

The Antiplanner

Dedicated to the sunset of government planning

Antiplanner Policy Brief Number 42

March 3, 2020

TriMet Compounding 40 Years of Bad Decisions

Portland's transit agency, TriMet, has spent nearly \$5 billion (in present-day dollars) building 59 miles of light-rail lines. Now the agency says it has to spend another \$7 billion correcting the mistakes of its previous decisions. Meanwhile, the city of Portland is responding to urban congestion with a plan that will make congestion far worse.

The eagerness of Portland officials to build light rail—an eagerness not shared by Portland-area voters—has given the city the reputation of being some sort of transit mecca. The reality is that the urban area's transit planners have made a series of bad decisions that continue to cost the region dearly.

Bad Decision #1: The Wrong Technology

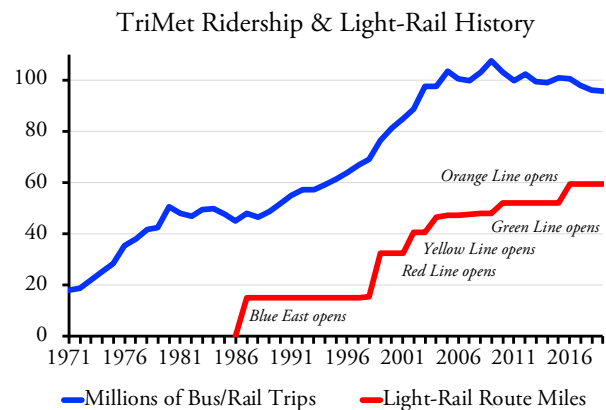
Portland's light-rail story begins with a freeway. In the early 1970s, the state planned to build an interstate highway known as the Mt. Hood Freeway in east Portland and had purchased all of the land for right of way. But an anti-free-way movement objected to the road, and when Congress in 1973 allowed cities to cancel freeways and spend the money on transit capital improvements instead, Portland's Mayor Neil Goldschmidt jumped on the opportunity.

Cancelling the freeway freed up around \$200 million, which at the time was enough to buy about 2,000 buses. TriMet had only a third that many buses in its inventory and certainly didn't have the funds to operate three times that many. When the Oregon Railroad Commission published a study estimating that the region could build four light-rail lines totaling about 60 miles for about \$100 million, Goldschmidt decided to spend the ex-freeway money on light rail. As I've said before, he chose light rail not because it was efficient but because it was expensive enough to absorb all those federal dollars.

The Oregon Railroad Commission's estimate turned out to be a little low, and the first 15-mile light-rail line ended up costing \$214 million (at least \$432 million in today's dollars). Since it was originally projected to cost less, the state had spent some of the \$200 million federal dollars on other projects, leaving TriMet to cover the cost

overrun.

The cost overrun plus the 1980s recession forced TriMet to cut bus service and raise fares. The light-rail line opened in 1986, but much of the gain in rail riders was offset by a loss in bus riders. Transit's share of commuting declined from 9.9 percent in 1980 to 6.7 percent in 1990 and transit's share of overall motorized travel declined from 2.6 percent in 1982 to 1.8 percent in 1990.



TriMet's fastest ridership growth was before it started building light rail. Portland's two most recent light-rail lines together cost more than \$2 billion yet effectively contributed no riders to the system.

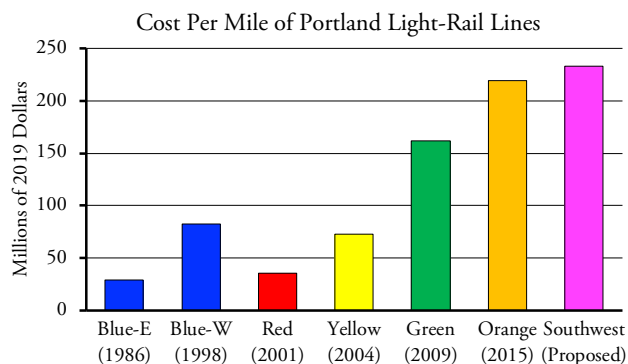
The first light-rail line paralleled the Interstate 84 freeway from Gresham, Portland's largest suburb, to downtown Portland. Before the light rail, TriMet had a number of bus routes that circulated in a neighborhood, then got on the freeway and zipped downtown, avoiding congestion by using high-occupancy lanes for at least part of the distance. TriMet cancelled these buses after the light opened. Although the light rail had its own right of way for much of the distance, it took nearly an hour to travel the 15 miles to downtown Portland, much longer than the cancelled buses.

