

# The Light Rail Booklet



**The truth about light rail and taxes, density, crime, congestion, and the environment.**

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This publication is a joint effort of [PortlandFacts.com](http://PortlandFacts.com) and [Ortem.org](http://Ortem.org)

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail Hurts Neighborhoods

Light rail encourages single family homes to be torn down for high density projects



Ugly Overhead Wires



Oversized, out of place condo complexes



Blocked Crosswalks divide neighborhoods



High Density Housing Causes Congestion



Blocked Streets divide neighborhoods



Most new residents still drive so congestion increases

See: [www.PortlandFacts.com/Transit/RailMenu.html](http://www.PortlandFacts.com/Transit/RailMenu.html)

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light rail is About Adding High Density, not transit

**Charlie Hales**, Portland City Commissioner: *“Often, not always, often, light rail or streetcar push the community in a development direction that we want to go and buses don’t seem to add much momentum to that change.”* (Northwest Illustrated, KOIN-TV, Oct 7, 2001.)

**Mike Burton**, Metro Executive Officer: (Referring to the Interstate Ave. light rail line): *“the opportunity to develop along that line is just absolutely incredible”* (Emphasis added, Northwest Illustrated, KOIN-TV, Oct 7, 2001.)

**Sam Adams**, Portland commissioner: *“I believe we should plan to accommodate our share of projected regional growth ... 300,000 more Portlanders ... within ¼ mile of all existing and to-be-planned streetcar and light rail transit stops ... Because it will simultaneously encourage responsible, transit-supportive development. What would Portland look like .. it would look a lot like Portland circa 1920 - a time when the main means of motion were your feet, streetcars and bikes.”* (City Club Speech July 20, 2007)

**From a publication of the PDC: “Development Oriented Transit”:** *Development oriented transit supports improved livability for high density environments that support public goals for urban containment, sustainable living and reduced dependence on an automobile . But higher density development does not always mean a more "livable" community . In the case of development near Streetcar; however, the package includes parallel public and private efforts.*

(emphasis added, [www.portlandstreetcar.org/pdf/development.pdf](http://www.portlandstreetcar.org/pdf/development.pdf), page 5)

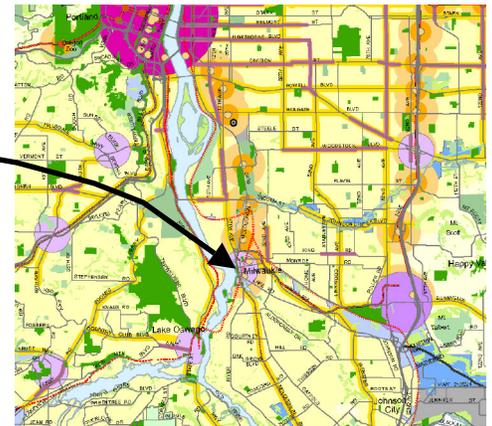
## Metro Already Has a Plan

This Metro map from 2000, shows a series of six light rail stations (“station communities”) and Milwaukie as a town center.

Metro code (Metro code 3.07.130) recommends the following densities:

Station Communities - 45 persons per acre  
Town Centers - 40 persons per acre

Station communities are defined as ½ mile around rail stations (ibid), so they contain about 502 acres which is 22,600 people EACH, thus:



## Metro recommends 22,600 people around EVERY light rail station!

This is an entire city of Milwaukee added around every station (Pop = 20,920, PSC Population Research Center)

By this recommendation, a series of four stations would total 90,400 people. To put this in perspective, that number of people would fill 272 MAX trains (332/train) At 3 minute spacing, this would take 13 hours to carry all these people to work each morning and another 13 hours in the evening. Clearly, MAX cannot do this.

Suppose 80% of these people drove to work: 72,000 people is about 60,000 cars. Currently McLaughlin carries about 50,000 cars per day. This plan would add about 120,000 (round trips) to this. Clearly this is also impossible.

**How will these 90,400 more people get around?  
Will they simply be trapped in their homes (along with you)?**

## Do You Really Think That You Will Have A Voice In Density?

They didn’t listen to the people along Burnside.

They didn’t listen to the people along Interstate.

Do you think they will listen to Milwaukee?

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail Tax Giveaways Raise Your Taxes

## No high density construction occurred along Portland's first light rail line until Portland starting giving subsidies.

Experts now recognize that light rail isn't really about transportation - it is a tool to focus development into areas around the stations - even then they have to give away tax money to get builders to build stuff that only planners want.



### Examples of "desired development" around rail stations.

The Russilville School (left picture), one block from the Ease Side light rail line, had lots of neighborhood enhancing green space and sports fields. Metro purchased it for One Million dollars and sold it to a developer for ½ million. It also received a 10 year property tax abatement. **They get exemptions from paying property tax for ten years to help cover the cost of building things that otherwise would not make economic sense, while the rest of us make up the difference or police, fire, parks and schools get less money.**

### Some Examples of Portland's Giveaways for developers.

- Private Activity Bond Program To assist in the financing of multi-family projects that provide public benefits within the Portland city limits.
- 501(C)(3) Bond Program To assist in the financing of development projects that provide public benefits within the Portland city limits.
- PDC Direct Financed Acquisition Loan - loans to project sponsors to fund the acquisition of property for projects located in Urban Renewal Districts which have Tax Increment Financing available for housing and special initiative housing projects outside of Urban Renewal Areas, subject to available funds.
- Equity Gap Contributions/Cash Flow Share Note Provides public funding for rental or Mixed-Use projects that provide public benefits and are owned by For Profit or Eligible Non-Profit Organizations.
- Housing Development Subordinate Loan Provides public financing to fund development costs for new or existing rental and Mixed-Use Projects that provide public benefits.
- Non-Profit Predevelopment Loans Designed to fund technical and professional services necessary to explore project feasibility of housing serving Low or Moderate Income Households, or Mixed-Use or Mixed Income housing developments which include housing units meeting the affordability requirements.
- Tax Increment Funding (TIF) Set Aside for Affordable Housing Dedicated percentage of Tax Increment Financing (TIF) revenues from all Urban Renewal Districts citywide to affordable housing.
- Development Fee Waivers For Non-Profit Affordable Housing projects in the City of Portland, offsets some of the development fees associated with the rehabilitation or new construction of affordable housing units.
- System Development Charge Exemption/Fee Waivers Intended to reduce the development costs for residential units that are made affordable to homeowners and low-income renter households by exempting developers from paying SDC fees levied by the City of Portland.
- Limited Tax Abatement for Single Family Owner-Occupied Rehabilitation 10-year limited tax property abatement on any increase in assessment value that results from the rehabilitation improvements made to qualifying owner occupied single family homes.
- New Multiple-unit Housing (NMUH)/Central City Property Tax Abatement Guidelines
- Transit Oriented Development Property Tax Abatement Guidelines Supports high density housing and Mixed-Use developments affordable to a broad range of the general public on vacant or underutilized sites along transit corridors whose design and features encourage building occupants to use public transit.

