

Discussion Topics for Forum Participants

Bellevue Transit Master Plan



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FOR MORE INFORMATION

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Questions derived from *Human Transit: How Clearer Thinking about Public Transit Can Enrich Our Communities and Our Lives* by Jarrett Walker

INTRODUCTION

City staff is in the early stages of developing a transit service vision for Bellevue. Tonight, we'd like to get your impressions on the discussion topics below to help guide our future efforts. More opportunities for input will occur as the project continues, so it's important to note these items are just a starting point. We anticipate further discussion and we welcome your suggestions.

1. We'd like to take a moment to have each of you introduce yourselves to the other forum participants at your table and answer the following questions before we launch into the discussion topics:
 - a. Have you used transit in the Puget Sound region?
 - b. When did you last use transit and how often did/do you use it?
 - c. What type of transit trips did/do you take (work, school, social, special events, other)?
 - d. If you have never used transit in the region please explain why not.
2. What are the two or three most important ways transit benefits Bellevue?
3. Considering the four trade-off scenarios on pages 2 through 9, how can we ensure that costs and benefits are shared equitably at a time when transit agencies are reducing/eliminating low ridership routes.
4. Please respond to the four trade-off scenarios on pages 2 through 9 with a long-term perspective (2030) that considers "the dynamic nature of Bellevue's economic expansion [which] requires a bold transit vision." (Bellevue City Council Project Principles, approved July 9, 2012).
5. What do you think are the greatest strengths/weaknesses of the current transit system in Bellevue?
6. Any follow-up comments?

QUESTION

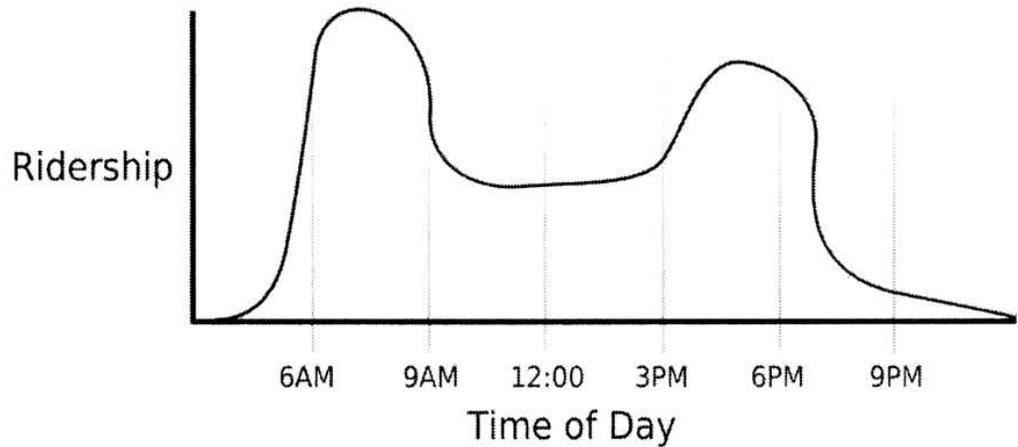
Is transit mostly about serving a peak-period or “rush hour” commute pattern, or is its top priority to provide a consistent service all day? Or is it a balance of these, and if so, where do you strike that balance?

Services with a short span, such as peak-only services are usually oriented to serving commuters. Service that wants to be useful to many different people for many kinds of trips requires a longer span, extending across the day and evening and also across the weekend.

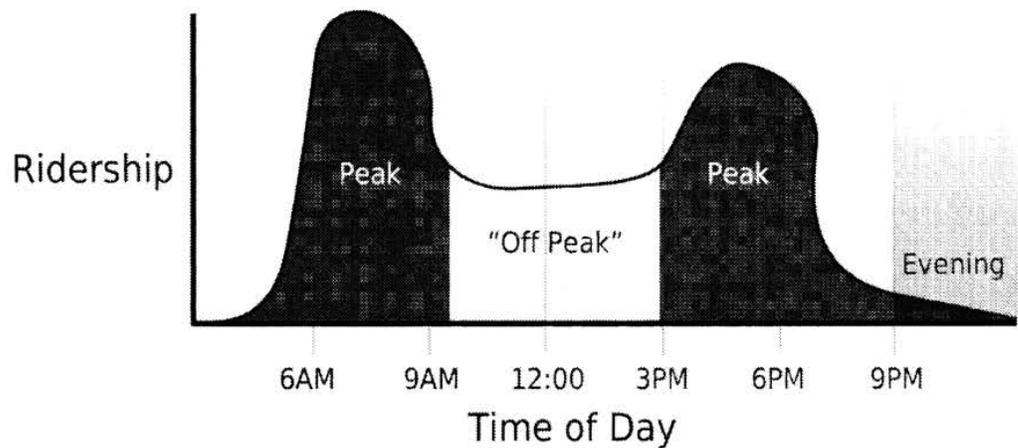
Typically, as indicated in the illustration at right, the “off peak” period does not have the same level of ridership performance that occurs in the peak hour, and therefore is less cost effective. That said, cutting off-peak service disproportionately affects minority and low income populations who are dependent on transit for access to jobs (e.g., service industry employees are particularly reliant on off-peak service, as their shifts require evening work hours).