In the long run, however, the big problem with light rail was that it was, by definition, a low-capacity mode of transit: according to the American Public Transit Association's [transit glossary](#), *light rail* is "an electric railway with

a light volume traffic capacity.” Although a 90-foot light-rail car can hold 150 people, light-rail trains can be no longer than a city block, or they will obstruct traffic when they stop to load and unload passengers. This makes Portland’s the lowest-capacity low-capacity rail in the country as downtown Portland has some of the smallest city blocks in the nation, just 200 feet on a side. Since Portland light-rail trains can be no longer than 2 cars and, for most of its route, the line was limited to no more than 20 trains an hour, the buses it replaced could move far more people than the trains.

Bad Decision #2: Building More

During these years, Oregon’s Senator Mark Hatfield was either the chair or the ranking member on the Senate Appropriations Committee, and as an avid pork barreler he was happy to get Portland more money for light rail. He got a law passed stating that the federal government would pay 75 percent of new rail projects approved in 1990 and personally lobbied President Bush for support. TriMet hastily put a measure on the May 1990 ballot to raise taxes for the other 25 percent, but it lost. With time running out, it put another measure on the November ballot and it passed. Out of at least six transit ballot measures that TriMet has brought to the region, this was the only one that voters approved.



The Blue-West line was expensive because of a three-mile tunnel, yet the other lines have grown successively more expensive despite not having any tunnels. This growing expense has not deterred TriMet from wanting to build more.

Built with these funds, Portland’s second light-rail line from Hillsboro to downtown Portland was slightly longer at 17 miles but much more costly at \$963 million (more than \$1.4 billion in today’s dollars) due to a three-mile tunnel under the Tualatin Hills west of downtown Portland. It opened in 1998 and more than doubled light-rail route miles, yet ridership after it opened was less than double. This started a pattern of successive light-rail lines usually costing more per mile and carrying fewer riders per mile than the previous lines.

Also in 1998, TriMet signed an unusual no-bid contract for Bechtel to extend light rail 5 miles to the Portland airport. Other contractors challenged the no-bid contract in court, saying it was illegal under both federal and state

law. It probably was, but the court threw the case out saying that “unusual circumstances” made it necessary to have a no-bid contract.

The unusual circumstance, it turned out, was that Neil Goldschmidt had privately brokered the deal. Out of political office since 1991, Goldschmidt had started a political consulting firm and taken on a business partner who was previously a Bechtel executive, so it was natural for them to give Bechtel the contract. The Port of Portland (which ran the airport) used air passenger ticket fees to pay for the part of the line on airport property and also gave Bechtel a 99-year lease for \$1 a year to more than 100 acres of land near the airport.

The land was too close to the airport for residences, so Portland wanted Bechtel to build a shopping center on the property. But the city was deathly afraid that WalMart would be one of the tenants, so it zoned it for small-box retail. But small-box retailers need a big-box store to act as a magnet to customers, so nothing happened. Only after Ikea agreed to build there did the city rezone for a big-box retailer because, as everyone knows, it is politically correct to buy cheap goods made in Southeast Asia from a Swedish retailer, but not from an American retailer.

The official cost of the airport light rail was \$125 million, but that doesn’t include right of way or grading because all of that had been done during construction of the I-205 freeway, which opened in 1975. Nor did it include the railcars needed to operate the line, even though their cost is included in the numbers for other lines. This added \$17 million to the total, so the real cost was at least \$142 million (\$200 million in today’s dollars).

Portland’s first two light-rail lines went east and west, and TriMet wanted to build one that went north and south. Voters in Vancouver, Washington rejected a measure to build it there, and Oregon and Portland voters rejected the north-south line in two separate measures. So TriMet built the lines anyway using tax-increment financing, lottery dollars, and any other funds that it could find to match federal dollars.

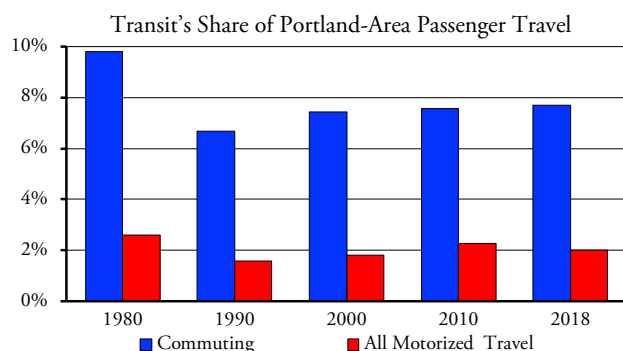
In 2004 TriMet built a line almost to the Columbia River so it would be ready to invade Vancouver provided someone would build a light-rail capable bridge across the river. This line didn’t require any tunnels yet it cost almost as much per mile as the west side line.

In 1980, after completion of the I-205 freeway, private developers built Clackamas Town Center, Oregon’s largest shopping mall, next to the freeway south of Portland. Clackamas County quickly put the mall in an urban-renewal district so it could capture all of the taxes that would be paid by the new stores and offices. Some of these taxes went to construct the Green line, which opened in 2009 as far as the town center. Like the airport line, this used the right-of-way set aside by the state when it built I-205. Despite the free right of way, this ended up costing almost twice as much per mile as the west side line and generated almost no new riders.