(This information is taken (reformatted) from the Portland Development Commission web site)

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail Attracts Crime

## **“The MAX has been a living nightmare for us”**

After listening to testimonials of theft, vandalism, beatings and intimidation, [East Precinct's Sgt. Kim] Preston said there's little likelihood police will increase patrols in the area any time soon.

**"The MAX has been a living nightmare for us," Preston said. "I would not ride it at night -- and I'm armed all the time. There are massive fights, guns displayed, stabbings, people being threatened and bullied."** (Oregonian, Thursday, September 20, 2007)

**MAX's crime problems started when the first line opened.** Trimet has never really addressed the problem. The only difference this time is that they are trying to build two new lines and the publicity is endangering that plan. If the new lines are approved, they may go back to ignoring crime.

## **A few of the many MAX crime stories from the Oregonian**

**July 8, 1988,** Tri-Met has hired private security guards to ride buses and light-rail trains on Friday and Saturday nights,

**June 24, 1988,** Tri-Met announced Thursday its plans to spend \$620,000 in the coming year to improve security measures.

**November 12, 1988,** GOVERNOR DIRECTS STATE POLICE TO RIDE TRI-MET

**December 3, 1988,** RIDERS, EMPLOYEES FEEL THREATENED

**May 17, 1999,** ROCKWOOD GROUP PROPOSES CITIZEN PATROL TO REDUCE LIGHT-RAIL PROBLEMS

**June 5, 2001,** POLICE WILL LEAVE CARS TO PATROL IN HILLSBORO The increased patrols are in response to residents' requests for improved policing along the light-rail line. .... The change marks the first time the Hillsboro department has dedicated officers to the MAX line..... Officers will focus on the high-density housing packed along the MAX line because of its transient population.

**February 10, 2003,** DEALERS MOVE DRUGS ON MAX

**October 3, 2004** Some officers are so concerned they won't let their families ride light rail alone

**December 23, 2004,** scratch the surface in curbside conversations and you'll hear familiar complaints about crime, the glut of apartments and the closing of the Rockwood Fred Meyer store. The degrading effect of the MAX light-rail line that follows Burnside Road through the center of the precinct..."It's getting worse," said Reynolds' neighbor Mike Pursley, who has lived in Rockwood for 17 years...."

**September 29, 2005,** After all, in 20 years, Rockwood has deteriorated from a modest but respectable middle-class neighborhood to an area struggling with poverty and crime

**September 21, 2006,** Group pushes safety to the MAX on 82nd "We've had teenagers who haven't been able to go down the stairs because someone there with a pit bull makes them pay a fee to go down."

Courtesy of: [www.ortem.org/history/](http://www.ortem.org/history/)

**This lack of attention to crime reminds us that light rail is not about transportation - it is a land development tool.**

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail Causes Congestion

## Light Rail Causes Congestion

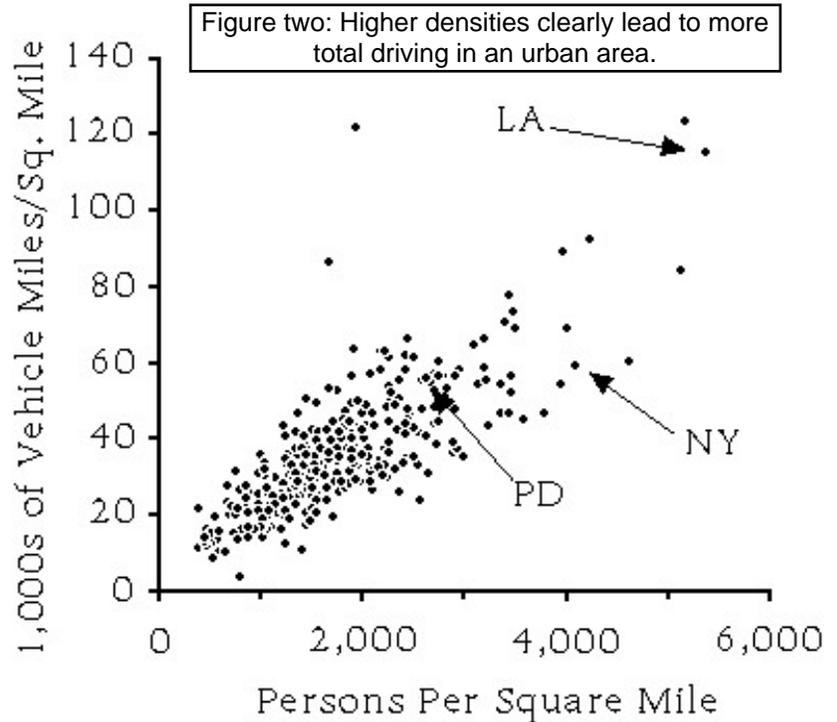
The purpose of light rail is to concentrate people in high density development along the rail line. The reality is that most of these new people still drive, so this huge number of new people cause large increases in traffic congestion in the nearby areas. Even light-rail advocates no longer claim that train service will reduce congestion. Portland is the national leader in building light rail and is also a national leader in traffic congestion.

