

TriMet's "Better Red" project: Version for hearing on federal funding.  
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by Doug Allen

Thank you for soliciting comments regarding TriMet federal grant expenditures for next year. I wish to comment on the two Section 5309 Small Starts Capital Improvement Grants for the "Red Line Extension & Reliability Improvements" project. One is for \$100 million (\$99,999,999.00) and the other is for \$15.7 million (\$15,721,739.00).

One of the least-reported news stories in Portland is TriMet's harmful, wasteful, and largely useless so-called "Better Red" project.

TriMet last summer (June 23, 2021) approved contract changes that have allowed construction to proceed. See <https://trimet.org/meetings/board/pdfs/2021-06-23/Res%2021-06-35%20MAX%20Red%20Line%20CMGC%20mod.pdf> authorizing expenditure of \$152 million. Ultimately, nearly half of the eventual \$216 million cost will come from revenue bonds, to be repaid from TriMet's source of operating funds, the payroll tax, reducing funds available for actual service.

As at multiple previous TriMet Board Meetings, there was public testimony decrying the waste, harm, and inequity of this project.

This project was launched to deal with certain reliability problems with TriMet's MAX service, but ended up with a terrible design that wastes a huge amount of money and actually degrades service for MAX riders

Due to COVID-19, this project has proceeded without the public scrutiny that it deserves. Even though the project is underway, it should be halted, to prevent further waste of public resources.

This project is a classic case of addressing an operational problem with a capital project that is expensive, short-sighted, and totally ignores equity.

What problem is TriMet trying to solve?

As TriMet and this region's governments have pursued federal dollars for light rail, the focus has always been on "corridors" rather than rational system design. As a result, every revenue trip on the current system must cross the Steel Bridge, which is burdened with junctions and crossings at both ends of the bridge. When TriMet opened the MAX Green Line, service on the MAX Yellow Line had to be cut back from 12-minute intervals to 15-minute intervals between trains, in order not to exceed the reasonable capacity of the Steel Bridge and the related signals and switches. This was disguised for the public by blaming the service reduction on the 2008 recession.

As MAX service became more frequent, reliability suffered, and trains interfered with each other. One delayed train causes other delays, and there isn't the slack in the system for any trains to run off-schedule. As the Steel Bridge gets overloaded, other choke points in the system become more critical, including the diverging Red Line at Gateway Transit Center, which has two single track segments between Gateway and PDX. In each of these segments, passage of a train in one direction prevents movement of a train in the opposite direction for a period of time. For example, in normal operation, a train is scheduled to leave PDX as soon as an opposite direction train arrives at the double-track PDX station. If the arriving train is late, the departing train is delayed by an equal amount. When a train is late in arriving at Gateway from PDX, it prevents any Red line train from leaving Gateway for PDX. A Red line train at Gateway, waiting to head for PDX, blocks any Blue or Green line train from Portland from entering the Gateway station.

A contributing problem is that while the original MAX Red Line looped back in downtown Portland at 11th Avenue, where there are multiple loop tracks, the subsequent extension to Beaverton has a single turn-back track. With the original design, Red Line trains could arrive at and depart from 11th Avenue independently. Now, at Beaverton, each Red Line train must both reverse direction and depart before the next Red Line arrival, placing significant restrictions on Red Line schedules, which of course must fit between Blue, Yellow, and Green Line trains where they operate on common trackway across the Steel Bridge.

Although the ultimate problem is lack of capacity at the Steel Bridge, that problem means that all the other choke points in the system have very limited options for when trains can be scheduled, and any off-schedule trains cause cascading problems elsewhere. TriMet has looked at the Steel Bridge, and concluded that the only long-term solution is a subway under the river.

Ever since the region committed to the Southwest Corridor as the next big light rail project, rather than the downtown subway, TriMet looked into whether there was a way to obtain more schedule flexibility at Gateway. TriMet staff have known for years that there is a simple solution, namely to run a shuttle train between Gateway and PDX, but TriMet's General Managers, including Fred Hansen, Neil McFarlane, and finally Doug Kelsey all rejected this, for political reasons. Therefore TriMet hired consultants to come up with a different solution, and being engineers, they designed an expensive and problematic construction project.

So what are the problems with the chosen solution?

