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**From:** Mantych, Timothy  
**To:** Simon Zweighaft; Harvey Berliner  
**CC:** Englert, John; Milkovits, Martin; Kurio, Phyllis; Dunn, James  
**Sent:** 10/15/2008 10:06:39 AM  
**Subject:** RE: Transit Capacity Questions

Simon – We are following the TCRP 100 methodology, which is used to evaluate the assumptions made regarding the operations and the capacity of a rail transit system in early stages of the project. One purpose is to identify the maximum capacity of the line. It is recognized that there are more refined tools and models that will be utilized in PE as the project definition is refined. However, TCRP 100 is the means mandated by FTA per the PMO Operating Guidance to highlight potential problem early on in the project development. It provides a baseline assessment to FTA. For most projects at this phase, many assumptions are used as input in the analysis. There is benefit, however, if the analysis is based on more defined characteristics when available.

**Timothy L. Mantych, P.E. (MO, IL)**  
**Jacobs**

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-----Original Message-----

**From:** Simon Zweighaft [<mailto:Zweighaft@infraconsultllc.com>]  
**Sent:** Wednesday, October 15, 2008 1:20 PM  
**To:** Harvey Berliner; Mantych, Timothy  
**Cc:** Englert, John; Milkovits, Martin; Kurio, Phyllis; Dunn, James  
**Subject:** RE: Transit Capacity Questions

What is the purpose of calculating the minimum headway at this stage in our project? Our planned peak operating headway of 3 minutes should have enough flexibility to accommodate perturbations. We will be doing real simulations during design development and they will be used to determine failure recovery strategies and plans for unusual events such as football games. I don't see the value in performing such analyses until we further refine the definition of the system.

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**From:** Harvey Berliner  
**Sent:** Wednesday, October 15, 2008 8:10 AM  
**To:** Mantych, Timothy  
**Cc:** Englert, John; Milkovits, Martin; Simon Zweighaft; Kurio, Phyllis; Dunn, James  
**Subject:** RE: Transit Capacity Questions

Tim:

The answer to your second question is 3.12%, see attached plans.

I am working on your first question with the systems engineer.

**Harvey L. Berliner**  
[berliner@infraconsultllc.com](mailto:berliner@infraconsultllc.com)

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**From:** Mantych, Timothy [<mailto:Timothy.Mantych@jacobs.com>]  
**Sent:** Wednesday, October 15, 2008 7:44 AM  
**To:** Harvey Berliner  
**Cc:** Englert, John; Milkovits, Martin  
**Subject:** Transit Capacity Questions

Harvey – As we are running through the capacity analysis using the TCRP 100 worksheets, two questions have been raised:

1. We realize that the criteria for the signal system is still being developed. However, has it been determined whether the signal system will consist of three-aspect fixed block, cab, or moving block? With that information, we can use default values from TCRP100 to calculate the minimum headway.
2. Do you have the grade into the Pearl Highlands station (eastbound)? We have the elevation change as a chart, but if you could provide the number, it would be much more accurate than what we can estimate.

Thanks,

**Timothy L. Mantych, P.E. (MO, IL)**

**Jacobs**

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