## Congestion Follows Density

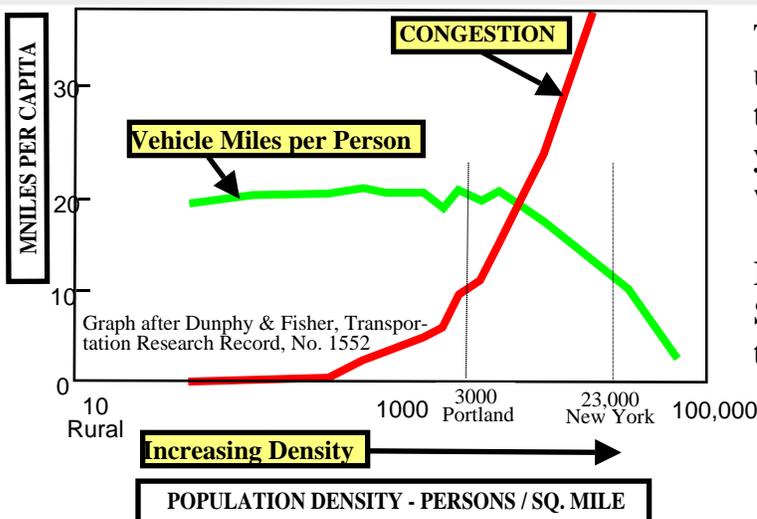
A good measure of potential congestion is the number of miles autos are driven (known to planners as "vehicle miles traveled" or VMTs) each day on each square mile of land. Figure two shows a strong correlation between the VMTs per square mile and the population density.

Higher population densities inevitably lead to more vehicle miles traveled. Even New York, which has the lowest share of auto commuters in the country, has far more vehicle miles traveled per square mile than most other cities with lower population densities.

(Chart & most text from: <http://www.ti.org/FS1.html>)



## Increasing density Reduces Driving & Increases Congestion



The green line is vehicle miles per person. It is almost unchanged by increased density until you get to **densities triple that of Portland**. To cut driving in half, you have to surpass New York City's density. Is this what we want?

**Red Line is congestion**

Since driving per person stays about the same, congestion goes up with density:

**more people = more cars  
= more congestion = more pollution.**

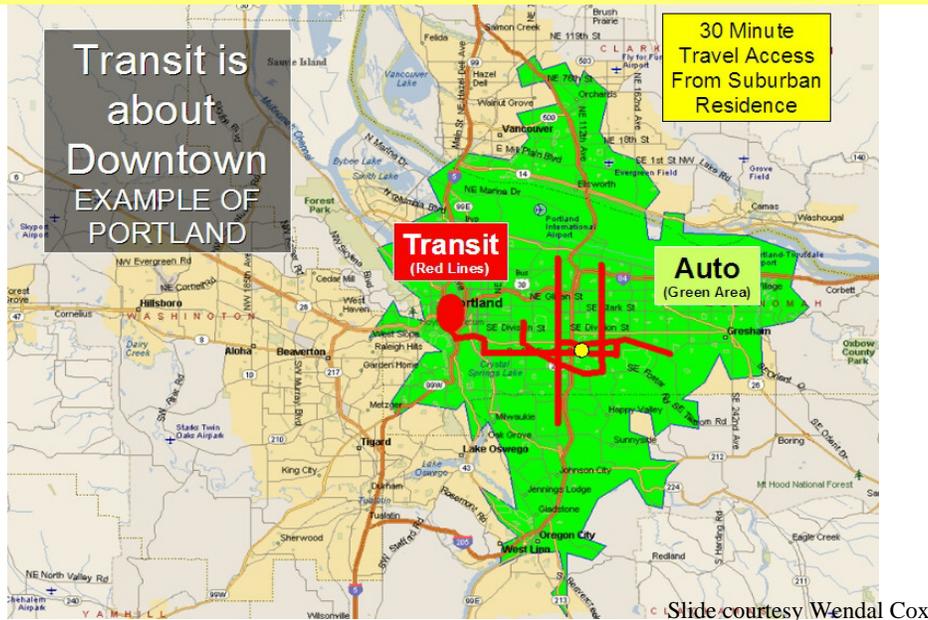
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# Cars Improve our Standard of Living

This is how many places you can get in 30 minutes

Red = transit

Green = Car



**One can travel to far more destinations in a given amount of time by Car, improving your standard of living.**

- **More Job Choices:** Instead of choosing jobs along transit lines, one can choose from the whole area. More job choices usually means **you can get a job that pays more.**
- **More Shopping Choices:** The ability to travel further allows a broader choices of where to shop and lets you choose lower cost stores, **lowering your cost of living.**
- **More Living Choices:** The ability to travel further gives you a broader choices of where to live. This lets you choose a location that has better schools, **lower housing costs** or other better choices.
- **More Leisure Time Choices:** Faster travel means you can travel further to that great restaurant.
- **More Convenient:** Your car is usually just a few feet from your front door, so you don't have to walk ¼ mile to the transit stop.
- **Less exposure to crime:** You can choose your traveling companions - no drug dealers, no crazy people and no criminals.
- **Enabling the civil rights** and women's liberation movements
- Making outdoor sports and numerous other recreational and social opportunities available to the average person;
- Providing rapid access to fire and other emergency services and swift escape from natural disasters.

Because of these benefits, it is reasonable to call the mass-produced automobile the greatest invention in the 230 years since the American republic was founded. Those who seek to reduce the amount of driving people do by imposing disincentives to the auto or allowing traffic congestion to increase risk killing, or at least limiting, the automotive goose that laid the golden egg of American prosperity.

(Parts from: The Greatest Invention: How Automobiles Made America Great, Randal O'Toole)

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# A Few Things You Need To Know

**Sprawl started in ancient times** as people built homes away from the city core. The limit to this was walking distance. One motive for sprawl was to escape the high cost of living within the walls of medieval cities. The very word *suburb* literally means beyond the wall. (See: *A Brief History of Sprawl*, Bruegmann)

**Most jobs are are not in downtown.** As people spread outwards from the central cities, new jobs followed. Now only about 20% of the jobs are in the central city - the rest are in the suburbs.

