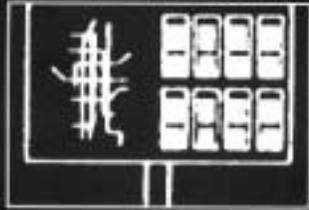


# BUS STOP INFORMATION



#21 Bus Now at WESTERN



*"I figure if you're going to catch a bus, and you know that it's going to be there, and you know you're going to be warm on your way, that eliminates the need for all that other stuff."*

### Impact on Transit Ridership

*"This is something we don't have and would really help to improve the system; knowing when buses are supposed to come would avoid confusion."*

*"To know where the buses are, I've gone to the bus stop and wondered if I'm a minute late and I have to ask people. It would be handy to have schedules. I've never seen a bus stop with the [real-time] information of where the bus is. That would interest me."*

Like shelters and bus stop seating, bus stop information — including route maps, schedules and maps of surrounding areas -- figure highly in passengers' decisions to ride transit. Bus stop information, even if consisting of a sign mounted on a pole, does give a transit stop and transit service an identity, particularly on a busy street. Though shelters are much more effective in creating an image for transit in a community, providing schedule and routing information on-site can both reassure passengers and demonstrate that an efficient transit system is, in fact, currently in operation and easily accessible.

New technologies, such as AVL (automatic vehicle locator systems) which allow transit dispatchers to monitor the location of each bus in a system, hold promise for providing transit passengers with real-time information about the location of their bus. These types of systems, already in used in subway systems around the world, often count down the number of minutes until a particular train arrives. Cities like London already have them for some of their major bus lines as well, and studies show they are highly valued by passengers.

### Potential Customer Preferences

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*"I picked the maps and schedules because I've found since they put them up they're easier to read and you don't have to go hunting through your purse to find them."*

#### *"Captive" or Frequent Riders*

While regular riders of a bus system become familiar with routes, information is often still desired for reassurance purposes, or when a regular rider is taking a trip at a new time or to a new location. Bus stop information does tend to inspire confidence in transit passengers.

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*"It would be good to have the schedules at the bus stop so you would know exactly how long you have to wait and so you know exactly what bus goes where."*

### ***Customers with Longer Waits***

Bus stop information may be preferred more by passengers with longer waits -- who would like to, perhaps, reduce that waiting time in the future.

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*"I picked the electronic status reports. I'm not familiar with the city all that much, since I just moved here. At least if I have to get off somewhere, I'll know."*

### ***Infrequent or "Choice" Transit Users***



Infrequent riders or new riders to a system value bus stop information; they may have a greater need for information for obvious reasons.

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*"I chose the electronic display - it's always helpful to know that one is coming soon instead of everyone wondering where the bus is."*

### ***Riders with Longer Trips***

Riders with longer trips also may express an interest in bus stop information. This may be due to the fact that longer trips may be more complicated, involve transfers or connections to other transit modes, or involve other variables that may affect the trip.

## **Potential Passenger Functional Concerns**

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### ***Location of Information***

*"It would be good to have the schedules at the bus stop so you would know exactly how long you have to wait and so you know exactly what bus goes where. Some of the buses have the same number but go different ways and you get confused. But if it's very clear right there at the bus stop, you don't get on the wrong bus."*



Many passengers want to know right at the stop where buses go and how often routes operate.

*"I chose to put my points into the electronic status reports instead of information on the bus. This reflects my own attitude that I wouldn't even take the bus if I couldn't be more confident about the bus."*

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### ***Reasonable Relationship between Information and Operations***

*"The buses are never on schedule anyway. What's the point of having information at the stop? It will just confuse everybody."*

When a bus is late, but it reads on the schedule as being due or having already left, this tends to reduce passengers' faith in the transit service.

***Keeping Information Up-to-Date and Maintained***

*"The schedules change 2 or 3 times a year, so you have to make sure someone is going to go around and change the information that's posted."*

*"I picked just the maps and schedules. If you try to have electronics at the stop it's just one more thing that can break down and get vandalized."*



Passengers feel that if transit agencies are going to provide information, they should also take responsibility for making sure the information is accurate. The more advanced the information provided at a transit stop, the more it needs to be updated and maintained -- but even posted schedules need to be replaced. In Portland, television monitors allow information to be easily updated.

Approximate Price of Bus Stop Info

Level 1 - \$100  
Level 2 - \$2,000

Note: The real costs are in printing and distribution. The cost of real time information is unknown as the technology is still in the test stages in the US.

Ways to Offset Costs

- Develop simple information systems
- Minimize annual schedule changes
- Advertising
- BID and partnerships with local businesses to provide route, schedule and fare information to area transit users

**Types of Information to Test with Transit Design Game**

Level	Transit Feature	Estimated Points
No Fills	No Bus Stop Information	0
1	Bus Maps and Schedules	1
2	Bus Maps and Schedules and Electronic Status Reports	4

# BUS STOP LIGHTING



*"The extra lighting is good for people who would have a hard time defending themselves. They'd feel more secure."*



*"Waiting at a dark bus stop can be dangerous."*

### Impact on Transit Ridership

While special bus stop/shelter lighting was not always ranked as highly in terms of its ability to induce additional transit trips, it is nonetheless important. We can surmise that eliminating bus stop lighting would, because of people's overwhelming concerns about personal safety, most likely reduce transit ridership, certainly among women, the elderly, and patrons with disabilities. Passenger perception about a lack of adequate bus stop lighting is quite clear: it is not safe.

Bus stop lighting is one of those amenities that addresses a wide range of passenger concerns, primarily with regard to safety and security. For example, passengers in Rochester who rated the lighting in a shelter as good were also more likely to be more positive about feeling safe as well.