When considering this trade-off scenario it is worth noting that transit agencies are more apt to target off-peak service in their deficit reduction strategies. In March 2011, the American Public Transportation Association (APTA) conducted a survey of its public transportation agency members to gauge the effects the recession is having on agencies. The results show that transit agencies continue to face funding challenges and have responded with the following service cuts: thirty two (32) percent indicated that they had “eliminated or reduced off-peak service”; twenty four (24) percent indicated that they had “reduced peak-period service”; and, thirteen (13) percent indicated that they had “reduced the geographic coverage of service.”

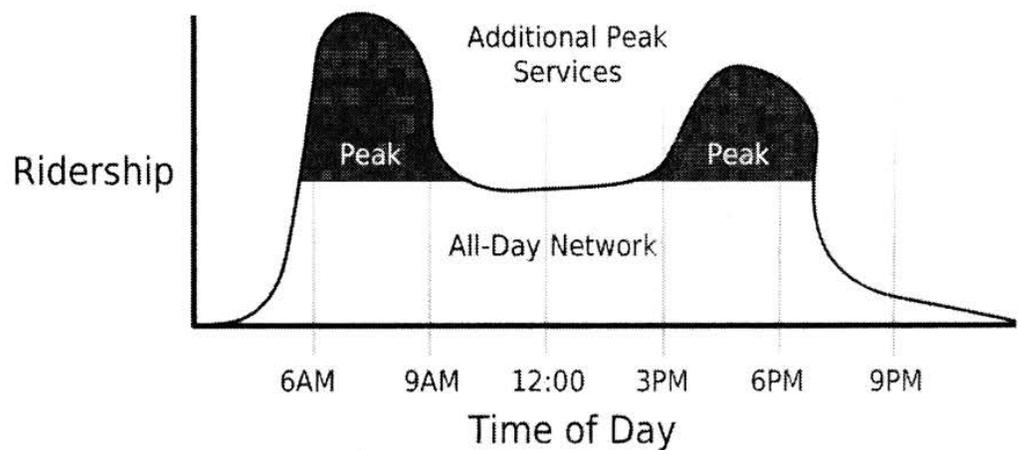
Given a peaking pattern....



... do we think of the peak as our main product?



... or do we think of the all-day network as our main product?



Two ways to think about peaks. *Credit: Erin Walsh*

QUESTION

Would you rather have a direct but infrequent service or a more frequent service that requires a transfer connection?

In the Direct Service Option (see illustration at right) we run direct service from each residential area to each activity center which results in nine transit lines. Suppose we can afford to run each line every 30 minutes. In contrast, in the Connective Option we run a direct line between every residential area to one activity center which results in three lines, so we can run each line three times as often at the same total cost as the Direct Service Option.

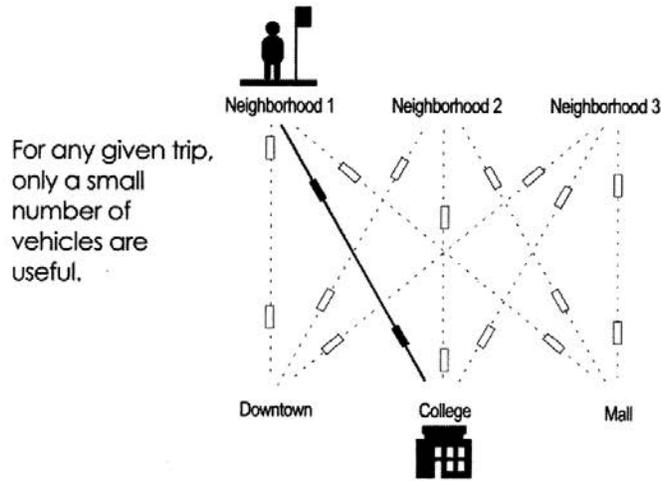
Conventional wisdom holds that transit customers regard the direct service option as more appealing because the out-of-vehicle travel time spent transferring is regarded as burdensome. That said, experience around the world shows that riders will transfer if the schedule and stations are designed properly.