**Most people in the USA live in relatively low density.** For instance, only 33% of the population live in density above Portland's average density. That means, as Metro is trying to densify the region, already 67% of the country lives in LOWER density. (See: *Vanishing Automobile and other Urban Myths*, *The Density is Normal Myth*)

**Los Angeles is the densest "urbanized area" in the USA** at 5800 people per sq mile. (New York is 5,400)

**New York is the densest "central city" in the USA** at 23,700 people per sq. mile.. (Los Angeles is 7,400)

(See: *Vanishing Automobile and other Urban Myths*, *The Density is Normal Myth*)

• **Trimet's rider ship numbers are boarding's, not people.** Each time a person steps on a vehicle counts as one boarding. A round trip is two (or more) boardings. If a person transfers on the way to work and back, that is four boardings and is reported as four rides.

Divide Trimet's boardings by 2.4 to get the number of people (at 1.21 org ride/boarding ride)

Divide Trimet's light rail boardings by 8.6 to get the number of cars removed from the road

(at 1.21 org ride/boarding ride, 1.2 people/car, 2/3 of riders were previously in bus)

(The actual number of cars removed from the road will be less than this as this does not account for the transit riders that went back to cars due to their commute time being longer on rail compared to bus.)

Trimet has a history of **cost over-runs and rider ship over-estimation:**

Eastside: 1978 Forecast: \$172 million & 42,500 riders; to open: 1983

1990 Actual: \$266 million & 19,700; actually opened 1986

Westside: 1988 Forecast: \$295-395 million & 34,150 (for 2005) riders; to open: 1997

1990 Actual: \$963 million & 23,000 (1999); actually opened 1998

(See [PortlandFacts.com](http://PortlandFacts.com) for links to the Newspaper articles that supplied the above numbers.)

## Light Rail Carries about 1/3 of one freeway lane worth of people.

• **Trimet claims** that "Westside MAX provides the transportation capacity equivalent to another 1.2 lanes in each direction on the Sunset Hwy." (Trimet's Factsheet.pdf). They forget to tell us that 2/3 of MAX's riders were previously in buses, so it really only equals 40% of one lane worth of people. That is only 1/3 of one lane's worth of cars (1.2 people/car) and NO trucks. For ONE BILLION DOLLARS which would have built 100-200 lane-miles of freeway (\$5-\$10million/lane-mile, right of way not included.)

• **Doug Ficco, Columbia Crossing project manager**, reported that they estimate light rail across the Columbia river will carry 16,000 riders a day, at opening. That is 8000 people, 1/3 of whom would otherwise be in cars - at 1.2 people per car, spread over a three hour period, that is less than 1/2 of one freeway lane. **At a cost that would build several lanes of freeway.** 16,000 people is only 10% of the 125,000 vehicles/day that now use the bridge (1.3 people/car).

• **Milwaukee rail** is projected to attract 8-12,000 new (to transit) riders by 2030. That is only 4150 people, or 3500 cars. At a cost of \$1400 million = \$400,000 per car. (The actual cost is higher because this neglects the people who leave transit due to rail being less convenient and slower than the bus it will replace.) (using: 1.2 boardings/originating ride & 1.2 people/car).

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail Costs The Most

## Light Rail Cost Per passenger-mile

Rail	\$1.11	LRT with construction
Bus (system average)	\$0.84	Calc. from Trimet data: Bus system cost / bus passenger-miles No road maintenance or construction
Lowest cost BUS line in Portland:	\$0.34	Trimet data for the lowest cost BUS line No road maintenance or construction
Cost of Cars	\$0.25	Includes everything. Based on Bureau of Economic Analysis & Federal Highway Administration's Highway Statistics

The cost of cars includes everything, including depreciation, maintenance, insurance and taxes and fees which pay for almost all of the cost of roads. The cost of Buses DO NOT include the cost of road construction or maintenance. Portland transit costs are 80% paid by taxpayers and 20% paid by users.

See: [www.PortlandFacts.com/Transit/Cost-Cars-Transit\(2005\).htm](http://www.PortlandFacts.com/Transit/Cost-Cars-Transit(2005).htm)

- **Transit costs more than driving:** 80% of transit's cost is paid by taxpayers, so the real cost of that \$1.75 ticket is \$8.75. Bus costs 83.5¢ per passenger-mile, while cars cost 25.4¢. Gas would have to **increase** by \$13.30 per gallon (22.9 MPG, 2005 average car) to make driving as expensive as buses currently are (of course bus cost would go up too.) MAX costs over \$1.00 per passenger-mile when you include construction.
- **Trimet's rider ship numbers are boarding's, not people.** Each time a person steps on a vehicle counts as one boarding. A round trip is two (or more) boardings. If a person transfers on the way to work and back, that is four boardings and is reported as four rides. Divide Trimet's boardings by 2.4 to get the number of people (at 1.2 org ride/boarding ride)
- Light rail supporters like to call light rail "high capacity transit". It isn't. **The highest capacity line in the USA is a bus only road** in New York where several bus lines converge to a single lane. It carries over 40,000 people per hour.
- Most **passenger rail is heavily subsidized, including all those European lines** we hear about.
- In **Europe, 78% of all personal miles is by private car.** European mass transit's share has dropped 20% in the last 20 years. Transit doesn't work in Europe with gas close to \$10/gallon - why would anyone expect it to work here?
- Light rail has NEVER relieved congestion outside of dense big cities like New York and Chicago. **Do we want that kind of density in our city?**

**Transit is massively subsidized.** Estimated cents per mile subsidy:

Bus: 40 ¢ per mile

Cars: 6.9 ¢ per mile

(Mark Delucchi, ACCESS NUMBER 16 • SPRING 2000, page 12)

These subsidies come from gas tax, auto fees, truck fees, payroll tax, state tax.

- Federal Light rail money requires local matching funds. The fact is that **the local match alone will usually build road capacity far beyond the capacity of Federally funded light rail.**
- **Adding two lanes to the 4.5 miles of McLaughlin** between the MLK-Grand split to Milwaukee would cost between 45 and 90 million (if we already own the right of way.) That is much less than the local match that will be required for the proposed 1.4 BILLION rail line. And it will serve more people better. The remainder of the local match can be used to relieve congestion in the region and that will speed up bus service, which should increase transit ridership

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Who Really Wants Light Rail? Follow The Money

Who wants light rail enough to actually put their money where their mouth is? We got a look at these people in 1996 when they had to become public with the money they spent promoting light rail at the ballot box. Most of the supporters are posed to make a lot on money off of the construction and operation of light rail.