As a result of this new construction, east Portland now had four light-rail lines, all of which joined and crossed the Willamette River over the Steel Bridge into downtown Portland. TriMet manages to schedule 40 light-rail trains per hour over the bridge in each direction, but this still meant that each of the four light-rail lines can operate an average of just one train every six minutes. At 300 people per train, that's about 3,000 people per hour, which is pathetic considering that some busways can move **ten times that many** people per hour.

Bad Decision #3: Invading the Bus Mall

During the 1970s, TriMet turned 5th and 6th avenues in downtown Portland into a **bus mall**. One parking strip and a lane were dedicated to buses, leaving only one lane for cars, which were only allowed to use the streets for local traffic. The mall is about **28 blocks long** and every block is divided into two stops. Every bus stops every other block, so every two-block segment has four bus stops. Each stop could handle more than 40 buses per hour, so the mall itself could handle more than 160 buses per hour carrying up to 8,000 to 10,000 people in each direction.



Despite spending billions on light rail since 1990, transit's share of Portland-area commuting and motorized passenger travel have essentially been flat, and both are well below what they were in 1980 before TriMet began building rail.

Previously buses had used several different streets so transferring from one bus to another could mean walking several blocks. The bus mall made transfers much more convenient and probably contributed to the 180 percent increase in TriMet transit ridership in the 1970s. (By comparison, ridership only grew by 7 percent in the 1980s, the decade in which TriMet built and opened Portland's first light-rail line.) But one cost of the bus mall was that many of the businesses that fronted on 5th and 6th disappeared along with the auto traffic and parking spaces now taken up by the bus mall.

TriMet's east-west light-rail line crossed the bus mall at a 90-degree angle, but a north-south line would have to parallel the mall. However, having seen what happened to businesses on the bus mall, downtown restaurants, hotels, retailers (including Powell's Books), and light manufacturers (including the Blitz-Weinhart brewery) adamantly opposed building the light rail on their streets and threatened

to move if it was built near them. Since most of the businesses on the bus mall were either already gone or had survived because they also fronted on another street, TriMet decided to put the north-south light rail on the mall.

The light-rail line on the mall became part of a line to Milwaukie, which is located in Clackamas County. Clackamas County voters had strongly rejected light rail every time they had a chance to vote on it, but county politicians insisted it was "their turn" to have a light-rail line. Voters actually approved a ballot measure forbidding the county from spending any money on light rail, but the courts overturned it, no doubt due to "unusual circumstances."

The seven-mile Orange Line to Milwaukie cost \$1.5 billion (\$1.6 billion in today's dollars), including a new bridge across the Willamette River open only to railcars, bicycles, and pedestrians. At \$219 million per mile, it is Portland's most expensive light-rail line to date, yet it resulted in almost no new riders and may have severely harmed bus ridership.

Putting low-capacity light rail on the bus mall that it reduced the capacity of the mall to move people by at least 20 percent. Now TriMet wants to build a new 12-mile transit line to Tualatin in the southwest Portland suburbs. Bus-rapid transit makes the most sense, but the bus mall doesn't have room for any more buses. Light rail will cost \$2.8 billion, making it more expensive per mile than the Milwaukie line. The plan is to run these trains through to Clackamas Town Center, whose trains currently terminate on the mall. Since the trains are already there, sending them through to Tualatin won't add to the mall's burden. But \$2.8 billion is a lot of money to spend just to make up for past mistakes.

TriMet assumes that, since the region's population is growing, transit ridership will also grow, creating more capacity problems for the mall. In reality, TriMet's ridership has declined by 9 percent since 2012, during which time Portland's population has grown by 9 percent.

Nevertheless, to deal with the bus mall's capacity limits, the agency wants to spend up to \$4.5 billion building a **light-rail subway** under the Willamette River (replacing or supplementing the Steel Bridge crossing) and the downtown bus mall. Considering the usual cost overruns, this tunnel would probably end up costing more than all the light-rail lines Portland has built to date. The only reason it is needed is because Portland made the mistake of selecting a low-capacity transit system in the first place.

Bad Decision #4: Increasing Congestion

The I-205 freeway, which opened in 1975, was the last major new road built in the Portland area. Since then, the region's population has increased by 125 percent and it obviously has gotten more congested. But the official position of the Oregon Transportation Commission is that "you can't build your way out of congestion," so it has made no effort to relieve congestion.

Meanwhile, the city's official position is that "More

Portlanders must use transit as an alternative to driving alone.” This is supposedly “critical for reducing vehicle miles traveled, greenhouse gas emissions and moving more people more efficiently.” But increasing congestion hasn’t worked in getting people out of their cars and onto transit.

