

Corridor Two Regional Rail Feasibility Study and Alignment Alternatives

TECHNICAL MEMORANDUM 6.2

Feeder Bus Service for Rail Alternative

December 2009

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Feeder Bus Service

Background

This Technical Memorandum is one of a series of such memorandums that have been prepared on various topics during the conduct of a preliminary feasibility study for the Harrisburg-Hershey-Lebanon Pennsylvania corridor titled “Corridor Two Regional Rail Feasibility Study and Alignment Alternatives.” This Memorandum documents the development of a feeder bus service that would complement the commuter rail alternative more fully described in various other technical memorandums that describe the proposed rail operations, rail engineering concepts, and rail station location analysis. The materials in this report were prepared by the Abrams-Cherwony group of Gannett Fleming, Inc.

Corridor Two Feeder Bus System

It is anticipated that many of the rail users will arrive and depart the proposed stations by auto (either park-ride or kiss-ride), with some reliance on walking and bicycle. To enhance the attractiveness of the regional rail service and to provide better access to major generators that are not located in close proximity to rail stations, consideration should also be given to bus as another access mode. In many instances, the most cost-effective strategy for providing an appropriate level of connecting bus service would be through modifications and/or modest expansion of current routes operated by COLT and CAT. Buses would either divert a small distance or rail riders would walk to the nearest bus stop. Times would also be adjusted, as appropriate, to better match train schedules. Harrisburg Mall, TecPort, and Swatara Square are examples of major generators that currently receive some level of bus service that may warrant service adjustments to provide attractive connections to the rail line.

For Hershey and Harrisburg, three shuttle routes are proposed as follows:

- **Hershey Outlets/Medical Center** – This service would link these two major employment and activity centers with the proposed rail station in Hershey. It could also serve intermediate points while enroute to/from the major destinations. The shuttle route could operate every 30 minutes which would provide convenient connections with nearly all eastbound and westbound arriving and departing trains. This reflects the relatively wide headways of trains with either the basic or expanded service plan. Buses could also provide local mobility when trains are not at the Hershey Station. The hours of bus service operation and the frequency of service would be tailored to the enhanced level of rail service (13 round trips)

proposed for typical weekdays, and to the basic level of service (8 round trips daily) proposed for weekends and holidays. As part of more detailed operations planning for this service, the merits of tying in the Hershey Lodge and Convention Center and the Hershey Hotel should also be investigated

- **Hershey Park and Giant Center** – During the tourist season, buses would operate from the Hershey Station to the employee entrance of Hershey Park, although the service would be open to the public. The combined regional rail and shuttle bus service could replace the seasonal service currently operated by CAT. This shuttle bus could operate every 25 minutes which would permit convenient rail-bus connections. Service would be operated daily when Hershey Park is open and provides a source of employment to residents in the rail service area.

Traditional connecting bus service is not proposed for the Giant Center. Since that complex hosts events on an irregular schedule, dedicated shuttles tailored to the specific day(s) and times of major events may be the best strategy for providing connections between this venue and the rail station. It may be feasible to provide this service as an adaptation or expansion of the existing Hershey Park shuttle operation.

- **Downtown Harrisburg** – This circulator route would link the Harrisburg Station with activity centers in downtown Harrisburg, including State office buildings. The shuttle route could also function as an internal mobility service which many transit agencies operate for internal circulation. Buses could operate every 30 minutes during weekdays when the rail system is in service. The downtown Harrisburg routing proposed as part of the maximum bus plan could serve as a guide for designing this route.

The above discussion provides a preliminary strategy for operation of connecting bus services which would enhance the attractiveness of the rail plan. While a proposed alignment was developed for each shuttle service, it was used primarily for the purposes of estimating necessary resources. Should the plan move forward, a more detailed analysis would be performed to determine more exact routing and scheduling of the proposed connecting bus services. Also, the need to adjust services on existing routes to better serve major generators such as Harrisburg Mall, TecPort and Swatara Square would need to be investigated in more detail. At the Annville station, it is presumed that a major source of ridership will be students of Lebanon Valley College, which is within walking distance.

Based on the proposed shuttle routes, estimates of daily operating statistics were prepared for weekday and weekend service. In turn, these values were multiplied by the number of operating days. For the Hershey Park shuttle route, the seasonal service would operate 115 days (weekdays and weekends) while the other two routes would operate 255 weekdays (i.e., excluding holidays). The resulting operating statistics are presented in Table 1.

Table 1 – Annual Operating Statistics

Route	Revenue Hours	Revenue Miles	Peak Vehicles
Hershey Outlets/Medical Center	4,500	64,300	1
Hershey Park	2,000	16,500	1
Downtown Harrisburg	4,300	31,200	1
Total	10,800	112,000	3

Using a three-variable cost model calibrated for CAT operations in 2006 (the last year for which NTD information was available) which relates the cost of service to hours, miles and peak vehicles. Assuming 12 percent escalation between 2006 and 2008, operating costs were estimated in current dollars. The results of this process are shown in Table 2.

Table 2 – Estimated Operating Costs

Route	2006	2008
Hershey Outlets/Medical Center	\$358,900	\$402,000
Hershey Park	\$148,300	\$166,100
Downtown Harrisburg	\$287,800	\$322,300
Total	\$795,000	\$890,400

The only capital costs associated with the connecting bus service would be for vehicles and a minimal number of shelters. It is assumed that a smaller bus would be appropriate, with a unit cost of \$125,000. With the need for three vehicles to operate service and an additional bus as a spare vehicle, a total of four buses would be purchased. The total outlay for buses would be \$500,000. Should the need arise for larger vehicles for certain trips, the existing fleets of CAT or COLT may have sufficient capacity to meet those needs. The cost of shelters is estimated at \$80,000 (8 shelters at \$10,000 each). Capital costs are summarized in Table 3.

Table 3 – Estimated Capital Costs

Item	Amount
Vehicles	\$500,000
Shelters	\$80,000
Total	\$580,000