## Who Put up Money to Support Rail 1996?

The building of a north-south light rail system was voted on in 1996. Here are some of the big contributors

NAME OF CONTRIBUTOR	AMOUNT	Possible Reason to Support Rail
Portland General Electric	\$52,500	Sells Electricity
Pacific Power	\$52,500	Sells Electricity
International Brotherhood of Electrical Workers	\$50,640	Electrical work
U.S. Bancorp	\$35,000	Sells bonds
First Interstate Bank	\$30,000	Sells bonds
Siemens Duewag Corporation	\$30,000	Makes rail car components
Oregon Public Employees Union	\$27,400	Will operate trains
Parsons, Brinckerhoff, Quade & Douglas	\$20,000	Designs & builds rail lines
Bridge Structural, & Ornamental Iron Workers	\$17,400	Construct the system
Sheet Metal Workers	\$16,350	Construct the system
Bank of America	\$15,000	Sells bonds
Bricklayers & Allied Craftsmen	\$14,000	Construct the system
LTK Engineering Services	\$13,400	Engineering
BRW Inc.	\$12,500	Engineering
Middleton & Company	\$12,000	Investment Management, Investment Counsel
Greenbriar Company	\$10,000	supplier of transportation equipment and services
Tom Walsh	\$10,000	Principal in Construction Company
Goldman Sachs & G.)	\$10,000	Finance
Kiewit Pacific	\$10,000	Engineering / Construction company
Morse Brothers	\$10,000	Construction Materials
Bombardiere Corporation	\$10,000	Builds trains
David Evans & Associates	\$ 5,000	Engineering, consulting (Managing CRC)

**Light rail hucksters & profiteers usually try to stay out of the public view, but the Willamette Week recently had a rare look inside the murky world of the streetcar profiteers and their “bought and paid for politicians” that rake in the contributions.**

Excerpts from the Willamette Week, Sep 19th, 2007 (Emphasis added):

...They include **Michael Powell of bookstore fame, who has given \$12,000** over the years to Blumenauer and his PAC; **Hank Ashforth, a large Lloyd District property owner, who gave \$7,500**; **Rick Parker, an eastside businessman who, with his wife, gave \$38,000**; **Pearl District developer John Carroll, who gave \$21,000**; and another developer, **Dick Cooley, who with a few of his employees gave a total of \$17,700.**

**All sit on the board of Portland Streetcar Inc.**, the nonprofit that oversees the streetcar for the city. And all have a stake in the streetcar's success, because **having a transit line nearby adds value to their properties.** “

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**The largest donor was Stacy&Witbeck construction, which also had the single largest streetcar contract: \$34 million to lay track** on the west side. **Two of its top executives, John Bollier and Ronald Wells, have given nearly \$70,000** to Blumenauer's funds. (In 1994, Stacy&Witbeck was banned from contracting with the City of San Francisco for overcharging, only to have the ban rescinded after hiring a lobbyist close to the mayor. The company went on to win a \$118 million contract to build a new streetcar line.)

Employees of **LTK engineering and Zimmer Gunsul Frasca architects have contributed \$23,500** to Blumenauer over the years. LTK has overseen manufacture of the cars themselves, and ZGF has helped with planning and design.

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail DOES NOT save energy

## A Comparison of energy consumption of Cars, Transit Buses Rail and air.

Based on data found in:

The transportation Energy Data Book: Edition 25 - 2006 ,  
a publication prepared for the U.S. department of energy  
by the Oak Ridge National Laboratory

And other sources

### Energy consumption of car-bus-air compared

Table 2.10 lists energy consumption of various modes of passenger travel. It shows that cars use less energy than rail, transit bus or commercial air. Here are the numbers from table 2.10 and from below:

mode	btu/passenger mile
Car, hybrid	1,326 (Honda Insight-see below)
Van Pool	1,401 (National average)
Car, efficient	2,488 (2006 KIA Rio-see below)
Trimet's MAX	2,514 (Calc. from MAX pass-miles & electricity used)
Commuter rail	2,751
Amtrak	2,935 Amtrak
Light & heavy rail transit	3,228 Light rail & heavy rail transit
Car, average	3,549 (National average)
TriMet bus	3,792 (Data directly from TriMet)
Commercial air	3,587 (see note in link)
Transit bus	4,160 (National average)

The car number is an average based on the average current fleet and an average number of passengers. More efficient cars are readily available, for instance the \$10,770, 2006 KIA Rio is listed at 32 MPG city. This is 3906 btu/vehicle-mile, or 2488 btu per passenger-mile using 1.57 passengers per vehicle, only 60% as much energy as a transit bus.

**For Portland where we drive alone more**, the passengers per vehicle is about 1.3, so the following apply: With an average of 1.3 passengers, the 2006 KIA Rio becomes 3004 btu per passenger mile which is 26% less energy than Trimet busses per passenger mile. The Honda Insight at 60 MPG city is 2083 btu per vehicle mile (1602 per passenger-mile@1.3passengers), uses less then one-half the energy of a Trimet bus. At two passengers it consumes only 1042 btu per passenger mile - less than 1/3 that of a Trimet bus.

