Chapter 420 Passenger Amenities, Business Case

420.01 Elements of the Business Case

(1) Approach

The purpose of the business case is to establish that spending decisions maximize the value to riders and other stakeholders. There are two general types of business cases, depending on the problem at hand:

1. *Simple cost-effectiveness*, when the project is needed to meet a regulatory requirement or to maintain core service, or when all the options provide equal value to stakeholders - in other words when "do-nothing" is not a viable option. The goal of the business case is to establish that the requirements are met at the least cost.
2. *Benefit/cost analysis*, when the project is not "must do" or when some alternative provide higher level of service to stakeholders than others.

In general, passenger amenities will fall into the latter category, which means it will be necessary to estimate whether the benefits outweigh the costs. Remember: costs and benefits should be defined from the perspective of riders and other stakeholders, not from the perspective of WSF.

(2) Problem Statement

Having a clear statement of the problem to be addressed is a critical step in the business case.

1. What service objective is being addressed? WSF should not generally spend resources outside its mission even if the project is cost-effective.
2. Identify how riders or other stakeholders will be affected by this decision, e.g., lower cost of operation, lower risk of missed/delayed trips, better safety, better comfort, etc.
3. Consider timing and do not exclude the "do-nothing" alternative in the problem statement. I.e., *"Is a rebuild or refurbishment of the trestle at Vashon cost-effective, and if so when,"* not, *"Should terminals rebuild or refurbish the trestle at Vashon."*

(3) Defining Alternatives

Define the alternatives to be considered, including the "do-nothing" alternative. It is tempting to include all variations on design as alternatives, but the precision of the analysis often does not support differentiating between similar alternatives. It is best to focus on the major categories: with a snack bar or without, with an enclosed waiting area or without.

(4) Data and Analysis

The next step is to collect data needed to support the benefit/cost assessment. Major categories include the following:

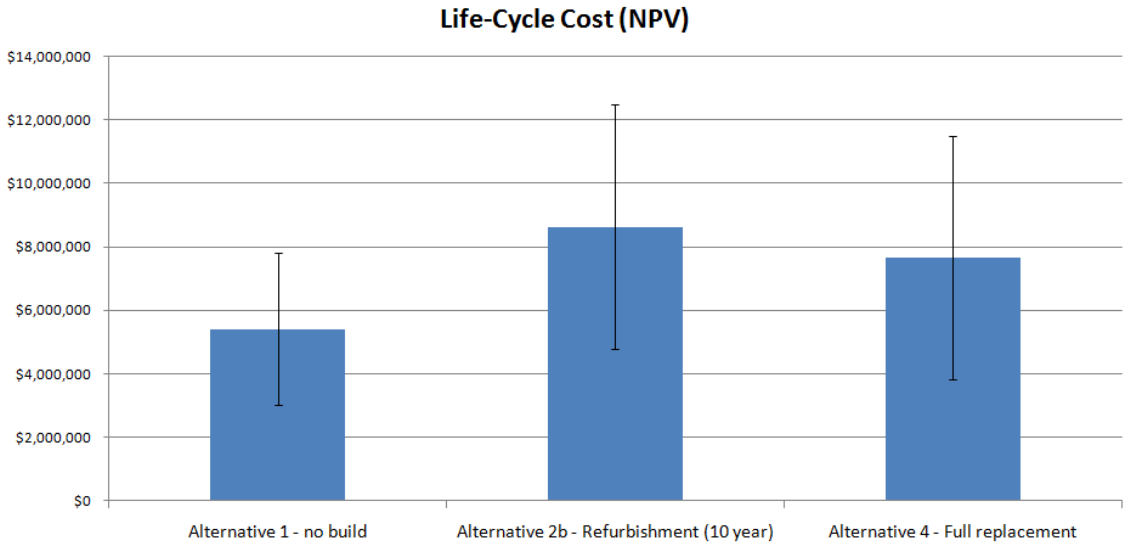
1. **Capital Cost** – This cost should include construction, design, contingencies and any operational costs required to do the work. For example, the cost to implement passenger only to minimize construction closure impacts.
2. **O&M Cost** – We are interested only in incremental O&M – how much will it change if we choose a particular alternative.
3. **Ridership Costs** – WSF has developed standard assumptions for quantifying the cost to riders when they are delayed or miss a sailing.
4. **Social Costs** – When considering amenities, this category of cost will often be the most important as well as the most difficult. See Quantifying Benefits below for suggestions.
5. **Revenue** – To calculate the benefit of retail development; work with Contracts and Legal Services to estimate potential lease payments.

Some costs will be expressed in terms of reductions or increases in risk. These should be included in the project life-cycle cost as expected value, i.e., probability × consequences.

The analytical approach can be a simple summation of the net cost/benefit of each alternative. In cases where uncertainty or risk play a major role, a Monte Carlo analysis may be helpful. (Refer to WSDOT's CEVP process for discussion of Monte Carlo.)

(5) Presentation of Results; Recommendations

The alternatives should be presented in terms of net present value or annualized life-cycle cost. All costs and benefits should be "dollarized" so the alternatives can be compared consistently. Include error bars or other estimates of the uncertainty in these estimates (see below for an example).



Life Cycle Cost (NPV)
Exhibit 420-1

In general, the recommended alternative should be the one with the lowest cost, where benefits are treated as negative costs. Where the uncertainty is high relative to the differences between alternatives, more design or other investigation may be needed. Be transparent about your assumptions. List them explicitly so they can be reviewed, challenged, and improved by others.

420.02 Special Topics

(1) Tips

1. **Use real dollars** – For analytical purposes, inflation is an unnecessary complication. Use current-year dollars for all costs and benefits, then discount using the real discount rate.
2. **The 80/20 rule is in effect** – Don't bother with highly precise cost estimates when the project is at a concept-level stage. You can usually make a decision with minimal engineering effort.
3. **Don't get hung up on the "window"** – It usually doesn't make much difference if you use a 30-year analysis or a 50-year analysis. It is often easier to think in terms of annual costs rather than NPV.
4. **When in doubt, estimate the range** – There will be parameters that are very difficult to evaluate. What is the benefit to riders of having individual seats instead of benches in the waiting area? You will never know the answer to this precisely. A good approach is to think about the range – the reasonable minimum and maximum values.

(2) Quantifying Benefits

1. One good way to estimate the benefit to riders of improved amenities is to ask, "How much would a typical passenger be willing to pay for this service?" For example, you might estimate that the typical passenger would pay between $0.10 and $0.50 per trip for a chair rather than a bench; if you multiply this by the number of passengers per year you have an estimate of the annual value. This is sometimes called the "reasonable person test."
2. For concessions, the question should be "Would a private interest build this concession if we let them?" In other words, will the concession be profitable.