If you can walk across a platform onto a waiting train or bus, and quickly head toward your destination, if you can transfer without financial penalty, if you can easily find directions from Point A to Point B without hunting among multiple maps and websites – then a transfer is pretty painless and a trip can be useful.

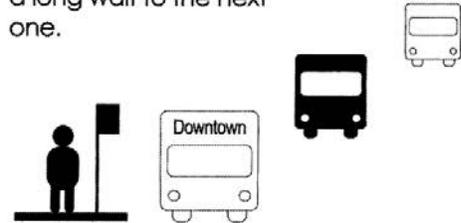
As indicated in the illustration at right, the connective service option has several advantages: (i) enhanced frequency means you are less dependent on the reliability of any one trip (even if vehicle runs late), you'll still have another service soon; and, (ii) it's simpler to understand and learn the whole system.

a)

Direct Service Option

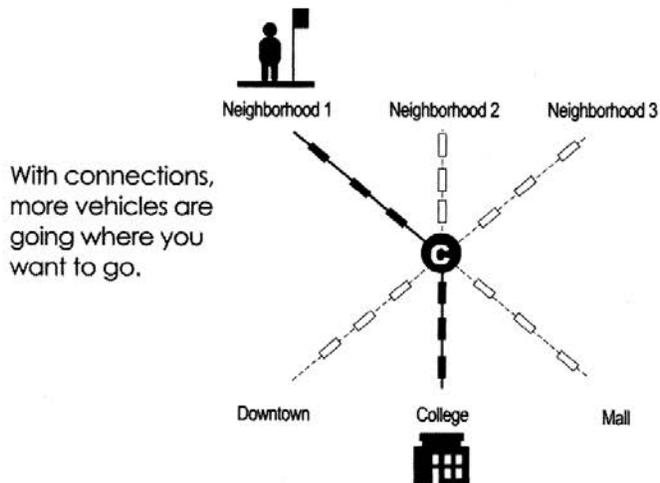


The early bus doesn't go where you want, and if you miss yours, it's a long wait to the next one.



b)

Connective Option



Since any bus will take you to the connection point, you can arrive early or late without problem.



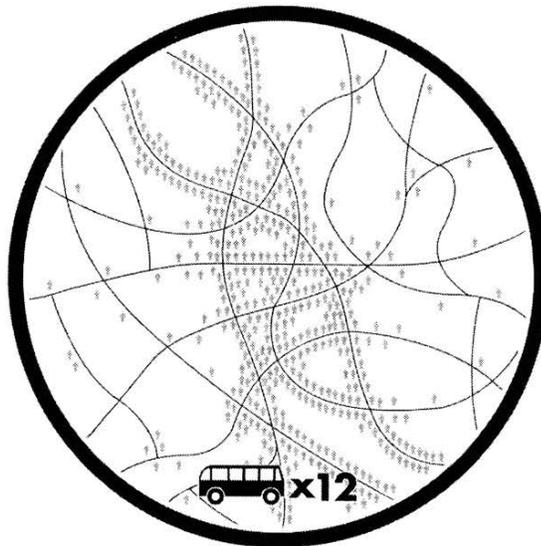
Two ways of serving the simple city. Credit: Alfred Twu

QUESTION

Is transit mostly about serving destinations directly, or is the top priority to provide improved service coverage?