**High density cities do not have lower transit energy consumption than the average?** (Figure 2.2. Of Energy Data Book)

**Why do people think that transit buses save energy?**

Because they did in 1970, but over the years, buses became less efficient and cars more efficient. (Ibid Table 2.11)

### Conclusion:

**If the goal is to save energy, the most practical way to reduce transport energy consumption is to encourage people to switch to small cars. It will save more energy than transit and is more likely to succeed.**

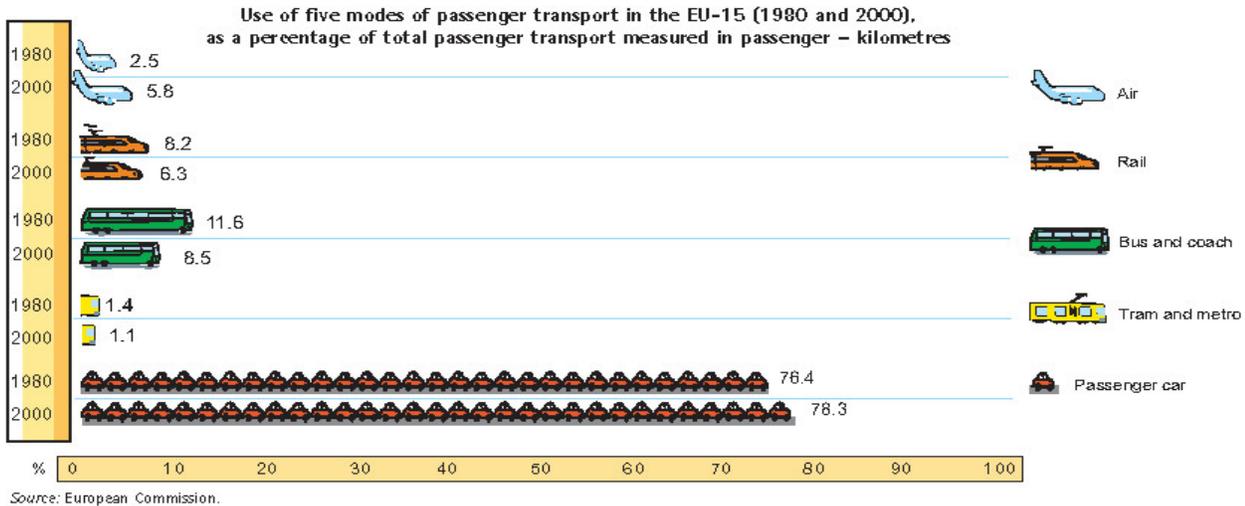
Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# European Transit Declines 20%, Cars Increase

Planners have noticed that Europeans drive less than Americans and then decided that we should do things like the Europeans do. However they failed to realize that Americans are richer than Europeans and that as Europeans incomes catch up, their driving would increase. The chart below is from the European Union and shows that driving and flying are increasing and transit usage ("Rail", and coach" and "Tram and Metro") is decreasing, **just like in the USA:**

From below: Air = +132% Passenger Car = +2.5% Rail = -23% Bus&Coach = -27% Tram & Metro = -21.4%

## European Union Chart Shows Transit Decrease and Automobile Increase:



## False Promises & False Claims from Planners

### False Promises

- High Density will reduce traffic congestion..... Density INCREASES traffic congestion
- High Density will reduce pollution..... Density concentrates pollution where the people are
- High Density will reduce cost..... Building UP costs more for each story
- High Density will reduce your commute time..... Commute times are longer due to congestion
- High Density will give us affordable housing..... No, it costs more to build
- High Density will let you walk to the store ..... The nearby store is small and costs more

### The Reality

### False Claims

- Mass transit saves energy..... Not compared to a small car
- Mass transit saves time..... Look at a transit schedule
- Mass transit saves money..... Transit costs about 3 times that of driving.
- If we copy Europe, we will switch to transit..... 82% of person-miles is by car in Europe
- Automobiles are massive subsidized..... They aren't, transit is.
- Light rail causes development..... Its the subsidies (otherwise why give subsidies?)
- Light rail is safer than cars..... Light rail kills at 2-3 times the rate of cars
- A light rail line can carry as many as a 10 lane freeway..... Not compared to a single lane of buses
- False Claim: GM Destroyed the Streetcar Industry ..... Streetcars couldn't compete with cars.

### The Reality

### Planner's Beliefs

- People want high density..... Do you?
- People desire a 5 story apartment building nearby..... Do you?
- People desire a skinny house down the block..... Do you?
- Transit Oriented Developments reduce congestion..... Congestion increases by hugely increasing people.

.FalsePromises.ppp

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Light Rail Hits Things & Kills People



MAX hits fire truck. Hillsboro Oregon Jan 2, 2005

## Light rail kills people at 2½ times the rate of Cars

MAX Death Rate in Portland: **1.14 deaths per 100 million** passenger-miles (19/16.66 million miles)

Motor Vehicle Death Rate in Portland: **0.46 deaths per 100 million** passenger-miles

See: [www.DebunkingPortland.com/Transit/MAXSafetyChart.html](http://www.DebunkingPortland.com/Transit/MAXSafetyChart.html)

### List of People Killed by MAX

20 Nov.19, 2007 .....Susan C. Dorsey killed near 82nd station-suffered from epilepsy- speculated "was not aware she was walking around and had left the platform."  
19 May.16, 2006 .....Catalino Salazar-Salgado, 51, of Portland died Sunday night after being hit by a MAX train in Gresham to.....  
18 Sep.30, 2005 .....A 40-year-old woman struck and killed by a MAX train Wednesday night in Gresham was attempting to cross two sets of tracks surrounded by fist-sized rocks, bordered by high curbs and lacking any crosswalk.  
17 Aug.3, 2004 .....a 47-year-old Southeast Portland man had safely exited a MAX when his power wheelchair inexplicably rolled between the train's two cars  
16 Jun.24, 2003.....A 16-year-old Gresham boy was killed Monday night when he was hit by a MAX train on his bicycle at a stop near Northwest Eastman Parkway and Division Street  
15 Feb.9, 2002 .....A man in his late 20s was killed Friday after he got caught between moving MAX train cars near the PGE Park  
14 Jan.6, 2002 .....Mark Russell Arthur, 43, died when he was struck Friday by a MAX light-rail train in Gresham,  
13 Oct.21, 2001 .....A MAX train hit and killed a man lying on the light-rail tracks just east of the Beaverton Transit Station on Saturday night.  
12 Apr.10, 2001 .....Johnston, an engineering program manager at Intel's nearby Jones Farm Campus, died from massive injuries to his head  
11 Oct.12,1999 .....A 41-year-old Beaverton man was struck and killed by a MAX train early Monday as he walked along the light-rail tracks...the 16th fatal accident involving MAX trains since Tri-Met opened the system in 1986..... Randy Scott Ruetz is the fifth person to be killed by a MAX train in Washington County since the westside line opened last year.  
10 Aug. 3, 1999 .....A light-rail train struck and killed a pedestrian during Monday's afternoon rush hour at a busy commuter station in Beaverton  
09 Jun.15, 1999 .....A light-rail train struck and killed a youth Monday afternoon just outside Beaverton, making him the second pedestrian killed by westside MAX in eight days.  
08 Jun.8, 1999 ..... Herbert Lee Johnson Jr., ...was killed about 2:30 a.m. Sunday when he was struck by an eastbound light-rail train while walking on the tracks.....Tri-Met figures show that 10 pedestrians have been killed by eastside trains while walking in areas that were off-limits, and one person died after a car and a MAX train collided.  
07 Sep.20, 1998 .....Transient rode bike into side of Westside train. Died five days later. (From Graphic on page D01, Oct 28,1999)  
Sept 12, 1998 **Westside MAX opens**  
Nov 1996 **North-South LRT loses at the polls**  
Aug 1993 **Ground Breaking for Westside MAX**  
06 Jun.22, 1992 .....Pedestrian walking in ROW 82nd Avenue EB  
05 Feb.26, 1992 .....A 40-year-old transient was killed by a Metropolitan Area Express train early Tuesday as he walked on the tracks at Northeast 24th Avenue.... He is the **fourth** person struck and killed by a MAX train.  
04 Mar.23, 1991 ..Lee Heizer, 26, of Northeast Portland -- the **third** person killed in MAX's history • was thrown approximately 100 feet  
03 Jan.16, 1991 .....Collision w/ vehicle MLK  
02 Jan.1, 1990 .....Pedestrian walking in ROW 21 & Banfield  
01 Jul.28, 1986 ..... Pedestrian walking in ROW Halsey & Banfield  
??..???.1986 **first day of full revenue service**