The first problem is that it creates two separate stations at Gateway, over two blocks away from each other, like we have at the Rose Quarter. Passengers heading from the Airport to east Multnomah County, Gresham, and Clackamas, often burdened with luggage, will have to take a long hike at Gateway. This is also true for anyone coming from the Airport and catching one of the seven bus routes serving Gateway. The distance between the middle of the existing station and the middle of the new station will be over 600 feet. Any time-saving from running Portland-bound trains on the expensive new

bridge will be more than eaten up by the additional walking time between the new station and where riders will catch their connecting bus or MAX train.

This project also fails to provide a long-term solution at Gateway. It does nothing about eliminating the fact that the buses at Gateway cross the light rail tracks twice. It does not provide a more hospitable environment at Gateway, which can be cold, dark, and windy.

The expensive new single-track bridge is not a long-term solution, and could well prevent construction of efficient bus access ramps so that C-Tran buses could access Gateway Station easily from the center lanes of I-205. That would allow C-Tran to run express buses between its existing Vancouver Mall terminal of its “Vine” BRT line, and Gateway. The new single-track rail bridge will block this opportunity.

Gateway should be a regional transit hub, with an enclosed station and transit-oriented development. The “Better Red” project will prevent this hoped-for development, or add to the eventual cost. The Gateway design is clearly not well-thought out for the long term, and is not planned for true “transit oriented development.”

The second big problem is that the extended Red Line service ends at the Washington County Fairgrounds (Fairplex Station), failing to connect with buses at the Hillsboro Transit Center, which provide service to Cornelius and Forest Grove. There is no good reason not to go to the existing Hatfield Center station at the end of the Blue Line.

TriMet is building an unnecessary turnaround facility so that half the trains will not go to the end of the line, where there is already an operator break room and turn-back tracks.

Contrary to TriMet's claims, the ridership on the Blue line (ons and offs) is just as heavy west of the Fairplex station, but like any transit line, the loads are smaller as one gets to the end of the line.

Counts of boarding riders for the MAX Blue Line listed in TriMet’s Fall 2018 Weekday Passenger Census, demonstrates this.

The Blue line had 7802 daily boarding rides at the stations that will get the extended Red Line service, over a distance of approximately 7.82 miles between Beaverton Transit Center and FairPlex Station, or 998 boardings per mile.

Going all the way to Hatfield adds about 2.30 miles, and those stations show a total of 2240 daily boardings, or 973 boardings per mile.

The passenger demand, per mile, is the essentially the same, so it would make sense to extend the line all the way to Hatfield.

Airport ridership is currently a small part of overall Red Line ridership. All of the assumed ridership increase used to justify this project to the Federal Transit Administration comes from modeling the extension of Red Line service to FairPlex

station. A further extension of increased service to Hatfield Center would produce a proportionately similar increase in ridership. These increases will occur whether the Red Line is extended, or equivalent additional Blue Line service is added. Extending the service to Hatfield Center should provide a comparable boost in ridership to what is being projected (5,000 per day) as a result of the additional service provided by the shorter project. Increasing the induced ridership at no capital cost, should be a no-brainer, and the FTA should direct TriMet to make this change.

One of TriMet's most successful initiatives was "frequent service" bus routes, which run frequently, all day, all the way to the end of the line. Ridership on both the Division and Powell bus lines improved greatly when frequent service was extended to Gresham, rather than stopping halfway, with every other trip going to Gresham. Unfortunately, TriMet seems interested only in operational reliability, not ridership, so the better choice doesn't interest them.

It has been reported that TriMet targeted the design and total budget for this project to optimize the amount of federal money that they could receive from the FTA Small Starts program. By characterizing this project as an "extension" of the Red Line, rather than simply more frequent Blue Line service plus infrastructure changes to the Red Line at Gateway, it perhaps met FTA criteria, whereas running additional service all the way to the end of the Blue Line might not have met the "extension" criterion. But if FTA criteria make no sense, then TriMet should work to change them.

The three existing layover tracks at Hatfield can accommodate the added service by use of operator "fallbacks" where train drivers have a rest and are relieved by a different operator, meaning that the light rail vehicles don't need to remain at the station very long. After a rest, an operator then takes a recently arrived vehicle – their original vehicle having left during the rest. TriMet does this at other locations now, and it is a standard practice at other transit agencies.

The third problem with the Red line is that despite the small ridership on the Gateway to Airport segment, it still uses a time slot on the overcrowded Steel Bridge. This means that Blue and Green line service east and south of Gateway can't be increased until after a downtown tunnel is built to bypass the Steel Bridge.