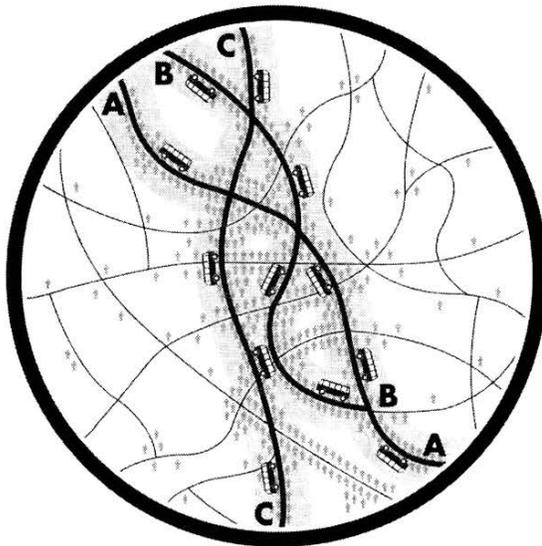
In the Fall 2011 service change, the restructuring of route 222 (which results in a 10 minute faster trip over the previous service between Newport Way and downtown Bellevue via Factoria) was achieved through eliminating the circuitous routing through Enatai and the Beaux Arts community. This real world example of the trade-offs associated with ridership vs. coverage goals are further illustrated in the graphic at right.

To optimize for ridership, a service identifies where large numbers of people start and where they go, and designs routes that connects most people with their destinations. This results in limiting service expansion in areas where transit services are unlikely to be efficient or productive, such as hard to serve areas, or where population is unlikely to grow. To optimize for coverage, a transit service strives to enable freedom of movement for a diverse range of people and trips by serving as much of the geographic area as possible (frequently this entails increasing the number of routes serving multiple origins and destinations).



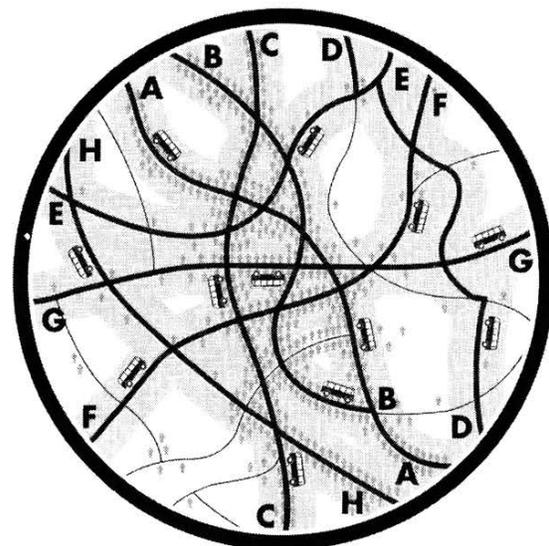
Here's a transit agency's service area. The lines are roads, and the small people indicate population density. The agency can deploy twelve buses.

RIDERSHIP GOAL



For ridership, concentrate all service in denser areas. Three lines each have 4 vehicles, offering frequent service.

COVERAGE GOAL



For coverage, you need eight routes, so each will have only 1-2 vehicles, offering infrequent service.

Extreme service allocation goals in a fictional city. *Credit: David Jones*

QUESTION

Under what circumstances might it be appropriate to impact auto travel time (increase delay) to more quickly and reliably move buses through congested corridors in Bellevue?

Despite the importance and efficiency of buses, compared to the automobile, these vehicles are weighted equally with automobiles at traffic signals where a bus carrying 50 passengers is treated the same as an auto with a single person. Delays caused by traffic signals and by street traffic congestion can lead to the requirement for added transit vehicles (and thus added capital and operating cost) to provide the same service frequency.

One approach to minimizing delays to bus transportation is by implementing bus signal priority. Bus signal priority is an attempt to minimize or eliminate delays to buses at a signalized intersection by temporarily altering the traffic signal phase so that an approaching bus receives a green phase when it arrives. The potential savings in bus travel times can allow buses to maintain its schedule and provide better reliability in travel times.

Although signal priority has proven to be an effective tool for reducing delays to buses, this technique is not always beneficial to the overall traffic network. Providing priority for transit vehicles along a corridor with a large number of transit vehicles can cause a coordinated network to be out of step resulting in an overall increase in delay. Bus signal priority also has the disadvantage of penalizing the cross-street traffic when high transit volumes exist at the corridor. In responding to this question, forum participants should consider what kinds of trade-offs need to be balanced to strive for win-win results for both transit users and private vehicle users.



Measures to improve transit's speed and reliability - such as bus-only lanes or transit signal priority at intersections - make transit more attractive and cheaper to operate.

SOURCE: TransLink