### Potential Customer Preferences

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*"I spent one point on lighting because . . .we are seeing more attacks, especially on women."*

#### *Women and Riders Who Are Elderly or Have Disabilities*

Bus stop lighting is likely to be a major concern for women as well as riders who are elderly or have disabilities: populations concerned with issues of personal safety who also make up a large percentage of the transit riding public.

### Potential Passenger Functional Concerns

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*"I don't see placing a bus stop where there's no light, so I chose lighting."*

#### *Minimum Level of Lighting*

Passengers have a minimum standard for lighting. Portland's Tri-Met requires a minimum of two footcandles in passenger waiting and bus boarding areas.

# BUS STOP LIGHTING

*"I chose the enhanced lighting because plenty of times I've had the bus fly right by me because they didn't see me at the stop. Security-wise it would be good too."*

## Visibility to Driver

This was an operational concern to riders in many cities. In Aspen, as an alternative to special bus shelter lighting, reflective "paddles" hung from a cord are placed inside many shelters, especially those along the roadway. Passengers wave them at oncoming buses and drivers see the reflection and stop.

## Types of Information to Test with Transit Design Game

Approximate Price of Bus Stop Lighting

Level 1 - \$600

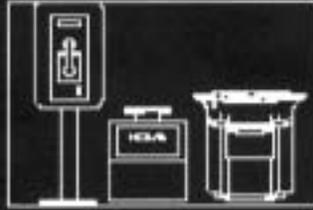
Note: Shelters with solid roofs call for interior lighting. Those with translucent roofs are able to transmit ambient light.

Ways to Offset Costs

- Locate bus near existing light source
- Light on advertising panels
- Build lights into the shelter structure
- Use solar powered lighting

Level	Transit Feature	Estimated Points
No Fills	Standard Street Lights	0
1	Special bus stop/shelter lighting	1

# OTHER BUS STOP FEATURES



*"You have to have a phone generally to tell somebody that you're going to be late or whatever. There should be trash baskets because people always have food and wrappers and newspapers."*



*"I'm a stickler for security so I think having a newspaper vendor at the stop adds a little bit of security as well as having a phone there."*

*"I was less concerned about the phone and the newspaper, but I have a thing about litter, so we can help people do the right thing, keep the environment beautiful."*

## Impact on Transit Ridership

Providing additional bus stop features at a bus stop were not as high on people's list as some other amenities and did not seem to have as big an impact on encouraging riders to take more trips. On the other hand, these features certainly do make for a more comfortable and convenient experience for existing riders -- as well as increase security and cleanliness, which are key passenger concerns. In Ann Arbor, Portland and Aspen, these features were much preferred by choice riders indicating the extent to which these types of passengers value comfort and convenience.

## Potential Customer Preferences

Passenger preferences for other types of features at bus stops, including telephones, waste receptacles, and newspaper vendors, has to do with the issue of adjacent uses, retail and other services available in the area adjacent to a transit stop. In downtowns or busy commercial corridors, these kinds of amenities are generally available within a comfortable distance from a transit stop. In other kinds of conditions, along a highway or in outlying suburban neighborhoods without retail uses close by, they may be more desirable to passengers.

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*"I like to pick up a newspaper and read it on the bus."*

### ***"Choice" Riders***

Commuters and other choice riders may be more interested in special features, like a newspaper vendor or kiosk.

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*"Phone for security in case of emergencies. There used to be phones at all the stops but they were vandalized."*

### ***Men***

These features can increase passenger's perception of safety at a transit stop and indicates that someone is in charge and available to help. This might be a particularly valuable feature for some passenger groups. Surprisingly, it was the men in Portland, San Francisco and Ann Arbor who expressed the highest preference for these additional bus stop amenities.

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### ***Riders with Longer Trips***

Riders with longer trip lengths may be more interested in additional bus stop amenities, as newspapers are nice to read on long bus trips.

## **Potential Passenger Functional Concerns**

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*"I like all the new comforts, but I think you should determine choices by the city that you live in and the type of business that's going on."*

*"These items should be separate, because you don't necessarily want all of them..."*

### ***Related to the Location***

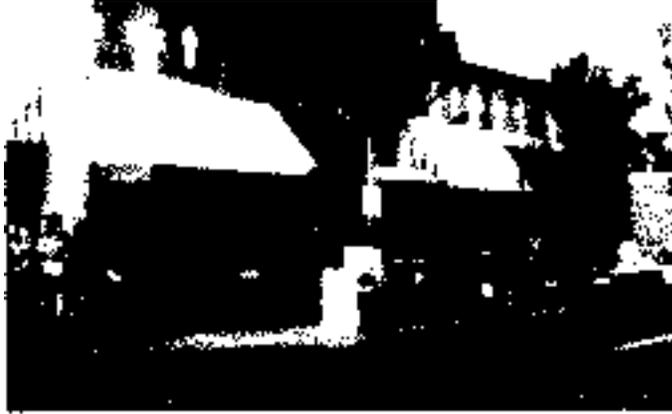


Not every bus stop needs the same types of additional features, so a process for tailoring these features is important. In Portland, you can buy a hot dog at some bus stops!

## OTHER BUS STOP FEATURES

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### *Uncluttered*



Additional features can increase visual and physical clutter if they are not built in as part of the design of the whole bus stop. Such clutter can interfere with bus loading and unloading, making it an operational issue, as well.

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### *Maintenance*

*"[The transit agency] is considering removing garbage cans because of vandalism, and asking the city to provide waste removal instead. . . . They need to be emptied more often."*



Providing these features is only part of the equation, as patrons will object if they are not kept in working order or are not properly maintained.