### How We Calculate Death Rates

Over one period of time, there were 7 deaths climbing Mt. Everest and hundreds of thousands of deaths due to cars. Which is safer? Only 7 were killed climbing Everest, so mountain climbing must be safer than driving! Plainly, this is ridiculous - but it shows the fallacy of comparing deaths without considering how many people engage in an activity. (<http://surrealitytimes.blogspot.com/2006/05/ban-mountain-climbing.html>)

In the case of transportation, we can compare deaths to the number of travelers, or to the total number of miles traveled (passenger-miles). Deaths per passenger-mile is universally used to fairly compare between different modes of transportation.

As of 2006, MAX killed 19 people, while delivering 1,666,466,432 passenger-miles since its beginning. Thus MAX's death Rate is 1.14 per hundred million passenger-miles (19/ 16.66).

Motor Vehicle Fatality rate for Portland (1994-2002) is 0.55 per hundred million vehicle miles. At 1.2 people per vehicle, that is 0.46 deaths per hundred million passenger-miles .

**Thus MAX's death rate is 2.48 times that of cars (1.14 / 0.46)**

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# The Greatest Invention

In 1900, the United States was a rich and growing nation, yet many of the benefits of that wealth were accessible to just a few. Only the wealthy, and some whose jobs depended on travel, frequented passenger trains, dined regularly in restaurants, or regularly wore fine clothes.

For many urban dwellers, life was harsh: living in high-density tenements, walking to factory jobs that demanded long hours and offered low pay. Life in rural areas was, in many ways, even worse. While a larger share of families owned their own homes, they were rarely able to leave their farms. Life for women in particular was especially lonely.

The mass-produced automobile changed everything. The moving assembly lines that Henry Ford developed to build his Model Ts increased worker incomes and made mobility affordable to the average family. The use of trucks for shipping, especially when aided by intermodal containers, greatly reduced consumer costs.

Some of the benefits that are largely or entirely due to the automobile include:

- In 1900, the average American traveled less than 3,000 miles per year, mainly on foot, and many lived and died without ever journeying more than fifty miles from home. Today the average American travels close to 20,000 miles per year, mostly in automobiles, and thinks nothing of taking trips of several hundred miles;
- In 1900, homeownership was affordable only to the wealthy, rural landowners, and white-collar workers. The automobile made homeownership affordable to working-class families and led to a nearly 50-percent increase in homeownership rates;
- In 1900, food and shelter alone consumed more than half of an average family's personal income. Today the average family eats much better and lives in a much nicer home, yet food and shelter consume only a quarter of its income, leaving more for recreation, education, and other things;

- In 1900, many women and most blacks were trapped in oppressive social systems. The automobile offered escape, enabling the civil rights and women's liberation movements;
- In 1900, the average grocery store stocked fewer than 300 items on its shelves. Today, the variety of foods and other consumer goods has increased by 100 times or more—and quality has increased as well;
- In 1900, only upper-class families could afford to take an annual vacation—most employees worked six days a week, fifty-two weeks a year. The automobile (and the moving assembly line that made mass production possible) reduced the work week and made annual vacations the norm;
- In 1900 outdoor sports such as skiing, backpacking, and river running were either accessible only to the very wealthy or did not exist at all. Today millions of people engage in innumerable outdoor sports each year, many of which are only accessible by auto.

Railroads, bicycles, streetcars, and subways have all played a role in American transportation. But no other form of transportation has produced such huge benefits at such a low cost as the automobile. Despite these benefits, some people argue that we should rely less on autos and more on other forms of transport. They support government policies, funding, and rules promoting alternatives to the auto and hindering driving.

It is wrong to imagine that America can limit automobility without reducing incomes and the other benefits automobiles have produced. Regions that try to discourage auto driving or that divert highway user fees to expensive transit schemes are only hurting their residents, especially low-income families for whom the automobile offers an escape from poverty. The nation should instead recognize that the automobile is the greatest invention in its history and create systems giving people the freedom to choose how they travel while insuring that they pay the full costs of their transport choices.

The above is just the Executive Summary, Download the entire booklet:

*The Greatest Invention* from: <http://www.i2i.org/articles/6-2006.pdf>

LightRailPaacket-05.ppp

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# Some Fallacies About Cars

## Higher Cost of Gas will drive us out of cars

Eight dollar a gallon gas has not driven Europeans out of their cars - they just drive more efficient cars. In Europe 78% of personal travel transport is by private car. All forms of mass transit, except airlines, have lost 20% or more in the last 20 years. (see previous pages). Europeans have abandoned mass transit, even with \$8/gal gas, why would anyone think Americans would flock to mass transit if gas prices rise?