Yellow Line service is similarly constrained by the Steel Bridge, and yet significant increases in MAX Yellow Line service will be necessary to meet the climate goals of the Interstate Bridge Replacement Project.

Currently all scheduled MAX train trips cross the Steel Bridge, which is at maximum capacity. Continuing to run the Red Line to downtown, instead of considering a Gateway to PDX shuttle, forecloses the option of significantly increasing Blue, Green, and Yellow Line service.

Note that only about 2,000 Airport-bound passengers pass through Gateway each weekday in each direction, so a frequent shuttle would not be a significant impediment. It

would actually improve Airport connection from a large portion of the MAX and bus system, rather than degrading service.

All these problems reflect on the failure to consider equity, because they all negatively affect transit-dependent riders.

HERE IS WHAT SHOULD BE DONE INSTEAD:

For the short term, the Red Line should be a frequent light rail shuttle service between Gateway and the Airport. The operating money saved should be spent on increasing Blue line service to the end of the line in Hillsboro. This solves the operational problems, without spending \$216 million or making Gateway an even worse place than it is now. Ironically, during August 2020, TriMet ran such a shuttle while the Steel Bridge was closed, and has done so at other times to facilitate track maintenance.

Adding a second track, which should be done at Port of Portland expense, out at the PDX end of the line is an excellent investment, and that will eliminate one of the major impediments to reliable schedule operation. Currently, the train waiting at PDX cannot depart for Gateway and Portland until the outbound train arrives. Thus any outbound delay cascades onto the inbound service. With that additional track, trains can depart PDX reliably on-schedule. Additional signal and train control investments between Park Rose station and Gateway could also improve reliability. That, and the additional vehicles, are the worthwhile components of the "Better Red" project.

As an alternative to additional Blue Line service to Hillsboro, TriMet could extend the Yellow Line to Hillsboro, and connect Green and Orange service on the Transit Mall (currently the Yellow Line interlines with the Orange Line). This would save additional vehicle hours, because currently the Green line operates as a loop. By interlining with the Orange Line, trains through town would simultaneously pick up and drop off passengers, saving vehicle hours.

A shuttle to solve the Red Line reliability problem has been proposed by multiple TriMet staff for several years. Of course the end of the route into PDX Airport Station should be double track, which will allow greater flexibility in scheduling the shuttle train. A shuttle train can have cross-platform transfers (get off on one side of the platform, board a train on the opposite side of the same platform). It is easier to transfer between trains at a single station than walk over two blocks between stations, as the "Better Red" would require for PDX passengers headed east, south, or transferring to a bus.

A frequent shuttle would actually provide more frequent and reliable service to all PDX passengers, due to the more isolated environment of the shuttle train. TriMet suffers disruptions on MAX all the time. With a reliable shuttle, when one MAX line is interrupted, airport passengers on buses and the other MAX lines would not be affected.

Note that at Hatfield Center (end of the Blue line in Hillsboro), current operating practice can result in congestion and delays between inbound and outbound trains. This is because

trains are left sitting empty while operators take their breaks, sometimes filling up the available storage tracks at peak times. The solution is to use “fallback” or “dropback” scheduling in which trains leave with a new operator shortly after they arrive, and the arriving operator takes an adequate break and then departs with a later-arriving train. This also saves on vehicle requirements, and is used elsewhere on MAX. The three tracks at Hatfield will be sufficient if trains are scheduled this way, which is a standard practice at other transit agencies. TriMet already uses this technique for the Red Line at Beaverton, so by applying this to the Blue Line at Hillsboro, the three tracks at the end of the line would provide sufficient capacity, eliminating the need for building a new facility at the Washington County Fairgrounds/Hillsboro Airport stop.

TriMet staff recommended the shuttle option, but General Manager Kelsey vetoed the idea, as I understand, based on system image. A more expensive, longer-term solution might eventually have grade-separated track crossings at Gateway, rerouted buses that don't cross the tracks, and an enclosed station with amenities, etc. The current plan solves the scheduling problem, but is costly, introduces other problems, and is not a long-term solution. If we want to improve the image of the MAX system, we should not degrade an already hostile environment at Gateway, as the Better Red project does, nor block the potential for improved frequencies on other parts of the MAX system.

Where are the considerations of equity in this project? Should the assumed perspective of riders travelling between the airport and points west be central to choosing among possible solutions for the MAX reliability problem, without regard to either the cost-effectiveness of the solution or the perspectives of riders traveling to the east and south?

