries a GPS transponder, it would be a simple matter to use off-the-shelf mapping technology to stop the buses from bunching up. Someone in the AC Transit office could easily check the location of each bus on the route and could then communicate with the drivers to adjust their speed so that bunching does not occur, or is at least minimized as much as possible.

With limited dollars available to address congestion problems, it is important that any analysis that is done goes beyond simply estimating how vehicles, both autos and buses, are affected by the proposed improvement. It is also

necessary to estimate how neighborhoods, households and businesses will be affected.

AC Transit's analysis of BRT on neighborhoods and business is woefully lacking. They barely talk about what the removal of 75% of the current parking along the northern section of Telegraph Ave. will do to the merchants who rely on it for their clientele. AC Transit's vision of mitigation for the merchants is the installation of parking meters in residential neighborhoods bordering the BRT route.

This "mitigation" affects both the residents whose already very limited parking is further decreased and the businesses whose customers must park further away, perhaps much further away, and then walk carrying their purchases. We have seen the results of a reduction in parking along Telegraph Ave. in the past two years. A restriping of Telegraph Ave. to accommodate the center raised islands and the full width bike lanes caused the removal of a significant number of parking spots.

The effects on local business sales were emphatic and immediate. Businesses such as the Looking Glass photographic store complained immediately that many of their clients needed a convenient parking spot to run into the store and drop off film for processing. With the removal of parking due to the restriping, they saw an immediate drop in sales and an increase in client complaints.

There was also a definite impact on the deliveries to the businesses along the Avenue. Businesses such as Le Bateau Ivre restaurant no longer could have their deliveries take place from curbside. They found that double parking became the only way to get deliveries done in a reasonable amount of time. They too saw an immediate drop in sales and an increase in client complaints from the reduction in parking.

The reduction in the number of parking spots on Telegraph that is proposed for the BRT system is much more significant than the reduction that took place during the restriping. The impact to small businesses that depend currently on convenient on-street parking spaces, even with parking added down the blocks into the residential neighborhoods, will likely be even greater.

The final step in increasing the effectiveness of Rapid Bus + could be the use of raised curbside platforms at the major transit stops. These are by far the most expensive and environmentally disruptive part of the plan and would only be warranted at stops where large numbers of people board and unload – a very small fraction of the total number of stops along the Rapid Bus + route.

This feature is the final one in the BRT plan that would help to speed loading and unloading. Such curbside platforms are already envisioned in several of the BRT

alternate alignment routings. The raised platforms make the boarding process much easier for the handicapped, the elderly and those pushing carts and strollers. This will significantly speed up loading and unloading at the highest usage transit stops thereby increasing the overall speed on the line.

We have a unique opportunity today to create Rapid Bus + in our community. AC Transit has laid the groundwork for it in their implementation of the limited Rapid Bus service. There are many reasons that Rapid Bus + would benefit the community including the low cost of implementation, the low environmental impact of its infrastructure and the greatly increased speed and reliability of the buses on the line. We can do all this at a fraction of the cost projected for the implementation of BRT.

If you agree that Rapid Bus + is something that Berkeley should have, make sure the Council and the Mayor know its important that we have good rapid transit in our community and that there is a cost effective way to make it happen today.