Buses, of course, are as prone to getting stuck in traffic as cars, especially since the state removed the high-occupancy vehicle lanes from Portland freeways when TriMet built light rail. To give buses an advantage, Portland is proposing to create [exclusive bus lanes](#) on every non-freeway major arterial in the city. A bus can hold “up to 50 people,” says the city, whereas cars “each hold an average of 1.1 people during commuting hours,” so it is appropriate to give buses their own lane.

These numbers aren’t quite right. The National Transit Database says that TriMet buses carry an average of 10 people at a time on weekdays (that is, passenger miles are ten times vehicle-revenue miles). While it may be more during commuting hours, it probably isn’t 50. Meanwhile, the average commuter car on the road during rush hour may hold 1.1 people, but even during rush hour most of the vehicles on the road aren’t carrying commuters to work. The average occupancy during commuting hours is probably closer to 1.5 than 1.1.

These are quibbles, however. The real issue is whether exclusive bus lanes will actually move enough people to justify closing them to cars. Some of the streets Portland is proposing to make into dedicated bus lanes have six traffic lanes, but most have just four. That means Portland’s plan would take between a third and half of the capacity of those arterials from general traffic. Meanwhile, TriMet operates only a few buses per hour on many of these streets.

According to the 2018 American Community Survey, 36,000 residents of the city of Portland say they usually take the bus to work, while 214,400 drive alone and another 28,000 carpool. This doesn’t include suburbanites who work in the city, who are even more likely to drive rather than take transit to work, though they may be less likely to use non-freeway arterials. The survey breaks down carpoolers into two-, three-, four-, five- or six-, and seven-plus-person carpools. Based on this, we can estimate that Portlanders drive about 227,000 cars to and from work, while TriMet has fewer than 600 buses that it operates in maximum service.

For the sake of improving the commutes for 36,000 people, Portland will prolong the commutes for well over 240,000 people. To make matters worse, TriMet buses used more than 3,200 British thermal units (BTUs) of energy and emitted 232 grams of greenhouse gases per passenger mile in 2018, both of which are about 10 percent more than the average car. (They are about 8 percent less than the average light truck, but Portlanders are much more likely to own cars than light trucks).

Of course, Portland’s goal is to persuade some of those 240,000 people to take transit instead of a car, and if it can get more people on transit buses without increasing the

number of bus miles it will reduce the energy and greenhouse gas emissions per bus passenger mile. This seems unlikely since transit ridership is going the other direction despite increased congestion. Even if this is successful, it probably won’t save energy or reduce greenhouse gases because the small amount of energy saved by getting a few people to ride a bus will be more than made up for by the fuel wasted and carbon dioxide released from longer traffic delays, especially since those traffic delays will also affect lots of people who aren’t commuting to work.

According to the Texas Transportation Institute’s [latest estimates](#), the amount of fuel wasted in Portland-area traffic has grown from 6.6 million gallons in 1982 to 40.8 million in 2017 and is currently growing by close to 2.2 million gallons per year. That 2.2 million gallons represents about 17.6 kilotons of greenhouse gases. Actually taking steps to relieve congestion would do far more to save energy and reduce emissions than trying to get a few more people on buses that aren’t particularly energy efficient anyway.

Fixing a Legacy of Bad Decisions

Portland has to live with its history of bad decisions, including the decision to build an obsolete transit system and the decision to allow congestion to grow at 5 percent per year. But it doesn’t have to compound those bad decisions with more bad decisions, which would at best throw good money after bad and at worst actually do more harm to the environment, not to mention local residents, than has already been done.

In the past, TriMet and Portland have received accolades for spending billions of dollars on transit systems that work poorly. As long as taxpayers are willing to throw money at transit, TriMet has no incentives to try to reduce congestion or find the most cost-efficient ways of moving people. Instead, it is solely aimed at building its rail empire. That means getting as much money as possible from taxpayers now before the voters figure out that transit is dying, even in Portland.

Instead of building new light-rail lines and an expensive tunnel to make up for light rail’s low capacity, TriMet should operate existing lines until they wear out, then replace them with buses. Except in corridors, such as the downtown bus mall, where bus traffic actually does move more people per hour than cars, those buses can operate on lanes shared with other vehicles. Money that would otherwise be spent on transit facilities serving 2 percent of the region’s passenger travel should instead be spent on traffic signal coordination, removing bottlenecks, and other programs that can reduce congestion for everyone.

Randal O’Toole, the Antiplanner, is a transportation and land-use policy analyst and author of [Romance of the Rails](#): Why the Passenger Trains We Love Are Not the Transportation We Need. [Masthead photo](#) of Tilikum Crossing, the bridge carrying the Orange Line across the Willamette River, is by photographer Tom Paiva for T.Y. Lin International.