AAA puts the cost of driving at \$0.51 per mile. The average car now gets around 25 MPG, so the cost of gas is only 16 cents per mile with \$4/gal gas. That means that gas is only about 1/3 the cost of driving. If it doubled to \$8/gal, resulting in 32 cents per mile, the cost of driving would increase by about 30%. This is significant, but not a killer.

Interestingly, AAA's cost estimate is designed to simulate their upscale members and thus is higher than the average American's costs because AAA members drive much newer cars than average. The difference is about \$0.19 per mile. This means that an **increase** in gas price of \$4.35 per gallon (to about \$6.75) will just bring the average American's cost to what is now the typical AAA member's cost.

If gas really gets that expensive (inflation adjusted) many of us will just get more efficient cars the next time we buy a car, negating the gas cost increase. This is what the Europeans do (drive smaller cars) - why would anyone expect Americans to give up cars due to gas price increase, when Europeans increase car usage at high prices?

Why would anyone expect people to abandon the convenience of a car, instead of just getting a smaller car? A smaller car is far more convenient than transit:

A factor that few people talk about is supply and demand.

- 1 As gas prices increase, people drive a bit less and get a more efficient car next time that they get a car - that is the demand side: higher prices reduce demand.
- 2 Much oil is known, but has been too expensive to produce. For example, oil that costs \$40 per barrel will come on the market as the price goes above \$40 per barrel. Examples include Canadian oil sands, now ramping up production. Higher prices increase supply.
- 3 New sources become profitable and come into use. An example is oil from coal, an old process not used because it previously cost too much. At today's prices it is very profitable and will soon contribute to our fuel supply.

## Cars are heavily subsidized

One highly credible source, Access ( from the University of California Transportation Center), published a paper by Mark Delucchi, in the spring of 2000 which studied the costs not paid by the users ("external costs") of various modes of transportation. He found this:

External costs in cents per passenger mile:

GASOLINE AUTO.....	5 to . 28.4	[6.9]	(numbers in brackets are author's best estimate)
ELECTRIC AUTO.....	8.8 to 24.8	[16.8]	
TRANSIT BUS.....	33. to 57 ..	[40]	
LIGHT RAIL.....	27 to 109		
HEAVY RAIL.....	17 to 53		

Bottom line: Cars have only 17% the external cost of Transit bus. Even less external costs compared to rail. (see [PortlandFacts.com/Roads/Docs/Delucchi\\_Chart.htm](http://PortlandFacts.com/Roads/Docs/Delucchi_Chart.htm) for the chart & link to original article)

Cars cost about:

1/3 the cost of bus

1/6 the cost of streetcar

1/4 the cost of light rail when you include construction.

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)

# MAX NOT Built On Time NOT Built On Budget

## Westside Light Rail

**Estimated cost : \$395 million**

**Actual Cost : \$963 million**

**Estimated Daily Ridership : 34,150**

**Actual Daily Ridership: 24,000**



Notes:

Estimates are from the Oregonian - see below

Actuals are from Trimet's railfactsheet-westside.pdf - see futher below

Estimated ridership is for 2005, actual is Trimet's 2004 annual ridership divided by 365. (Trimet no longer releases ridership by line.)

### Here is the source of the numbers:

**The Oregonian - December 15, 1988:** .a consultant Wednesday recommended a westside light-rail route in Washington County . . . The alignment, which was estimated to cost \$195.4 million, was much less expensive than three other alternatives. . . The expense of building the line from downtown Portland to that point is expected to run \$100 million to \$200 million

more. The final cost depends on whether a tunnel will be built through the West Hills.

. . . He envisioned a daily ridership of 34,150 on the route in the year 2005. . . The consultant also stressed that the recommended route would afford cities and counties much greater opportunity to develop new land-use patterns. ( Bold added)

### Trimet's Factsheet

The two graphics at the right are from [www.trimet.org/pdfs/history/railfactsheet-westside.pdf](http://www.trimet.org/pdfs/history/railfactsheet-westside.pdf)

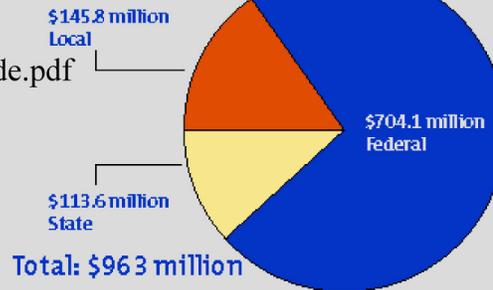
They show:

total cost of \$963 million

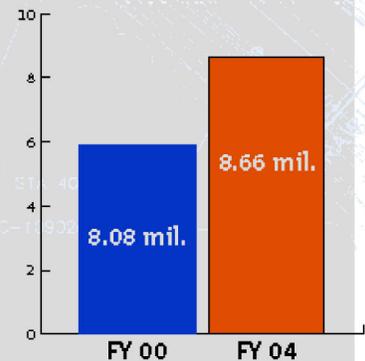
Annual ridership of 8.66 million

which is about 24,000 per day.

### Westside MAX Funding



### Annual Ridership



## Eastside Light Rail

**The Oregonian - December 29, 1989 :**

A federal study says the decision to build Portland's MAX and other rail mass transit systems around the country was based on costs that were underestimated and ridership that was overestimated. . . . The study showed that Portland had forecast 42,500 riders weekdays by 1990 but that at the time of the study the actual ridership was 19,700. . . . The study also said the forecast cost of MAX was \$172 million but the actual cost

was \$266 million . . . additions were ``conscious decisions'' by the project sponsors, not cost overruns. . . . Annual operating costs for MAX were projected at \$3.8 million but were actually \$5.8 million . . .

MAX was scheduled to open in 1983 but that it did not begin operation until 1986, leaving it three years less time to build its ridership. . . . The study listed the forecast cost per rider as \$1.68 and the actual cost as \$5.19. (Bold added)

Details and more at: [PortlandFacts.com](http://PortlandFacts.com), [Ortem.org](http://Ortem.org), [PublicPurpose.com](http://PublicPurpose.com)