Cost-effectiveness is critical to equity. Wasted resources mean less transit service for those who need it. During normal times, only about 2,500 people depart PDX each day on MAX. Given that many disembark prior to or at Gateway, fewer than 2,500 ride through Gateway and would be mildly inconvenienced by conversion to a shuttle. About 10,000 people work at PDX. Airport ridership could be much greater with better service, more frequent trains, and extended hours to serve those workers. But this project won't do that.

There are better uses for the federal Small Starts grant money that TriMet has obtained. For example, extending Yellow Line MAX service to Hayden Island would be one possibility. Currently, C-Tran does not run their "VINE" BRT service across the I-5 bridge because the freeway is not reliable enough. However, at Hayden Island and downtown Vancouver, bus bypass entrance lanes could be built that would allow buses to get onto I-5 right at the bridge, then off again on the other side, saving passengers from transferring first to the C-Tran Line 60, then to the MAX Yellow Line at Delta Park. This could be done cheaply today, without waiting for the "Interstate Bridge Replacement Project" to happen. Options like this could give the Portland region a lot of leverage in how to design a new I-5 bridge that is of a more acceptable scale and price than the massive “Interstate Bridge Replacement” project.

The additional light rail vehicles and the double track out at the Airport are fine -- the rest is a poorly designed waste of money. The Red Line project is a dog-in-the-manger that

will delay conversion of Gateway to a hospitable transit oriented development, and perpetuate the current wind-blown wasteland. TriMet should ask permission to re-purpose the federal grant.

Every General Manager from Fred Hansen to Doug Kelsey has been told by TriMet staff that a Red Line shuttle from Gateway to PDX would solve the problem, and allow for additional, more frequent service on the rest of the system. Each GM has declared that this is politically unacceptable or not how a world-class city operates. Yet there are examples, such as Oakland California where there is a dedicated airport rail shuttle between the main BART line and the Oakland Airport, requiring a transfer. It also ignores the fact that currently, only a few riders from the west get a one-seat ride to PDX. Riders from the south and east don't. Even with the project, riders from further west Washington County will still need to transfer, and the effective frequency to the airport will remain at 15 minutes, whereas with a shuttle combined with better Blue Line service, shorter headways on the shuttle could actually improve trip speed and reduce waiting time for all airport-bound passengers.

I found out that internally, TriMet staff had attempted to convince General Manager Doug Kelsey that a frequent rail shuttle between Gateway and PDX would solve all of the Red Line reliability problems without degrading airport MAX service, freeing up additional schedule slots over the Steel Bridge that would actually allow increased Yellow, Blue, and Green Line service, which is currently limited by Steel Bridge capacity constraints. Kelsey chose to elevate the interests of a supposed cohort of choice transit riders from Intel, stating to his staff that a "world class city doesn't make people transfer to the airport" when we already require passengers from east Multnomah County and Clackamas County to transfer, and despite the fact that most Red Line ridership is on the section where it is on the same track as the Blue line.

Kelsey is gone, the public has repeatedly complained about this waste to the TriMet Board, yet the Board has approved contract authority to proceed with construction

The wastefulness of this project, the lack of benefits, and the actual degradation of service and blocking of potential future service increases for riders, shows a complete lack of any equity analysis. Where is the Title VI analysis? Neither this, nor the NEPA documents, are available on TriMet's "Better Red" web site, where they should be available.

TriMet claims to have had a public involvement process for this project, but I do not believe that the public has actually been educated about the implications of this \$216 million project (2/3 the cost of the new Sellwood Bridge), for which bonds were approved by the TriMet Board (meaning it will be built with money that TriMet does not have, but will be paid-for with future payroll tax money that should go for service).

The current proposal was apparently developed by an outside consulting firm. I and others have expressed our concerns to staff. The original answer from lower-level engineering staff was that this was how it was going to be, and that other solutions didn't

work. While I knew that the shuttle option had been presented to prior General Managers Fred Hansen and Neil McFarlane, it was only much later in 2020 that I learned the extent to which middle and upper level managers at TriMet had attempted to persuade past General Manager Doug Kelsey to consider this cheaper, more equitable, and ultimately much more flexible approach.

This project was launched to deal with certain reliability problems with TriMet's MAX service, but ended up as a short-sighted decision to build a facility based only on vehicle operational objectives and federal funding opportunities, rather than passenger service and more strategic objectives.